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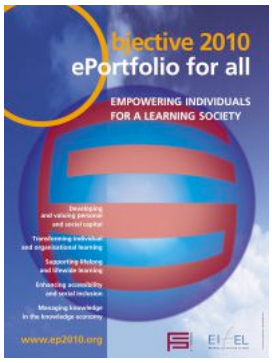
Foreword

ePIC 2012, the 10th International ePortfolio and Identity conference, was a very exciting event where we had the great pleasure of welcoming participants from 24 countries debating the state of the art of ePortfolio and identity construction practice.



While we are still far from the 2010 objective ("ePortfolio for all"), important progress has been made since 2003. More ePortfolio projects are coming to light, more countries are developing national and regional ePortfolio strategies, new technologies are emerging.

While you will find within the proceedings most of the resources that fuelled passionate discussions during the three days of the event, one key contributor to our reflection is not present: Open Badges. Our colleagues from the Mozilla Foundation delivered a series of highly attended workshops and a keynote address... What we have learned from them could well transform the ePortfolio and identity landscape in the near future.

Open Badges and the Open Badges Infrastructure (OBI) demonstrate the feasibility of building an open trust eco-system for personal data which might enable the rise of distributed ePortfolios.

Badges are much more than nice graphics that one can display on a CV or a personal page, Open Badges are the representation of a relationship, a trust relationship, between someone issuing Open Badges and someone collecting badges. Open Badges are at the same time anonymous, yet fully trustworthy. Open Badges do something that no ePortfolio platform has yet fully developed, which is the systematic exploitation of metadata, making Open Badges meaningful to search engines, therefore discoverable by potential employers or, if one is self-employed, potential clients.

Furthermore, Open Badges could be extended to all types of personal metadata and be used as the blueprint for establishing the foundations of a trustworthy Internet. Something worth exploring at ePIC 2013!

In the meantime, if you are looking towards starting an ePortfolio project, improving an existing one, or need material to plan an identity strategy, reading the ePIC 2012 proceedings will provide you with an insight into many interesting projects. And if you want to know more, you are welcome to contact the authors and join us at ePIC 2013, 8-9-10 July 2013, London.

Serge Ravet

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Healthcare

Putting the Patient at The Heart of Physiotherapy Student Education: Supporting Development and Life Long Learning Using Eportfolios

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Introduction

There are substantial changes taking place within healthcare delivery in the United Kingdom. These have a significant impact upon student education, both in academic delivery and within the practice environment. The recent White Paper (Department of Health, 2010) suggests that care is changing and the primary focus is on patient choice and improving the cost efficiency of services. Thus, healthcare practitioners are challenged with maintaining a high quality of patient care whilst making productivity savings. Innovative practice is essential to ensure that patients' needs are met whilst meeting the requirements of the life long learning agenda. Using digital technologies to support educational processes is one method of promoting timely, effective, patient centred care.

Underpinning workforce development and ultimately improving patient care, is the process of continuing professional development (CPD). Healthcare professionals therefore have a personal and professional responsibility to ensure that the patient is at the forefront of care and demonstrate their own skills in managing that care. To support this process, it is fundamental that a variety of methods of facilitating CPD are embedded within undergraduate programmes so that students can begin the career-long process of professional development.

The advent of Web 2.0 technologies has provided a number of new opportunities for restructuring of healthcare services as well as offering virtual support to students (Gleaves, 2007). This paper will focus on the concept of using web logs ('blogs'), within an eportfolio, as a method of providing students with a virtual community of practice to enhance their professional development. We also consider the underpinning evidence base for the reflective process as a fundamental element of CPD and the importance of fostering a reflective culture in order to ensure high quality patient centred care (Cross et al, 2006).

Background

Healthcare professionals are autonomous practitioners, taking responsibility for their own practice and post-qualification education and development. The implication of this autonomy is the expectation that practitioners constantly update themselves and engage in CPD activities. CPD post registration is the longest and arguably the most important phase of professional education. The underlying purpose of CPD is to enhance the quality of patient care (RCN, 2007) and there is a demonstrable link between the application of CPD to practice and high quality service delivery (HPC, 2005; NMC, 2006). It is therefore imperative that all students engage actively in a constant process of learning and development, both formal and informal, from the beginning of their undergraduate programme.

"Continuing professional development for healthcare professionals is an important strategic instrument for improving health. The Department of Health identifies CPD as a way of maintaining standards of care; improving the health of the nation; and recruiting, motivating and retaining high quality staff." (Brown et al, 2002)

CPD includes the identification of learning objectives, with the emphasis being firmly on reflection and evaluation. Reflection is a complex skill; one that cannot be taught and one that develops with experience over time. It is also a deeply personal process that requires the individual to scrutinise, consider and analyse on a journey of continual discovery, whilst ensuring that learning takes place and that action plans are formulated. It is for this reason that healthcare programmes have attempted to embed this fundamental skill within curricula; to expose students to this complex process with the ultimate goal of developing skilled, reflective practitioners who can undertake CPD. It is widely acknowledged that reflection is a tool that can help develop skills in insight and self-assessment; vital for improving patient outcomes (Cross et al, 2006). Students that engage in CPD and reflection should therefore be more prepared to enter the workforce and provide quality patient care.

The Reflective Process

Much of the evidence base that supports reflection and reflective writing sits within the pedagogical theories of experiential learning. Fowler (2008) reports the origins of experiential learning and

synthesises the literature to explain the concept as a process of learning from critically reflecting on an experience. This supports the experiential learning cycle as described by Kolb (1984). Schon (1987) describes reflection in a more simplistic manner and discusses the concept of 'reflection in action', meaning reflection during an activity, and 'reflection on action'; a retrospective consideration of the learning that has taken place as well as planning for future learning.

King (2002) discusses the need for students to spend time contemplating their actions and learn through the process of reflection. He advocates that from a pedagogical perspective, reflection is the highest level of deep learning and therefore is at the top of the hierarchy of Bloom's taxonomy, and his study draws on the earlier work (Dewey, 1933; Kolb, 1984; Schon, 1987); when examining the cycles of reflection and learning processes that take place. The conclusions of this higher education based study support the need for time, reinforcement and advocate the need for a culture of reflection to be embedded within a curriculum.

There have been many papers that highlight journal writing as a reflective tool. There are a wide range of benefits outlined within the literature; self discipline, improved higher order thinking, deeper levels of learning, increased knowledge base and increased understanding of self and others (Wilson et al, 1995; Beveridge 1997; Williams et al, 2002). Boud (2001:13) discusses journal writing as a forum for recording experiences and making sense of these through the use of different lenses. It is

suggested that through using a 'lens of learning,' an individual can consider their experiences, revisit and reflect on these in order to develop actions for the future.

Williams et al (2002) used journal writing as a tool to support student's reflective writing whilst on practice placement. The authors argued that using a journal can facilitate transitions between the academic institution and the practice placement setting and therefore allow students to make links between previously acquired knowledge and new placement learning experiences in order to synthesise their understanding and deepen their learning. The transition between learning in a supportive academic environment and a busy healthcare practice environment can often be a difficult one and students can find this process very challenging. Furthermore, the practice environment can often feel quite isolated and far removed from the student's natural peer group, and this needs to be managed in order to support the student in their journey to providing patient centred care.

Eportfolios and blogs

To promote the process of CPD, learners need a tool that allows them to collect and integrate evidence. Traditionally, in healthcare education, this has been undertaken via paper based portfolio systems (van Tartwijk, 2009) that acted as a repository of evidence of achievement (Cross et al, 2006). Over time, practitioners built up a body of evidence that developed into a collection of resources that could be used to facilitate learning and stimulate reflective practice. These portfolios were used, in some instances, for professional accreditation and therefore to demonstrate evidence of CPD. More recently, evidence of learning is developed in a variety of digital media (e.g. video, audio files and word documents) therefore an alternative solution was required. Eportfolios provide an electronic, structured environment that can be used as a digital repository, enabling learners to evidence CPD utilising structured tools. One of these tools is a blog.

Blogs have become an increasing popular resource over the last ten years. Support for the use of blogs is well embedded within educational literature. Hernandez-Ramos (2004) clearly demonstrates that blogging increases student awareness of technology and supports learning. This study identified the increased reflective nature of blogging whilst engaging the pedagogical principles of constructivism in developing the student's ability to create knowledge.

The more recent studies using web based journals or 'blogs' are also very encouraging in that they highlight the benefits of peer support and how easily this can be done with a blog (Chretien et al,

2008; Ladyshewsky, 2008). Due to the diverse nature of practice education, a support structure is vital to ensure students feel able to engage in learning and gain additional learning opportunities through sharing experiences. It is suggested that blogs have the potential to support the development ofspecialised professional learning communities or communities of practice; a mechanism that aligns itself well to healthcare practice (Andersen and Matkins, 2011; Yang, 2009).

The challenge of providing a safe and secure repository for evidence and encouraging reflection within curricula remains a difficult one and blogs are one method that can be used to facilitate reflection and CPD. This study was driven by concern about Physiotherapy students' engagement with reflective writing and CPD whilst undertaking practice placement. The specific aim of the study was

to explore physiotherapy students' perspectives of using blogs to identify if they could be used to support CPD and reflection during practice placement.

Methods

The purpose of the study was to explore the use of blogs as a reflective tool, using data collection methods that focused on students' learning experiences. Given the purpose of the study, it was essential to obtain the students' own expressions of their learning experiences. To facilitate this, we conducted a sequential exploratory, mixed methods evaluation using both intra and inter-method mixing. This explored the students' opinions and beliefs, focusing on their experiences of using the blogs to facilitate their reflection and provide patient centred care.

A purposeful sample of five students from the third year of the BSc Physiotherapy programme took part in the study. The students kept reflective blogs of their own experiences and commented on each others' posts to encourage depth of reflection. Comments were also added by a member of the academic team (tutor). Participants were encouraged to blog at least once a week for the five week duration of the placement as well as after the placement had ended to evaluate their clinical learning experiences.

To explore the students' learning experiences, a thematic analysis of the student blog comments using a framework approach (Ritchie and Spencer, 1994) was undertaken. In addition, an online questionnaire that included both open and closed items was used to evaluate the students' perceptions and experiences of blogging as well as the accessibility of the tool.

Ethical considerations

Ethical approval was not required for this study as it formed part of routine programme evaluation procedures.

Results

1) Thematic analysis of blog postings

The students were not obliged to follow academic writing guidelines for their blog postings and therefore their comments were written in an informal style that recorded experiences without following a set structure or guidance. The data set consisted of three different types of postings; student's reflective comments on their learning experiences, student-to-student comments written as peer support and tutor comments. Each of the data sets was analysed individually using a thematic framework.

i) Student reflective comments

Five themes were identified within the student comments:

- Descriptions of practice
- Reflections on self-confidence levels throughout the placement
- The challenges of adapting to a new environment (transition to a new place and fitting into a team)
- Reflections on the academic assessment of the placement
- Posing questions to the group/requests for help

Overall, the blog postings detailed the students' learning journeys throughout their placements. The students gave detailed descriptions of their clinical practice and used the blogs on occasions to pose patient centred questions and dilemmas to the peer group. This strategy was particularly used when the students were deliberating about challenging situations and new experiences. The students also discussed at length their levels of confidence in relation to their knowledge, skills and abilities and

how this varied throughout the course of their placement. Towards the end of each placement, discussion arose around the forthcoming written reflective assignment and the blog was used as a discussion board to address questions relating to the assessment.

ii) Student-to-students peer support comments

Three themes merged from the analysis of the peer support comments:

- Support and reassurance
- Sharing issues
- Questioning

All of the students engaged in the process of reading each others' blogs and posting comments and feedback; although some were more active than others. These peer comments offered both support

and reassurance for those questioning their abilities and reflecting on clinical dilemmas. The common themes were of shared experiences and a sense of relief of finding others facing similar problems. Overall, the peer comments offered advice and gave reassurance and feedback about particular clinical scenarios. All entries were positive in nature which was in keeping with the objectives of the study. The comments developed a more inquisitive style as time progressed, possibly modelled on the tutor comments that the peers had been observing whilst posting their own feedback. This led to more detailed discussions and as a consequence, greater depth and scope was evident within each reflective account. All the students felt that the blogging had contributed to the development of their clinical practice and wanted to continue to use the blogs after the study to aid their reflections on patient care.

iii) Tutor comments

There were three themes within the tutor comments:

- Questioning & prompting to enhance reflection
- Support and reassurance
- Information giving and signposting

The tutor's comments also offered support and reassurance; however the tone of these was very much inquisitorial and facilitative. There was a process of ongoing prompting in place; signposting the students to extend their thinking in order to enhance their reflection. The secondary role of the tutor was to model the types of comments and questions that could be posted by the students. The style and content of the student blog postings and comments evolved in response to the tutor feedback. The final element within the tutor comments was information giving and this was provided when the students needed an answer in order to move forwards with their discussions about particular topics.

2) Online questionnaire

The responses to the closed questions of the questionnaire demonstrated that the students had a generally positive perception of using the blog, with all students rating the blog either easy or very easy to use

The questionnaire comments were analysed using a thematic analysis based on the 'Framework' approach, as described by Ritchie and Spencer (1994). The initial familiarization stage and analysis identified both advantages and disadvantages of blogging. Four distinct advantages were revealed:

- Benefits of peer feedback
- Benefits of tutor feedback
- Benefits of peer support
- Enhanced reflection.

Sample comments are included in table 1 below:

Theme	Sample quotes
Benefits of peer feedback	You can ask advice from others and you can give your advice on patient care.' ‘Good to get people's feedback and input on questions.' ‘I have found it has aided me to keep in touch with peers and share experiences.' ‘I felt that they had very valuable things to input.'
Benefits of tutor feedback	‘Very helpful. Lots of questions to ask that enriched the reflection on practice.' ‘It was good to get that feedback as it helped me think of my reflections on patient care from deeper angles and in more depth.' ‘This is exactly what I needed in order to develop my reflection. The support from the tutor has been great in order to point me in the right direction as far as my reflection and blog entries on patient care.'
Benefits of being in a peer support group	That we all go through similar clinical experiences.' ‘From looking at the other blogs everybody had the same trouble starting out with not reflecting deep enough, but as the study went on the quality of each blog improved.' ‘ … (realising that) many of us are having similar sorts of clinical experiences be it good or bad.'
Enhanced reflection	‘Made me reflect more and think about what was actually happening with the patients on my placement.' ‘I feel that reflections happen naturally but by blogging I reflected deeper.' ‘It has also helped me to reflect deeper due to being able to update constantly and then receive feedback on my posts.'

Table 1: Sample student quotes – Advantages of blogging

The participants were also asked to comment on any difficulties or limitations they had found with blogging. Three disadvantages were revealed:

- Blogging was initially time-consuming
- Participants felt self-conscious at first
- Beginning the process was difficult for some students. Sample quotes are included in table 2:

Theme	Sample quotes
Time	Time consuming.' ‘To begin with it felt a bit like a chore (like extra work), but only at the beginning.'
Feeling self conscious	‘Talking about myself, my feelings and my experiences. At first I had feelings of being fairly self conscious but then I just learnt to do it anyway.'
Getting started	‘Starting off each entry, once you start the information just flows, it is the initial sentence that's the difficulty.'

Table 2: Sample student quotes – Disadvantages of blogging

Discussion

This study utilised a small sample size of five students over the course of one five-week placement and confidence to generalise from the study is therefore limited. However, despite this limitation, some important advantages of blog usage to support CPD have been identified. The results demonstrated that the students had positive experiences of using the blogs overall and enjoyed the interactive nature of sharing their blogs within the peer support group. Students also reported that blogging aided their transition process from being supported within the academic institution to working autonomously within the practice environment, as they developed confidence in their abilities.

A key finding from this study was that the blogs helped the students to recognise their learning needs and provided a stimulating forum to evaluate their practice learning. This is in accordance with previous studies (Beveridge, 1997; Williams et al, 2002; Levine et al, 2008). The participants also highlighted the increased depth and scope of their reflections as a benefit; leading to an increased

confidence and stronger awareness of their clinical skills. Again, this is underpinned by a previous study that suggested that reflection on learning events within the clinical arena stimulates not only deeper reflective skills but a new level of clinical understanding (Williams et al, 2002).

The key factors that contributed to the students' positive experiences and perceptions were the informal nature of the tool, the easy accessibility of the online environment and the ongoing, timely support from peers. These findings are in accord with Ladyshewsky's study in 2008 that clearly demonstrated the success of peer support in developing students' learning. This study investigated the use of paper based journals to enhance peer support with physiotherapy students. The conclusions suggested that journal writing in any format had the advantage of enabling students to consider their clinical decision making more deeply, thus impacting on patient outcomes.

The thematic analysis of the blog posts also identified that as well as using the blogs to reflect, the students were using them as a forum to ask questions about clinical practice, and to seek reassurance and feedback about their actions and decision-making processes. The blogs provided valuable collaborative learning opportunities and professional socialization for the students involved whilst isolated on placement from their peers. Furthermore, using blogs embedded within the secure environment of an ePortfolio, avoided the issues raised in previous research relating to the potentially threatening environment of using public blogging sites (Hernandez-Ramos, 2004). The students also valued the academic support from the tutor via their blog posts. The tutor's comments aided the students' reflective processes and they felt well supported within the practice arena without the need for face-to face contact.

The students did highlight some disadvantages of blogging and these mainly related to the logistics of using a tool that was unfamiliar. It was also noted that some students felt overwhelmed by sharing their own personal reflections initially. However as the study progressed and the students became more familiar with both the tool and sharing personal comments this disadvantage diminished. Although the duration of the study was only five weeks, the participants quickly formed a trusting professional community, supporting the suggestions of previous authors that blogs have the potential to develop communities of practice (Andersen and Matkins, 2011; Yang, 2009).

Conclusions

This local study has offered some insight into Physiotherapy students' experiences and perceptions of blogging; although it is not possible to make conclusive claims about the use of blogs. All the students were positive about using blogging to enhance their reflection and valued the flexibility of access and convenience that it afforded them. The students stated that blogging provided a safe and informal environment to explore their reflections on current practice and specific incidences of patient care. They were positive about the feedback provided by both their peers and the tutor in aiding them to add depth and scope to their reflections. All participants indicated that they would advocate blogging as a medium for improving their reflections and felt they would continue to use blogging as a tool in their future career.

Whilst there is no simple formula for developing the reflective skills of a diverse student body, this study has identified that blogs within an ePortfolio can be used as one method to support students'

6 reflective practice. The results of the study suggest that students valued the opportunity to discuss and share experiences and can be facilitated to engage in the process of reflection when in a supportive peer group. Higher education curricula may benefit from utilising technology and peer support to further develop student's interest and engagement with this vital skill.

The findings suggest that the purpose of using the technology needs to be clearly defined and students need to be convinced of the advantages of making changes to their practice. A preparatory session should be conducted in order to familiarise the students with the technology and ground rules for engagement explained to set the expectations of the learners.

The blogs where a useful tool to enhance reflective skills and along with peer support, facilitated students to remain focused on enhancing their professional practice, ultimately impacting on the patient journey. This study indicated that technology can be used to facilitate the development of a reflective, problem solving practitioner focussed on providing efficient and effective patient centred care.

Further research is necessary to gain an in-depth understanding of the different dimensions of health care students' experiences of blogging. Recommendations for further study include:

- Longitudinal studies to gain an in-depth understanding into students' perceptions and experiences of using blogs to enhance patient centred care.

- Studies to evaluate if these findings with undergraduate students can be transferred to the practice environment.

References

1. Anders, D., Olofsson, J., Lindberg, O. and Stödberg, U. (2011) *Shared video media and blogging online: Educational technologies for enhancing formative e-assessment?* Campus- Wide Information Systems, Vol. 28, No. 1, pp. 41 – 55.

1. Andersen, L. and Matkins, J.J. (2011) *Web 2.0 Tools and the Reflections of Preservice Secondary Science Teachers*, Journal of Digital Learning in Teacher Education, Vol. 28, No.1. pp. 27-38.
2. Bartett-Bragg, A. (2003) *Blogging to Learn*, University of Technology, Sydney: Australia.
3. Beveridge, I. (1997) *Teaching your students to think reflectively: the case for reflective journals*, Teaching at Higher Education, Vol. 2: No. 1, pp. 33-43.
4. Boud, D. (2001), 'Using journal writing to enhance reflective practice', In: English, L.M. and Gillen, M. A. (eds) *Promoting Journal Writing in Adult Education,* New Directions in Adult and Continuing Education. No. 90. Jossey-Bass, San Francisco pp. 9-18.
5. Brown, C.A., Belfield, C.R. and Field, S.J (2002) *Cost effectiveness of continuing professional development in health care: a critical review of the evidence*, BMJ, Vol. 324, No. 652.
6. Chretien, K., Goldman, E. and Faselis, C. (2008) *The reflective writing Class Blog: Using Technology to promote Reflection and Professional Development*, Journal of General Internal Medicine, Vol. 23, No. 12, pp. 2066-2070
7. Department of Health (2010) *Equity and Excellence: liberating the NHS*, London: Department of Health.
8. Dewey, J. (1933) *How we Think: a restatement of the relation of reflective thinking to the educative process*, Chicago: Elenry Regenry.
9. Ferdig, R. & Trammell, K. (2004) *Content delivery in 'Blogosphere*, Technological Horizons in Education Journal, Vol. 2.
10. Fowler, J. (2008) *Experiential Learning and its Facilitation,* Nurse Education Today, Vol. 28, pp. 427-433.
11. Healey, M, and Jenkins, A. (2000) *Kolb's experiential learning theory and its application in Geography in Higher Education*, Journal of Geography, Vol. 99, No. 5, pp.185-195.
12. Health Professions Council (2005) *Standards for continuing professional development*, London: HPC
13. Hernandez-Ramos, P. (2004) *Weblogs and online discussions as tools to promote reflective practice*, The Journal of Interactive Online Learning, Vol. 3, No. 1, pp.1-16.
14. Gleaves, A., Walker, C. and Grey, J. (2007) *Using digital and paper diaries for learning and assessment purposes in higher education: a comparative study of feasibility and reliability*, Assessment and Evaluation in Higher Education, Vol. 32. No. 6, pp. 631-643.
15. Green, P. (2005) *Spaces of influence: A framework for analysis of an individual's contribution within communities of practice*, Higher Education Research & Development, Vol. 24, No. 4, pp. 293-307.
16. King, T. (2002), *Development of student skills in reflective writing*, University of Portsmouth: UK.
17. Kinsella, E.A. (2010) *Professional knowledge and the epistemology of reflective practice*,
18. Nursing Philosophy, Vol. 11, No. 1, pp. 3-14.
19. Kolb, D.A. (1984) *Experiential Learning*, London: Prentice Hall.
20. Ladyshewsky, R.K. and Gardner, P. (2008) *Peer assisted learning and blogging: A strategy to promote reflective practice during clinical fieldwork*, Australian Journal of Educational Technology, Vol. 24, No. 3, pp. 241-257.
21. Moon, J. (1999a) *Reflection in Learning and Professional Development,* Kogan Page: London.
22. Moon, J. (1999b) *Learning Journals: a Handbook for Academics, Students and Professional Delopment,* Kogan Page: London.
23. Quadri, N., Bullen, P. and Jefferies, A. (2007) *Student diaries: using technology to produce alternative forms of feedback*, Second International Blended Learning Conference, pp. 214-222.
24. Ritchie, J. and Spencer, L. (1994) 'Analysing qualitative data,' In: Bryman, A. and Burgess, R.G (Eds) *Qualitative Data Analysis for applied policy research*, London: Routledge, pp.173-194.
25. Reis, S.P., Wald, H.S., Monroe. A.D. and Borkan, J.M. (2010) *Begin the BEGAN (The Brown Educational Guide to the Analysis of Narrative) - A Framework for enhancing educational impact of*

faculty feedback to students' reflective writing, Patient Education and Counselling, Vol. 80, No. 2, pp. 253-259.

26. Royal College of Nursing (2007) *Joint position statement on continuing professionaldevelopment for health and social care practitioners*, London: RCN.
27. Russell, T. (2005) *Can Reflective practice be taught?* Medical Teacher, Vol. 6, No. 2, pp. 199-204.
28. Sanders, R.L. and McKeown, L. (2007) *Promoting Reflection through Action Learning in a virtual 3D world*, International Journal of Social Sciences, Vol. 2, No. 1, pp. 50-55.
29. Schön, D.A. (1983) *The reflective practitioner: How professionals think in action*, San Francisco: Jossey-Bass.
30. Schön, D. A. (1987) *Educating the Reflective Practitioner,* San Francisco: Jossey-Bass.
31. The Nursing and Midwifery Council (2006) *PREP handbook*, London: NMC.
32. Van Tartwijk, J. (2009) *Portfolios for assessment and learning: AMEE Guide no. 45*, Medical Teacher, Vol. 31, No. 9, pp. 790-801.
33. Vygotsky, L. (1986) *Thought and language,* Cambridge, MA: M.I.T. Press.
34. Wald, H.S., Reis S.P. and Borkan J.M. (2009) *Reflection rubric development: evaluating medical students' reflective writing*, Medical Education, Vol. 43, pp. 1081-1117.
35. White, J. (2008) *The Use of Reflective writing in Exploring student experiences in Surgery*, Journal of Surgical Education, Vol. 65, No. 6, pp. 518-520.
36. Williams, R., Wessel, J., Gemus, M. and Foster-Sargeant, E. (2002) *Journal writing to promote reflection by physical therapy students during clinical placements*, Physiotherapy Theory and Practice, Vol. 18, pp. 5-15.
37. Williams, R. & Wilkins, S. (1999) *The use of reflective summary writing as a method of obtaining student feedback about entering physical therapy practice*, Journal of Physical Therapy Education, Vol. 13, pp. 28-33.
38. Yang, S-H. (2009) *Using Blogs to Enhance Critical Reflection and Community of Practice*, Educational Technology and Society, Vol. 12, No. 2, pp. 11-21.

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Supporting Healthcare Workforce Development Using Simulation and ePortfolios

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Introduction

This paper discusses how the authors have blended a selection of digital technologies to enhance clinical skills learning with undergraduate healthcare students. The project combined simulation scenarios, video podcasts and blog based reflection within an ePortfolio (PebblePad). The ePortfolio acted as a repository for the digital media, and provided a scaffold for students to reflect on their clinical skill acquisition and evidence their learning journey. The students perceived this blend of technologies positively and valued the opportunities for learning and development beyond the original simulation and debrief.

Reflection on clinical experiences to enhance skill development is an essential ability for all healthcare students. However, the challenge of embedding reflection within curricula remains a difficult one. Combining high-fidelity, clinical simulation activities, podcasts of these activities and peer-reviewed blogs provides an environment in which MSc (Pre-registration) Physiotherapy students at MMU are encouraged to reflect on their skills development. This supportive and informal environment allows students to review their clinical decision-making and practical skills, explore their reflections and receive feedback from their peers to add depth and scope.

This provision of blending digital learning material has enabled the students to become responsible for their own development, reflect on their level of skill acquisition, formulate student-led revision sessions and collate evidence of participation/achievement. The integration of all of these learning resources and activities within the PebblePad ePortfolio allows links to be easily made to previous activities and facilitates further learning and reflective practice. The storage of all resources within the 'PebblePad Asset Store' thus enables students to recall, re-play, and reflect at a convenience time for the individual learner. Resources can also be accessed online whilst the students are on clinical placement to further support learning.

Background

Engaging undergraduate students in reflective practice to enhance their clinical decision-making and personal development has previously been reported as an ongoing challenge (NMC, 2007; Sandars, 2009; Owen et al 2009). One of the educational tools that can facilitate this is a personal development portfolio (PDP) and nursing, medical and healthcare professions have a history of using portfolios within both undergraduate and postgraduate curricular to facilitate reflective practice and support learning and development (Owen et al 2009; Sandars, 2009; Tochel et al 2009; NMC, 2010).

Professional bodies encourage and support both undergraduates and qualified members in the use of portfolios (paper-based and electronic) internationally. Currently the use of portfolios within postgraduate healthcare education is being actively considered and in some cases used for both recertification/ revalidation and evidencing continuing professional development (Owen et al 2009; Tochel et al 2009; van Tartwijk and Driessen, 2009). Therefore students that actively engage in keeping a PDP throughout their studies are more prepared to enter the workforce and have a readily available collection of evidence that they can use to stimulate their learning in the workplace.

The Association for Medical Education in Europe (AMEE) guide on portfolios for assessment and learning by van Tartwijk and Driessen (2009) discussed how educators can make full use of the possibilities and opportunities that portfolios can offer and highlights difficulties, which can occur. The migration of portfolios to the electronic medium continues to grow (Tochel et al, 2009), and the combination of digital multimedia (audio, photographs, video and podcasts) and emerging technologies including blogs, social networking sites, wikis and human patient simulators activities can be used to stimulate student self-analysis of skill development. One of the advantages of an e- portfolio is therefore the ease of making links between a range of electronic evidence to demonstrate how skills and learning can be transferred from one setting to another. However, careful consideration must be taken to align the most appropriate learning and teaching technologies to enable students to experience and/or consolidate clinical skill development. Careful consideration must be taken to align the most appropriate learning and teaching technologies to enable students to experience and/or consolidate clinical skill development. The structure of the desired learning is acknowledged as being just as important for effective leaning as the content (Owen, 2009; van Tartwijk and Driessen, 2009). Over reliance on and use of new technologies can disenfranchise learners who are unfamiliar with them and the purpose and advantages of using technologies need to be made clear to learners if they are to actively engage. Getting the blend of technologies right can be time consuming and

problematic. The aim of this project was therefore to explore if a blend of digital technologies could be used to enhance clinical skills learning and reflective practice

Methods

A series of cardio-respiratory simulated scenarios where developed and integrated into the undergraduate curriculum. Twenty-three students completed the scenarios and debrief and where subsequently provided with a series of podcasts of the sessions on a DVD. The students were subsequently required to undertake self and peer reflection activities on the simulated scenarios using shared blogs within their PebblePad ePortfolios. They also explored the evidence-base related to planned and simulated patient management.

To evaluate the students' experiences of using this blend of technologies a questionnaire survey utilising both open and closed items was used. Additionally, the unit evaluation featuring mixed items was used to gather data on the students' perceptions of the cardio-respiratory teaching. The closed items were analysed using descriptive in SPSS. A thematic analysis of the open items was undertaken using a 'Framework' approach, as described by Ritchie and Spencer (1994).

Ethical considerations

Ethical approval was obtained from the Manchester Metropolitan University Research and Ethics Committee. Students were informed about the survey via email and the institutional managed learning environment and directed towards a students' information sheet. Involvement in the project was voluntary and students had a period of two weeks to consider if they wanted to complete the survey.

Results

A 70% response rate was achieved with the questionnaire survey (16/23 returned, 14/23 fully completed), and100% response rate from unit evaluations (N=23/23). Descriptive statistics from the closed questions are presented in table 1.

	Not Answered	***Strongly Agree [1]***	***Agree [2]***	***Neither [3]***	***Disagree [4]***	***Strongly Disagree [5]***
I am confident in using Pebblepad (ePortfolio)	*0 (0)*	*0% (0)*	***71% (10)***	*22% (3)*	*7 (1)*	*0 (0)*
I am not confident working alone	*0 (0)*	*0 (0)*	*14% (2)*	*28% (4)*	*22% (3)*	***36% (5)***
I am confident finding my way around in the Pebblepad ePortfolio	*0 (0)*	*0 (0)*	***58% (8)***	*28% (4)*	*14% (2)*	*0% (0)*
I am not confident obtaining information using the Pebblepad ePortfolio	*0 (0)*	*0 (0)*	*22% (3)*	***36% (5)***	***36% (5)***	*7% (1)*
I am confident in sharing an asset of my Pebblepad e- portfolio with peers/tutors.	*0 (0)*	*14% (2)*	***58% (8)***	*14% (2)*	*14% (2)*	*0 (0)*
It was easy to upload reflective activities to Pebblepad	*0 (0)*	*28% (4)*	***43% (6)***	*28% (4)*	*0% (0)*	*0 (0)*
I liked being able to upload digital material (videos of simulation and reflection activities) to support my reflective account	*0 (0)*	*14% (2)*	***58% (8)***	*22% (3)*	*7% (1)*	*7% (1)*
I found using digital material assisted my learning	*0 (0)*	*14% (2)*	***50% (7)***	*36% (5)*	*0% (0)*	*0 (0)*
The use of digital material helped me to link my learning to the Knowledge and Skill Framework (KSF)	*0 (0)*	*14% (2)*	*28% (4)*	***42% (6)***	*14% (2)*	*0 (0)*
I did not benefit from uploading digital material to Pebblepad.	*0 (0)*	*0 (0)*	*22% (3)*	*28% (4)*	***36% (5)***	*14% (2)*
	Simulation		***Reflective Debrief***		***Sharing an Asset***	

	Not Answered	***Strongly Agree [1]***	***Agree [2]***	***Neither [3]***	***Disagree [4]***	***Strongly Disagree [5]***
*Which asset contributed **most** to your personal development*	***57% (8)***		*36% (5)*		*7% (1)*	
*Which asset contributed **least** to your personal development*	*14% (2)*		*22% (3)*		***64% (9)***	

Table 1: Student perceptions of clinical skills and personal development.

Three key themes emerged from the thematic analysis of the open items: Clinical skills acquisition, personal development and transferability.

Clinical skills acquisition

Findings indicated that students were able to use the simulation podcasts to facilitate personal reflection: "Simulation activities were excellent." "The podcasts will be useful on placement",

They also reported that being able to link activities within an ePortfolio provided an environment in which they could consolidate their learning within and beyond the simulated environment: "PebblePad is good … an obvious use (will be when) we are on placement"

Students also reported that using the webfolio function within the ePortfolio, allowed them to repurpose and represent digital evidence in a variety of different contexts: "We can re-look at the DVD and Basic Life Support Videos on our placements".

Personal Development

The podcasts provide an opportunity for the students to review their performance repeatedly, facilitating reflection and personal development: "Reflection and video evidence will be useful for employers". The ePortfolio provided a secure web-accessible environment in which all the resources could be linked and revisited. This enabled the students to see their learning journey and the process of becoming a professional: "Everyone should be provided with this opportunity for CPD purposes

Transferability

Students were able to identify transferable skills developed during the basic life support and simulated scenarios, that would be useful beyond the formative and summative unit assessments: "Its necessary to use this information when applying for jobs". Blending these digital technologies also supported the students' different learning styles: "Simulation sessions were very pertinent and supported my own learning style", "These activities support all our learning styles".

Discussion

Previous cohorts of students have used paper-based portfolios to demonstrate their PDP. Additional digital evidence was stored on data sticks, as video files and on DVDs. This process led to fragmentation of their portfolio across a variety of paper based and digital medium. Thus, opportunities for students to transfer learning from one context to another were potentially missed.

Students reported that the simulation and reflective learning activities assisted their personal and professional development. The ePortfolio was easy to use and had the advantage of allowing sharing of assets. The students were able to learn at their own pace, reflect with peers and gather supportive information to demonstrate their achievements. The analysis demonstrated that the students believed that the cardio-respiratory simulation activities supported their learning the most, closely followed by reflection and sharing assets electronically. This is likely to be due to the fact that at this stage in the course, reflection and sharing an asset within the ePortfolio was a relatively new skill. This may change as the students develop further reflective writing skills, during the programme and make links to experiences on practice placement.

The ePortfolio allowed students to select learning resources to demonstrate achievement of a range of core dimensions within the National Health Service Knowledge and Skills Framework (DoH, 2004). Students across all Physiotherapy programmes at MMU are now encouraged to use PebblePad to develop, collaborate, share and store learning and assessment activities including podcasts of clinical skills (expert/ best practice examples and the students own). These collective learning experiences and reflections can be utilised and re-purposed by students to develop their ePortfolio/webfolios; organise their learning resources

in preparation for examinations, practice placements, and demonstrate skill acquisition. Thus allowing learning and development to continue beyond the original simulation learning opportunity. However, one barrier to this intervention relates to the maximum upload of individual movie file sizes, currently at 10MB (Owen et al 2009).

The use of an ePortfolio as a repository for the digital media provided a secure, structured environment for students to reflect on their clinical skill acquisition. Students were also able to clearly see their learning journey and the transferability of skills to the practice placement setting. This would be applicable to a wide range of undergraduate and postgraduate professional programmes where skills are developed within the academic/simulated learning environment and translated into the practice placement setting. Current literature suggests that high-fidelity simulation may promote clinical and reflective skills and that debriefing is the most important aspect of simulation-based education (Grant et al, 2009). However, there is a paucity of evidence identifying the impact of blending simulation, digital learning technologies and ePortfolios to enhance healthcare clinical skills development. Although this study reports positive findings relating to an innovation and provides positive findings, further research is required to explore the applications for other professional groups

Limitation

The small number of pre-registration students enrolling and participating in this initiative, limit our ability to generalize the findings to other populations, however the educational principles and practices are adaptable to all healthcare professional programmes.

Conclusion

This study demonstrated that digital technologies could be blended to enhance the students' educational experiences and facilitate repetitive reflection, post-event within the framework of an e- portfolio. The integration of digital media within the ePortfolio enabled the students to individualise their PDP and encourage each other through peer support networks. Thus providing an opportunity for students to enhance their clinical skill development beyond the initial learning activity and easily transfer learning from the academic to the clinical environment.

References

1. Department of Health. 2004. The National Health Service Knowledge and Skills Framework (NHS KSF) and the Development Review Process, London: Department of Health, October 2004.
2. Grant JS, Epps C, Moss J, and Watts P. 2009. *Promoting Reflective Learning of Students Using Human Patient Simulators.* Clinical Simulation in Nursing, 5 (3), Supp 1, S6.
3. Nursing and Midwifery Council, (NMC), 2010. *Standards for Pre-registration Nursing Education,* London: NMC.
4. Owen, H., Sprick, C., and Sanderson, L., (2010) *'Life Support Provider' accreditation by eportfolio: Case Study.* PebblePad Pebblebash Conference, 9-10th June 2010, Birmingham, United Kingdom. http://www.PebblePad.co.uk/pp2010/cs22.pdf.
5. Ritchie J, and Spencer L., 1994. 'Analyzing qualitative data' *In* Bryman, A and Burgess, R.G (Eds) Qualitative data analysis for applied policy research. London: Routledge, pp.173-194.
6. Sandars, J., 2009. The use of reflection in medical education: AMEE Guide No 44. *Medical Teacher,* 31:685-695.
7. Tochel, C., Haig, A., Cadzow, A., Begs, K., Colthart, I., and Peacock, H., 2009. The effectiveness of portfolios for post-graduate assessment and education: BEME Guide No 12. *Medical Teacher*, 31, 282-301.
8. Van Tartwijk, J., and Drissen, E.K., (2009) portfolios for assessment and learning: AMEE Guide no. 45. *Medical Teacher*, 31, 709-801.

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Benefits of eFolio Thinking Across Several University Elearning Psychology Courses

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Abstract

Introduction.

eLearning assignments in university web-based courses that deliberately integrate efolio thinking skills and values might do more than simply serve to promote valuable and essential training experiences relevant to creating ePortfolio identities. eFolio thinking strategies incorporating selection, collection, reflection, connection, and assessments with instructor and peer feedback may result in greater personal engagement. It might also significantly contribute to students' overall acquisition of specific course learning outcomes, hence higher grades. These metacognitive methods as well as traditional educational assignments were statistically examined across several psychology elearning classes to examine the respective "added value" resulting from requiring specific efolio thinking assignments.

Method.

Standard elearning assignments and efolio-structured assignments were analyzed across five upper and lower division psychology elearning classes. These University of Alaska Anchorage (Fall 2011) elearning courses included two large General Psychology, Abnormal Psychology, Psychology of Stress, and a Forensic Psychology course that were all independently examined. Each elearning course required students to post efolio designed weekly key concepts, provide peer feedback and produce a final semester reflection that deliberately exercised efolio thinking skills. All students participated in exams whereas upper division students were also required to provide a term paper and Power Point presentation. The efolio thinking assignments were designed to allow for: independent mastery, metacognitions, transfer of skills, social feedback and assessment. Table 1 below summarizes the pedagogical goals and corresponding efolio thinking with the 6 P's rubric criteria.

Pedagogic Goals	**eFolio Thinking – 6 P's**
Engagement, Ownership	SELECT – Present Your Key Concept
Critical Thinking, Discrimination	COLLECT- Professional Examples
Personal Meaning, Relevance	REFLECT - Personal Examples
Understanding Relationships	CONNECT – Prior Learning
Ethics, Respect, Acknowledgement	REFERENCES – Provide Sources
Social and Teaching Presence	RESPOND– Peer/Instructor Feedback

Table 1 - Pedagogic Goals and Corresponding eFolio Thinking Rubric

Table 2 identifies the inherent skills and fundamental differences found for traditional exam demand characteristics or properties versus the attributes and qualities specific to efolio thinking assignments. One can quickly appreciate the differences unique to each activity and the corresponding assessment attributes.

Assignments - EXAMS	**Assignments – eFolio Thinking**
Objective	Subjective
Timed Tests	At Your Own Pace
Speeded Tests/Placement	Power Test/Achievement
Normative/Group	Ipsative/Personal Best
Fluid Intelligence	Crystallized Intelligence
Professional	Personal Meaning/Reflection
Memory, Recall	Critical Thinking/Metacognition
Discrimination	Generalization
Specific	Summary

Assignments - EXAMS	Assignments – eFolio Thinking
Interval Data	Ordinal Data
Concrete	Abstract
Instructor-Centered	Student-Centered
Accountability	Educational Development

Table 2 - Assignment Demand Characteristics Unique to Exams versus eFolio Thinking

Results

Several correlational analyses were conducted across all classes to evaluate exams versus reflection papers for their predict value in determining final grades. Only the beginning classes in General Psychology 111, where 90% are non-psychology majors, showed small but significant relationships for exams yet not for their reflection papers. Whereas for all upper division courses: Abnormal, Stress and Forensic, which are predominately upper class psychology majors, the reverse was found. As seen in Table 3, exams were not a significant predictor of total grade performance at all while reflection papers scores were all significantly related across the board towards predicting final grades.

COURSE	Final Grades	EXAM1	EXAM2	EXAM3	Reflection Paper
General Psychology-111	Total Score	r = .19*	r = .21*	r = .12	r = .15 n=122
Abnormal Psychology-345	Total Score	r = -.13	r = .02		r = .33* n=36
Stress Management-380	Total Score	r = -.02	r = .03		r = .44** n=45
Forensic Psychology-486	Total Score	r = .20	r = .22		r = .37** n=41

Table 3 Correlational Results Across Psychology Courses Predicting Final Grades for Major Exams and Reflection Paper Assignments

(Note: Two sections of General Psychology were Combined 801 n=61, 802 n=61, total n=122) (p<.05*, p<.01**)

Discussion

What is clear from this data is that objective multiple-choice exams versus subjectively written reflection papers differ in their predictive power. It appears memorization tasks that do not require much critical thinking or personal reflection were not particularly indicative of superior performance. Among several possible conclusions, perhaps since exams were open-book, open-notes, and somewhat superficial, students lacked the deeper learning, ownership and personal engagement found to exist with eFolio thinking. At the very least in this study, eFolio thinking was found to be a better predictor of final grades.

Google Sites ePortfolio for Integrative Learning and Holistic Development of Trainee Operating Department Practitioners

(Work in Progress Paper)

Barbara Anne Nicolls, Shane Roadnight, Buckinghamshire New University, UK

Introduction

This paper reports on the innovative use of Google Sites as a student owned, institution independent, online electronic Portfolio (ePortfolio) for reflective writing and dialogue with peers and tutors facilitating the integration of theory and practice to support learning and professional development in the 2-year Bucks Diploma in Higher Education in Operating Department Practice (Dip. HE in ODP) course. As they experience critical moments in their learning, they are supported and guided to make connections, express their responses, collect and organise information and plan their next steps, potentially within one integrated digital environment thus, enabling them to document and evidence the academic skills and professional competencies and abilities developed over time[1,2], in this case, from September 2011 to August 2013. Therefore, the Google Sites ePortfolio is the central and common online space for the trainee operating department practitioner's learning experience (Figure 1) comprising a purposeful aggregation of digital items – ideas, evidence, reflections, feedback etc, which "presents" a selected audience with evidence of the trainee's learning and/or ability[3] and the achievement of the ODP programme learning outcomes defined by the accrediting institutions and professional bodies such as the HPC and the College of Operating Department Practitioners (COPD); it is a reflection of the trainee as a person undergoing continuous personal development, not just a store of evidence[4].

The ODP is a relatively new profession regulated by the UK Health Professions Council (HPC) set up to protect the service users by keeping a register of health professionals who meet the standards for their training, professional skills, behaviour and health. The HPC expects its practitioners to evidence personal and continuing professional development (CPD) through the maintenance of a portfolio of evidence not only at undergraduate level but also at registrant level[5] to remain on the register. The Bucks ODP curriculum has embedded the "spinal column"[6] type ePortfolio to develop highly flexible, integrative and adaptive life-long learners[7] who are capable of keeping pace with the rapidly changing demands of new knowledge, emerging work roles and changing work environments[8] and is therefore, "projectional"[9,10], outward facing to employers and the economy rather than introjectional facing inwards to the discipline.

Aim

As the early adopters of the ePortfolio and the first professional course at Bucks to embed the ePortfolio, the stakeholders including the Head of School, the Department Manager, the Course Leader, the External Examiner and the Lead Mentors from the practice areas as well as the ePortfolio facilitator from the Learning Development Unit are keen to maximise the affordances of the Google Sites ePortfolio. With this in mind, we, the Course Leader and the ePortfolio facilitator, made a conscious effort to iteratively evaluate the efficacy of the ePortfolio supported learning experiences designed to lead the trainees to connect, integrate and synthesize their learning[11] in order to enable them to construct their personal, professional and intellectual identity and to become reflective practitioners and lifelong learners. We will also examine the extent to which ePortfolio based tasks contribute to the reduction of the theory – practice gap.

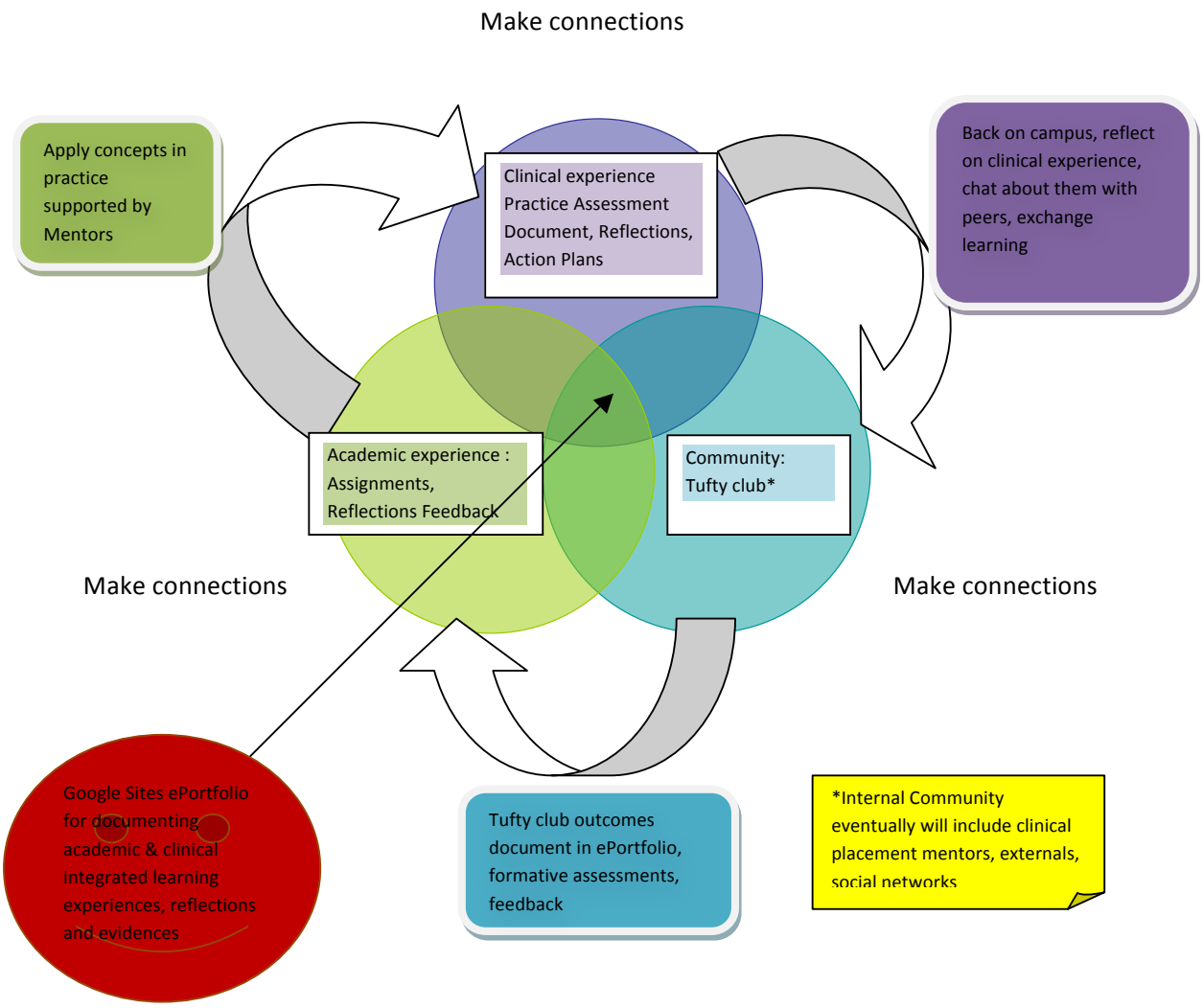

Figure 1 illustrates the Google Sites ePortfolio at the core of the Bucks ODP curriculum (An adaptation of the Learning Landscape12)

Designing the Bucks ODP Google Sites ePortfolio landscape

The development of the Google Sites ePortfolio learning landscape (Figure 1) is based on the Kolb experiential learning cycle, illustrating the process of continuous learning based around dialogue and collaborative activity with others[4]. It is underpinned by the Constructivist model of learning as it aims to foster learning and document growth[13] with opportunities for authoring, editing. Formative assessment and feedback challenge the trainee operating department practitioner's original insights prompting reflection and revision[14]. Mayer's SOI (selection, organization and integration) model[15] underpins the design of learning experiences in identifying evidence for documenting in the ePortfolio, understanding how the material fits together and helping them see how the material relates to prior knowledge or experience. This is relevant to the context of the ODP curriculum or the learning career[16] (Figure 2) which incorporates 38% theory and 62% clinical practice experience in the learning process for the trainee ODPs to gain a better understanding of the link between theory and professional practice. The application of theory to practice takes place in a variety of clinical settings according to the three interconnected phases of perioperative care: anaesthetic phase, surgical phase and recovery phase highlighting the need for the integration of learning in these diverse contexts. Given the chance to observe and practice in situ the behavior of the members of the operating department team including surgeons, anaesthetists and theatre nurses, the trainees can pick up relevant jargon, imitate behavior, and gradually start to act in accordance with its norms. Acting in situations also facilitates learning as a continuous, lifelong process and is a means to discuss, reflect upon, evaluate and validate community procedures in a collaborative process.

Operating Department Practice Programme Learning Outcomes				
Year 2 Sem 2	Level 5	CL 503 Specialising in Perioperative Care Clinical Practice in Specialist Anaesthetics, Surgery	CL 504 Developing Leadership Qualities in the Perioperative Care Environment Clinical Practice in Specialist Anaesthetics, Surgery	ePortfolio presentation with achievement of course learning outcomes
Year 2 Sem 1	Level 5	CL 501 Advancing Perioperative Practice Clinical Practice in Complex Anaesthetics, Surgery	CL 502 Applied Anatomy and Physiology Clinical Practice in Complex Anaesthetics, Surgery	ePortfolio progression
Year 1 Sem 2	Level 4	CL 403 Developing Perioperative Practice Clinical Practice in Emergency Anaesthetics, Surgery	CL 404 Anatomy & Physiology Clinical Practice in Emergency Anaesthetics, Surgery	ePortfolio confidence building, making connections, reflection, self assessment Summary of learning in Y1
Year 1 Sem 1	Level 4	CL 401 Fundamentals of Perioperative Practice Clinical Practice in Anaesthetics, Surgery	CL 402 Principles & Practice of Anaesthetics & Surgery Clinical Practice in Anaesthetics, Surgery	ePortfolio induction, familiarization, exploration, collection, selection of evidence

Figure 2 The Bucks Operating Department Practice curriculum

Reflective assignments related to module learning outcomes and clinical experiences enable reflection on practice and has been an effective way of structuring reflective activities. The concept of scaffolding has been applied for reflection which fosters lifelong learning because it encourages the ODP trainees to recognize gaps in their own knowledge and attend to their own learning needs[17]. The Tufty Club is one way when the trainees examine their ability to evaluate their own learning through reflection on action, a clinical learning episode which could be in surgical or anaesthetics –the context will vary and is an example of "personalization". This practice is based on the work of Vygotsky and then Bruner who postulated that with an adult's assistance, children could perform tasks too complex for them to perform independently[18]. A scaffolding experience allows the trainees to move away from assistance, to become independent learners able to transfer the acquired understanding to new contexts.

Moreover, the ARCS model, a problem solving approach to designing the motivational aspects of the Google Sites learning environment contributes to stimulating and sustaining the trainees' motivation to learn [19,20,21.] This report will examine the scaffold provided to enable the trainee ODPs to integrate academic, clinical and community learning.

Participants

11 trainees enrolled on the Bucks Dip. in HE in ODP 2011 contribute to the evaluation of the Google Sites ePortfolio as part of the course requirement.

Data Collection

1. An initial assessment questionnaire created in Google Forms to establish the entry level of IT literacy, experience with ePortfolios, expectations
2. Focus Group interviews at the end of each semester
3. Observation of engagement on trainees' ePortfolio sites

Data Analysis

Data will be analysed following a thematic approach: themes that contribute to extrinsic and intrinsic motivation to engage with the ePortfolio learning environment to document and reflect on integrated learning experiences.

Conclusion

This paper demonstrates how we, the Course Leader and the ePortoflio facilitator have mapped the module and programme learning outcomes to the learning, teaching activities and assessment methods to engage the trainees in an integrated and meaningful way. The learning experiences in Google Sites help the trainee ODPs to build a collection of assignments and artefacts which are accessible, viewable, editable by themselves as well as by the invited audience for comments and feedback. The findings will not only help improve the design of effective teaching, learning and assessment activities for the following semester but also ensure that the trainees are being supported and encouraged to make the necessary connections between theory and practice. Challenges such as time for reflection in action and documenting evidence during clinical placements need to be addressed in due course.

References

1. Gomez, S. (2004) *Electronic Portfolios in Higher Education* [online] York: Higher Education Academy, Available from http://www.heacademy.ac.uk/assets/York/documents/resources/resourcedatabase/id446_electronic_portfolios.pdf [Accessed 12 December 2011]
2. Butler, P. (2006) *A review of the literature on portfolios and electronic portfolios*. Palmerston North, NZ: Massey University College of Education
3. Sutherland, S. & Powell, A. (2007), Cetis SIG mailing list discussions Available from http://www.jiscmail.ac.uk/archives/cetis-portfolio.html [Accessed 12 April 2011]
4. JISC (2008) *Effective Practice with ePortfolios: Supporting 21st century learning* [online] Available from:http://www.jisc.ac.uk/media/documents/publications/effectivepracticeeportfolios.pdf Accessed 12 November 2010]
5. Health Professions Council (HPC) (2009) Your duties as a registrant [online] Available from: http://theatreteam.co.uk/wp-content/uploads/2009/05/1000119fshort_guide_to_cpd.pdf [Accessed: 12 May 2012]
6. Endacott, R., Gray, M. A., Jasper, M.A., McMullan, M., Miller, C., Scholes, J. & Webb, C. (2004) Using portfolios in the assessment of learning and competence: the impact of four models. *Nurse Education in Practice,* **4**(4):250257
7. Newell, W. H. (1999) The promise of integrative learning. *About Campus* **4**(2) pp.17-23
8. Stuart, L. & Dahm, E. (2006) *21st century skills for 21st century jobs: A report*. Washington, DC: U.S.Department of Education
9. Barnett, R. (2000) Supercomplexity and the curriculum *Studies in Higher Education* **25**(3) pp.255–265
10. Moore, R. (2001) Policy-driven curriculum restructuring: academic identities in transition? Higher Education Close Up, Conference 2. [online] Available from: http://www.leeds.ac.uk/educol/documents/00001803.htm [Accessed : 14 February 2012]
11. Peet, M.,.Lonn,S.,Gurin,P.,Boyer,K.P.,Matney,M., Marra,T., Taylor, S.M. &Daley,A. (2011) Fostering Integrative Knowledge through ePortfolios. *International Journal of ePortfolio* [online] **1**, pp.11-31. Available from: http://www.theijep.com/pdf/IJEP39.pdf [Accessed: 14 May 2012]
12. Tosh, .D., Werdmuller, B., Chen, H. & Haywood, J. (2006) The Learning Landscape: A Conceptual Framework for ePortfolios. In: Jafari, A. and Kaufman, C. (eds.) *Handbbok of Research on ePortfolios*. London: IDEA Group Reference, pp.24-32
13. Barrett, H. & Carney, J. (2005) *Conflicting Paradigms and Competing Purposes in Electronic Portfolio Development* [online] Available from: http://helenbarrett.com/portfolios/LEAJournal-BarrettCarney.pdf [Accessed: 6 April 2012]
14. Stefani, L., Mason, R. & Pegler, C. (2007) *The educational potential of ePortfolios: supporting personal development and reflective learning*. Oxon: Routledge
15. Mayer, R. E. (1996). Learning strategies for making sense out of expository text: The SOI model for guiding three cognitive processes in knowledge construction. *Educational Psychology Review*, **8**, pp. 357–371

16. Chen, H.L. & Penny Light, T. (2010) *Electronic Portfolios and Student Success:Effectiveness, Efficiency and Learning*. Washington DC: Association of American Colleges and Universities
17. Westberg, J. & Hilliard, J. (2001) *Fostering Reflection and Providing Feedback: Helping Others Learn From Experience*. New York, NY: Springer Publishing Co, Inc
18. Vygotsky, L. (1978) *Mind in Society* Cambridge Mass.: Harvard University Press
19. Keller, J. M. (1983). Motivational design of instruction. In. Reigeluth, C. M (ed.), *Instructional-design theories and models: An overview of their current status*. Hillsdale, NJ: Lawrence Erlbaum Associates
20. Keller, J. M. (1984). The use of the ARCS model of motivation in teacher training. In Shaw, K. & Trott, A. J. (eds.), *Aspects of Educational Technology Volume XVII: staff Development and Career Updating.* London: Kogan Page
21. Keller, J. M. (1987). Development and use of the ARCS model of motivational design. *Journal of Instructional Development,* **10**(3) pp.2 – 10

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Teacher Education

How do Trainee Teachers use ePortfolios?

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Introduction

In initial Teacher Training (ITT), the technology rapidly being adopted to support the development of trainees into fully qualified teachers who can demonstrate competencies against the required standards is the ePortfolio. This research investigated how trainee teachers use an ePortfolio on one year Initial Teacher Training Courses. For the first year of research (Pilot phase cohort one) a commercially produced ePortfolio was adopted for the course, incorporating a range of tools, marketed as a personal learning space for multiple uses accessible through the internet. For the second year of research (Main Study cohort two) the tutors designed an ePortfolio using tools available on the University Virtual Learning Environment allowing the trainee to complete and upload work to be assessed against course criteria. The decision to change the ePortfolio after the first year was a direct response to the reported negative experience of both students and tutors.

The preliminary findings from analysis closely reflect the findings of other researchers in relation to the implementation of an ePortfolio, student and tutor buy-in, motivation, understanding the purpose, training, technical support demands on staff and how to use student's time efficiently (Heath 2005, Pecheone, Pigg, Chung, Souviney 2005, Tosh, Light, Fleming and Haywood 2005, Strudler and Wetzel 2005). In addition the findings from the Pilot suggested a clash of paradigms: tutors adopting a social constructivist teaching approach with the expectation of students constructing their own knowledge through interaction with peers and more informed others, whilst the students, in their quest to complete assessed work and evidence against the required set of Standards, adopting a behaviourist approach suggesting the expectation of transmission of knowledge and a passive acceptance of this. This was the theme taken forward in the main study; the investigation into the use of the ePortfolio as a pedagogic tool from the perspective of students and tutors, whether findings continue to reflect the adoption of different paradigms and the effect of this clash on the student reflections recorded by the student on the ePortfolio and if so/not why this may be the case. Although many research studies have focused on the construction of the ePortfolio, there appears to be a dearth of research carried out on the analysis of the ePortfolios related to reflective practice other than the assessment process built into course design. Steffens states that it is 'difficult to find hard evidence for the impact of new technologies' (2008:230). As a consequence of this increasingly widespread and diverse use of ePortfolios, Strudler and Wetzel conclude:

> *'we need a range of studies that inform whether the large-scale implementation of electronic portfolios in teacher education is ultimately a good idea that should be pursued and sustained in the coming years'*

(Strudler, Wetzel 2005:243)

Given this situation, the current research aimed to analyse interactions with ePortfolios to find out when this occurred, what they did, frequency of interactions and response to feedback. Data from the main study has been collected but is yet to be analysed in full. Additionally the work uploaded will be analysed to explore the reflective practice in the development of the ePortfolio.

Eportfolios Defined

The use of the ePortfolio in this study was defined by the course design and associated pedagogy. Content may include coursework, assessments, pieces of work relating to life-long learning, reflections on achievements, goals, outcomes, transcripts, records of achievement, evidence of competencies, planning and reflection as well as self and peer feedback (Kirkwood 2009, Stefani, Mason, Pegler 2007). This content may, or may not be assessed for, as emphasised by Barrett (2004), there is a distinction between the use of portfolios as an assessment system using a positivist paradigm, portfolio as test, and portfolio as a story using a constructivist paradigm. Cohen (2005) concludes there a clear distinction between an ePortfolio as a reflection of the learning journey and a reporting system of assessment management. It is the distinction and the interpretation by the user that needs to be clearly understood and may impact on its success in the long term (Roberts G, Aalderink, Cook, Feijen, Harvey, Less, and Wade 2005). The concept of the ePortfolio can be defined as follows:-

> *An ePortfolio is the product, created by the learner, a collection of digital artefacts articulating experiences, achievements and learning. Behind any product, or presentation, lie rich and complex processes of planning, synthesising, sharing, discussing, reflecting, giving, receiving and responding to feedback. These processes – referred to here as 'ePortfolio-based learning' – are the focus of increasing attention, since the process of learning can be as important as the end product.'*

(JISC, 2008)

Methodology

This study is, primarily a qualitative but also in part, quantitative research project with data collected from interviews, questionnaires, and, for the Main Study, analysis of reflective writing carried out on the ePortfolio (see Table 1).

Methodological Tool	Pilot	Main Study
First questionnaire – distributed September	98 distributed - 98 returned (100%)	100 distributed – 74 returned (74%)
Second Questionnaire – distributed February	34 distributed - 13 returned (38%)	59 distributed – 14 returned (24%)
Student Interviews	9 students – 6 attended one interview per semester	Sample group of 17 – attended one interview per semester
Staff Interviews	6 tutors – one interview per semester	6 tutors – one interview per semester
Analysis of ePortfolio	No analysis	17 ePortfolios

Table 1. Data Collection methodological tools for Pilot and Main Study

Content Analysis

Content analysis was carried out on interview data. Transcripts were interrogated and coded from the themes that arose from the content, these codes were then sorted into five categories as follows:-

Academic conditions (context) – issues concerned with the structure and content of the course.

Technical conditions (context) – issues referring to the technical conditions that may have been prevalent at university level.

System – issues relating directly to the design and operability of the system used.

Scaffolding – comments directly related to the way in which learning was scaffolded

Experience – issues that became apparent from the users experience of using the system.

Analysis of Coding – Pilot and Main Study Interviews

In the Pilot the most frequent comments from students referred to the academic context, not understanding the expectations of the course. During interviews it became evident that students did not know what to do. In addition they felt that their tutors did not have skills or understanding to troubleshoot problems and as a consequence they felt unsupported. Interestingly in the main study where the tutors were confident in using the ePortfolio the most frequent comments concerned the experience and scaffolding. Coded student interview data shown as percentages of total coded for each interview is shown in Appendix 1, Appendices 2 and 3 display the results as negative and positive comments.

Academic Conditions – The Pilot sample of students commented most on the academic conditions. They frequently commented on not knowing what to do, they referred to the lack of understanding of what was expected and often difficulty finding particular areas along with being surprised by chance discovery of elements that needed to be completed. By comparison the main study students reported a more positive understanding of academic conditions however negative comments for use in placement increased by the 2nd interview and negative comments regarding working increased by 3rd interview. Both groups of students commented on the the amount of time taken to complete the work using the ePortfolio which was often a duplication with work being completed using a word processor on their computers then copied and pasted on the ePortfolio.

Technical and System Conditions - Most comments from students in the Pilot were negative with regards to training to use the ePortfolio together with support provided. For the main study, students initial commented positively on the ePortfolio. They felt they had the skills to use it as it sat within the VLE and only required them to learn one set of skills and had received adequate training and support. The negative comments referred to the design and how navigation required multiple mouse clicks. Interestingly the students from the pilot commented seven times on the system which they did not perceive as an issue, whereas the students in the main study when referring to ease of use commented positively however by the

second interivew negative comments were made (see Appendix 4). In the Main Study students focused more on the ePortfolio as a tool.

Scaffolding - In the main study most comments from the students referred to the scaffolding. For the students these comments focused on the amount and timing of feedback and how this was given. The negative comments from the students referred to not receiving feedback. Interestingly whilst probing during interview on the positive comments with regards to satisfaction with feedback it was revealed that tutors provided this in various forms and not necessarily through the ePortfolio. One student commented that as the tutor did not give feedback through the ePortfolio the student had uploaded this to the ePortfolio.

Experience – Both groups of students stated that they did not use the ePortfolios whilst on placement. Both groups felt this was a Campus activity, and this was confirmed through analysis of the interactions with the ePortfolio in the main study. Both groups also identified the ePortfolio as a positive use of technology for the purpose of tutor access to assess work. Students did not refer to the ePortfolio as a tool to aid reflection.

Interactions by Students with the ePortfolio – Main Study

Students completed two assessed elements of the course work using the ePortfolio. One element entitled 'tasks' comprised 27 individual tasks set by tutors which students were expected to complete at various points in the course whilst on placement by deadline dates. The second element the Reflective Practitioner Module entitled 'Themes and Issues' comprised 9 sections of which 5 were submitted at Masters level, the student was expected to work on these throughout the course with a hand-in date just before the end of the course. A behaviourist theory of learning appears to underpin the work carried out on tasks with tutors setting clear expectations of what they expected students to achieve. A social constructivist theory of learning underpinned the Themes and Issues where students were expected to construct their our learning through interaction with school practice, research, lectures and tutors feedback

Table 3 shows the context where the interactions took place. This reveals that for work on the tasks most interactions took place during placement weeks, 494 (43% of total interactions on tasks) and whilst on campus 387 (33% of total interactions on tasks), for the Themes and Issues module the majority of interactions took place when they were on holiday, 165 (37% of total interactions on themes) and on campus 159 (36% of total interactions on themes). This would appear to reflect the nature of the work with tasks designed to be completed on placement and confirms the perception of the students that Themes and Issues was not work to be produced during placement weeks. Tasks are set predominantly as fact finding exercises and activities to be completed during school placement with hand-in dates throughout the course, whereas work on the Themes and Issues were expected to draw on experiences throughout the training period from school placements, information gained whilst in University and from research with hand-in dates for formative assessment and a final date for summative assessment in May/June before the course ended in on the 8th July.

	On placement	%	**On campus**	%	**On holiday**	%	**Study leave**	%	**Total**	**%**
Tasks	494	31	387	24	216	13	60	4	1157	72
Themes/ Issues	61	4	159	10	165	10	59	3	444	28
Total	555	35	546	34	381	24	119	7	1601	

Table 3. Interactions by main study students with the Eportfolio for each context showing % of total interactions for all contexts

During the training year the students spent 13 weeks in University attending lecturers and seminars, 20 weeks on school placement, 8 weeks on holiday and 4 weeks on study leave. Table 4 shows the average number of interactions for the Main Study sample and average number of interactions per student in the different contexts showing that the work on the tasks was relatively constant in different contexts apart from study leave, whereas the majority of work on Themes and Issues taking place during holiday weeks. This may be due to pressures of time whilst on placement and on campus, or the perception of the student and subsequent prioritising of work.

		Context			
Section	Students	Placement (20 weeks)	On campus (13 weeks)	Holiday (8 weeks)	On study leave (4 weeks)
Professional Tasks	Group	24.7	27.8	27	15
	Individual	1.4	1.6	1.6	0.9
Reflective Practitioner	Group	3.0	12.2	20.6	14.7

Table 4. Averages of weekly number of interactions for sample and the individual Main Study students in the different contexts

Frequency and Context of Interactions

The pattern of interaction by the students confirms interview data that the work on the Themes and Issues takes place mainly when they were not on placement, whereas Tasks which are related to their teaching practice are completed during placement weeks. Analysis of the ePortfolios suggests that the students are not interacting on a regular basis for Themes and Issues, the expectation from the course document, but the feedback points in the year are the motivating factor. As illustrated in figure 2, student activity peaks before feedback points of:

- Feedback Point 1 w/c 11/10, 18/10, 25/10/10
- Feedback Point 2 w/c 29/11, 1/12, 13/12/10
- Feedback Point 3 w/c 28/2, 7/3, 14/3/
- Feedback Point 4 w/c 13/6, 20/6, 27/6/11

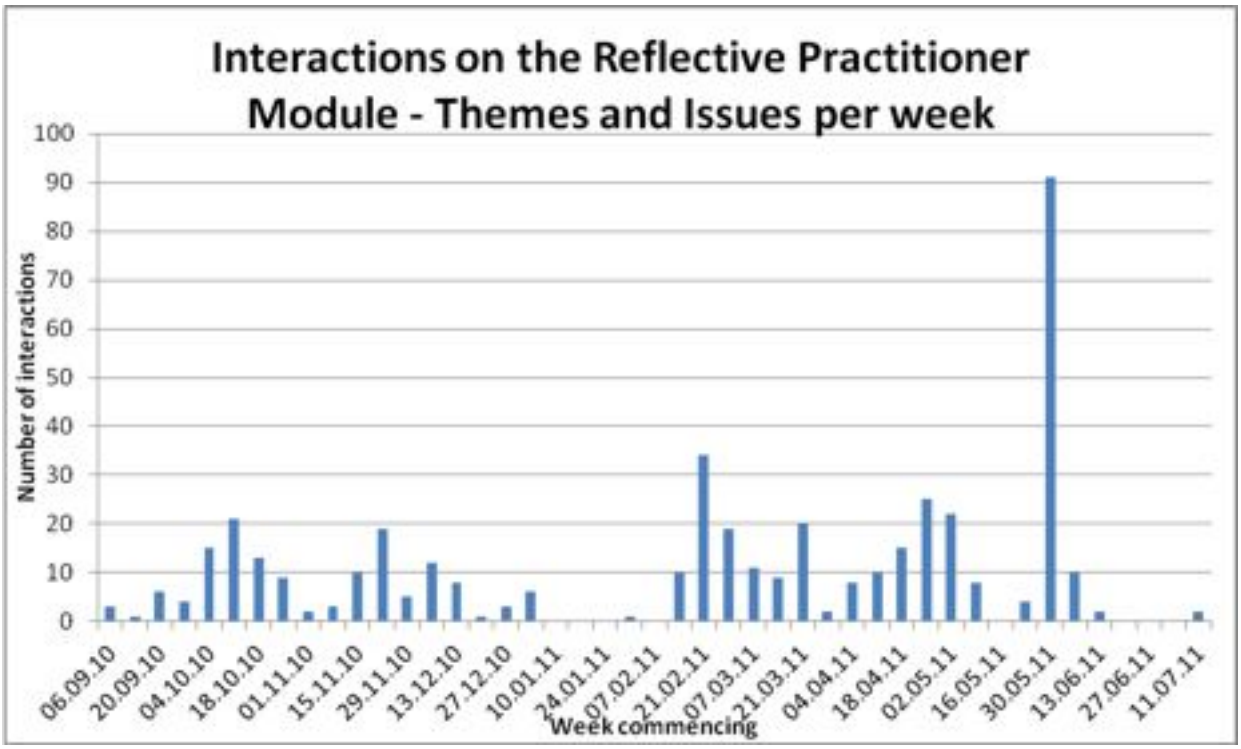

Figure 2. Total number of interactions per week

The pattern of interactions would suggest that the ePortfolio is being used as a storage space for assessment. From interviews with students this was considered to be the main purpose of the ePortfolio, a place where their work was easily accessible to both themselves and the tutors. This was substantiated from analysis of the questionnaire revealing it is the perception of the students that the purpose for the ePortfolio is a means of easy access for tutors for the purpose of assessment of course work. This would

indicate that the purpose is to provide a means for the storage of learning experiences some of which will be assessed. The need for a clear purpose is essential to the successful implementation (Strudler, Wetzel 2005).

Response to Feedback

Analysis of the 17 ePortfolios show that for the tasks section there were 1157 student interactions and 122 feedback occurrences (11% receiving feedback), with students responding to 36 (30%) feedback comment. Analysis of the feedback reveals that comments were summative, acknowledging receipt of the work or requesting missing work. Themes and Issues received 444 student interactions and 57 feedback occurrences (13% receiving feedback) with students responding to 36 (63%). This feedback was either the return of edited work where the student responded by uploading a revised submission or a comment on the attainment level with the student adding further content and then uploading the revised submission indicating reflection by the student. Reflection on written feedback is seen as an essential part of the learning process (Boud 2000, Gardner 2006, Quinton, Smallbone 2010, Sadler 1989). Students take control of their own learning through the process of reflection by engaging with the assessment process (Whitelock 2007). However students need to be motivated to firstly engage with the ePortfolio and secondly the feedback as their interaction ultimately determines the success or otherwise of using this technology (MacDonald, Twining 2002). Therefore, a clear and shared understanding of the purpose is essential to the successful implementation (Kirkwood 2009, Strudler, Wetzel 2005).

How did trainee teachers use the ePortfolios?

For the Pilot Study interview data and analysis of one ePortfolio suggests they were used to construct a web-folio of evidence against the Standards and course work using the Word Processor within the ePortfolio to produce text and images or by cutting and pasting from another Word Processor such as Word as well as hyper linking to other areas within the ePortfolio. Lack of understanding of how to share work with tutors caused delays in work being assessed and, if this was achieved, retrieval of feedback was a major issue due to a lack of knowledge and understanding on how to do this. They did not use the ePortfolio to record reflections. Preliminary analysis of main study data suggests students followed a similar pattern of completing work to be assessed. They did not use it for providing evidence against the Standards; this was achieved by constructing paper-based portfolios.

Discussion

The pilot study students reported negative experiences of using the ePortfolio and all stated they would not use it in the future; this attitude remained constant throughout the course. By contrast students in the main study were initially satisfied with the ePortfolio platform as a tool expressing concerns on their experience as the year progressed, commenting on the limitations and design, felt it was for assessment purposes, commented on the time taken to complete work and felt quality of feedback and mode was dependant on individual tutors. As the ePortfolio was designed within the currently VLE the main study students were able to learn one set of skills, which were practised frequently as all the course documentation and paperwork were available through the VLE together with access to their University email accounts and access all areas through one log-on. In contrast in the Pilot year the emphasis was on content, lack of support as the tutors were not proficient in using the tool, time and duplication of work. The Main Study also revealed that tasks which are set with specific instructions for completion and deadlines triggered the expected course response, whereas the open-ended more reflective work on the 'Themes and Issues' appeared to be in response to forthcoming deadlines for feedback points suggesting, for some students, this is the motivation for using the ePortfolio. During interview students in the main study reported different pedagogical approaches being adopted by tutors which may have been an influencing factor on the number of times a particular student interacted with the ePortfolio. Students also discovered that emailing work received an immediate response whereas work on the ePortfolio did not. The experience of the student using the ePortfolio was dependant on the pedagogical approach adopted by the tutor.

Future Work

17 students have given permission for the work on their ePortfolios to an analysed. A total of 269 pieces of work will be analysed and coded with reference to reflective activity. Analysis will determine how students reflect on the ePortfolios, if there is a relationship between the use of ePortfolios and the development of reflective learners and if the clash of paradigms revealed during the Pilot study is still evident in the Main study. In addition reflections will be analysed to see if there is a relationship between the type of reflection and date of interaction and the assessed mark of reflective activity. Preliminary coding can be seen in Appendix 5.

Analysis of the interactions that took place on the ePortfolio relating to frequency of use, dates of interaction, response to feedback and the difference between responses to tasks and reflective writing will continue.

References

1. Barrett H (2004) *Electronic Portfolios as Digital Stories of Deep Learning* available at http://electronicportfolios.com/digistory/epstory.html accessed on 28.01.12
2. Boud, D. (2000) 'Sustainable assessment: rethinking assessment for the learning society' *Studies in Continuing Education* vol 22 no. 2 pp 151-167
3. Cohen VL (2005) *Electronic-Portfoilios as Cognitive Tools in a Teacher Education Program. Recent Research Developments in Learning Technologies* available at www.formatex.org/micte2005 (accessed on 15.12.10)
4. Gardner J (Ed.) (2006) 'Assessment and Learning' London: Sage Publications
5. Heath M (2005) Are you ready to go digital? The pros and cons of electronic portfolio development *Library Media Connection* vol 23 no. 7 pp 66-70
6. JISC (2008b). *Effective practice with ePortfolios: Supporting 21st century learning* available at http://www.jisc.ac.uk/media/documents/publications/effectivepracticeeportfolios.pdf (accessed 15.10.10)
7. Kirkwood A (2009) 'E-Learning: you don't always get what you hope for' *Technology, Pedagogy and Education* vol 18 no 2 pp 107-121
8. Macdonald J, Twining P (202) 'Assessing activity-based learning for a networked course' *British Journal of Educational Technology* vol 33 no 5 pp 603-618
9. Pecheone RL, Pigg MJ, Chung RR, Souviney RJ (2005) Performance assessment and electronic portfolios: Their effect on teacher learning and education. *The Clearing House* vol 78 no. 4 pp 164-176
10. Quinton S, Smallbone T (2010) 'Feeding forward: using feedback t promote student reflection and learning – a teaching model' *Journal of Innovations in Education and Teaching International* vol 47 no 1 pp 125-135
11. Roberts, G., W. Aalderink, J. Cook, M. Feijen, J. Harvey, S. Lee and V.P. Wade (2005) *'Reflective learning, future thinking: digital repositories, ePortfolios, informal learning and ubiquitous computing'* Briefings from the ALT/SURF/ILTA Spring Conference Research Seminar Trinity College: Dublin. Online http://www.surf.nl/download/ALT_SURF_ILTA_white_paper_2005%20(2).pdf accessed on 01.10.10
12. Sadler D.R (1989) 'Formative assessment and the design of instructional systems' *Instructional Science* vol 18 pp 119-144
13. Steffens K (2008) 'Technology Enhanced Learning Environments for Self-regulated learning a framework for research' *Technology, Pedagogy and Education* Vol 17 No. 3 p.221-232
14. Stefani L, Mason R, Pegler C. (2007) 'The Educational Potential of Eportfolios Supporting Personal Development and Reflective Learning' Abingdon: Routledge
15. Strudler N, Wetzel K (2005) 'The Diffusion of Electronic Portfolios in Teacher Education: Issues of initiation and Implementation' *Journal of Research ion Technology in Education* vol 37 no 4 pp 411-433
16. Tosh D, Light T.P., Fleming K, Haywood J (2005)' Engagement with electronic portfolios: Challenges from the student perspective' *Canadian Journal of Learning and Technology* vol 31 no 3 pp 1-11
17. Whitelock D (2007) '*Computer assisted formative assessment: Supporting students to become more reflective learners' Proceedings of the 8th International Conference on Computer Based Learning in Science, CBLIS 2007, 30th July-6th July 2007* (pp 492-503) Available at http://oro.open.ac.uk/11948/1/CBLIS2007_whitelockfv.pdf

Appendix 1. Student responses per category for the Pilot and Main Study

Category	**Interview**	**Students**	
		Pilot No. of Responses and % of category	**Main Study No. of Response and % of category**
Academic	1st	72 (37%)	29 (33%)
	2nd	99 (51%)	41 (47%)

Category	Interview	Students	
		Pilot No. of Responses and % of category	Main Study No. of Response and % of category
	3rd	24 (12%)	18 (20%)
Category Total		**195 (37.64%)**	**89 (10.9%)**
Technical	1st	53 (55%)	49 (24%)
	2nd	30 (31%)	6 (9%)
	3rd	13 (14%)	11 (17%)
Category Total		**96 (18.53%)**	**66 (8.1%)**
System	1st	7 (100%)	102 (48%)
	2nd	0	61 (29%)
	3rd	0	46 (22%)
Category Total		**7 (1.35%)**	**209 (25.61%)**
Scaffolding	1st	39 (48%)	50 (22%)
	2nd	29 (36%)	38 (17%)
	3rd	13 (16%)	139 (61%)
Category Total		**91 (34.15%)**	**227 (27.82%)**
Experience	1st	47 (36%)	69 (31%)
	2nd	67 (52%)	35 (16%)
	3rd	15 (12%)	121 (54%)
Category Total		**129 (24.9%)**	**225 (27.57%)**
Total		**518 (100%)**	**816 (100%)**

Appendix 2 – A comparison of the coded interview data for the Pilot. A breakdown of positive and negative comments as a percentage for each category, and also, a percentage of total coding for interviews.

	Academic		**Experience**		**Scaffolding**		**System**		**Technical**	
Pilot	**Total for Category 195**		**Total for Category 129**		**Total for Category 81**		**Total for Category 7**		**Total for Category 96**	
	3	**192**	**11**	**118**	**20**	**61**	**0**	**7**	**9**	**87**
	Pos %	Neg %	Pos %	Neg %	Pos %	Neg %	Pos %	Neg %	Pos %	Neg %
1st Interview % per category	1.55	35.38	4.65	24.81	8.64	39.51	0	100	9.38	45.83
1st interview % total coding	0.59	13.58	1.18	8.07	1.38	6.30	0	1.38	1.77	8.66
2nd Interview % per category	0	50.76	0	34.36	13.58	22.22	0	0	0	31.58
2nd interview% total coding	0	19.49	0	13.19	2.17	3.54	0	0	0	5.91
3rd Interview % per category	0	12.31	3.88	7.75	2.50	13.58	0	0	0	13.54
3rd Interview % total coding	0	4.72	1.01	1.97	0.39	2.17	0	0	0	2.55

Appendix 3 – A comparison of the coded interview data for the Main Study. A breakdown of positive and negative comments as a percentage for each category, and also, a percentage of total coding for interviews.

	Academic		**Experience**		**Scaffolding**		**System**		**Technical**	
Main Study	**Total for Category 89**		**Total for Category 225**		**Total for Category 227**		**Total for Category 209**		**Total for Category 66**	
	49	40	202	23	218	9	136	73	59	7
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
1st Interview % per category	25.84	6.74	28.88	1.78	22.03	0	46.41	2.39	68.18	3.03
1st interview % total coding	2.82	0.73	7.96	0.49	6.13	0	11.89	0.98	5.51	0.24
2nd Interview % per category	22.47	24.72	7.11	8.44	12.78	3.96	14.83	14.35	4.55	4.55
2nd interview% total coding	2.45	2.69	1.96	2.32	3.55	1.10	3.79	3.67	0.37	0.37
3rd Interview % per category	6.74	13.48	53.78	0	61.23	0	7.65	18.18	16.67	3.03
3rd Interview % total coding	0.73	1.47	14.83	0	17.03	0	1.96	4.65	1.35	0.24

Appendix 4. Analysis content coding of student interviews Main Study

TOTALs	**Interview 1**	**%**	**Interview 2**	**%**	**Interview 3**	**%**	**Totals**
1 : Academic Conditions	29	33%	42	47%	18	20%	89
2 : CPD positive	0	0%	2	29%	5	71%	7
3 : CPD Negative	0	0%	1	100%	0	0%	1
4 : Deadlines Positive	1	2%	1	50%	0	0%	2
5 : Deadlines Negative	0	0%	0	0%	0	0%	0
6 : Expectations of Course positive	17	74%	6	26%	0	0%	23
7 : Expectations Negative	3	6%	12	80%	0	0%	15
8 : Pedagogy	0	0%	2	100%	0	0%	2
9 : Reflections Positive	0	0%	9	100%	0	0%	9
10 : Reflections Negative	0	0%	6	100%	0	0%	6
11 : Workload Positive	5	83%	0	0%	1	17%	6
12 : Workload Negative	3	17%	3	17%	12	67%	18
13 : Experience	69	31%	35	16%	121	54%	225
14 : Confidence positive	0	0%	0	0%	10	100%	10
15 : Confidence Negative	0	0%	0	0%	0	0%	0
16 : Motivation Positive	1	3%	0	0%	28	97%	29
17 : Motivation Negative	0	0%	1	100%	0	0%	1
18 : Preference Positive	12	34%	4	11%	19	54%	35
19 : Preference Negative	0	0%	2	100%	0	0%	2
20 : Previous Experience Positive	14	88%	0	0%	2	13%	16
21 : Previous Experience Negative	0	0%	0	0%	0	0%	0
22 : Purpose Positive	18	82%	2	9%	2	9%	22
23 : Purpose Negative	0	0%	0	0%	0	0%	0
24 : Relationships Positive	0	0%	2	6%	33	94%	35

TOTALs	Interview 1	%	Interview 2	%	Interview 3	%	Totals
25 : Relationships Negative	0	0%	4	100%	0	0%	4
26 : Skills Positive	0	0%	3	11%	24	89%	27
27 : Skills Negative	3	75%	1	25%	0	0%	4
28 : Use in placement Positive	20	71%	5	18%	3	11%	28
29 : Use in Placement Negative	1	8%	11	92%	0	0%	12
30 : Scaffolding	50	22%	38	17%	139	61%	227
31 : Feedback Positive	29	28%	17	16%	58	56%	104
32 : Feedback Negative	0	0%	7	100%	0	0%	7
33 : From Peers Positive	13	25%	6	12%	33	63%	52
34 : Peer negative support	0	0%	0	0%	0	0%	0
35 : Support from tutor Positive	8	13%	6	10%	48	77%	62
36 : Tutor support negative	0	0%	2	100%	0	0%	2
37 : Tutor Experience Positive	0	0%	0	0%	0	0%	0
38 : Tutor Experience Negative	0	0%	0	0%	0	0%	0
39 : System	102	49%	61	29%	46	22%	209
40 : Accessibility Positive	0	0%	2	100%	0	0%	2
41 : Accessibility Negative	0	0%	0	0%	1	100%	1
42 : Ease of Use Positive	37	54%	26	38%	5	7%	68
43 : Ease of Use Negative	3	10%	21	70%	6	20%	30
44 : Issues with system positive	43	90%	3	6%	2	4%	48
45 : Issues Negative	0	0%	5	14%	31	86%	36
46 : Ownership Positive	17	94%	0	0%	1	6%	18
47 : Ownership Negative	0	0%	1	100%	0	0%	1
48 : Reliability Positive	0	0%	0	0%	0	0%	0
49 : Reliability negative	2	40%	3	60%	0	0%	5
50 : Technical Conditions	49	74%	6	9%	11	17%	66
51 : In University	4	80%	1	20%	0	0%	5
52 : Skills Positive	6	67%	0	0%	3	33%	9
53 : Skills Negative	0		0		0		0
54 : Support Positive	11	85%	2	15%	0	0%	13
55 : Support Negative	0		0		0		0
56 : Training Positive	26	76%	0	0%	8	24%	34
57 : Training Negative	2	40%	3	60%	0	0%	5
TOTAL	299	36%	182	22%	343	42%	824

Appendix 5. Preliminary results of content analysis of work uploaded to ePortfolio Main Study

Personal Philosophy		% of Category	% of total coding
Realisation of what it means/reference to lack of understanding	46	6.64	1.44
Importance of meeting needs of all	100	14.45	3.13
What excellent teachers do	15	2.17	0.47

Personal Philosophy		% of Category	% of total coding
What good teachers do	26	3.76	0.81
How to ensure it happens, strive to do	179	25.87	5.6
Own misconception of issue	7	1.01	0.22
How to implement in school	89	12.86	2.78
Own opinion on how to ensure good practice is adopted	214	30.92	6.7
Own learning style	16	2.31	0.5
sub total	**692**		**21.65**
Literature			
Defining terms	79	15.83	0.63
Literature what you should do	400	80.16	12.53
Questioning what literature says	20	4.01	0.63
sub total	**499**		**15.61**
Development of thinking			
adds quotes	249	41.78	7.79
adds questions to answer	54	9.06	1.69
adds hyperlink	64	10.74	2.00
adds list of sub-headings	20	3.36	0.63
notes from lectures	25	4.19	0.78
viewed only	67	11.24	2.1
Introduction what I am writing about	117	19.63	3.66
sub total	**596**		**18.65**
Reflection			
Literature no link to theory/experience and/or policy	331	34.62	10.36
Literature links to experience	381	39.85	11.92
Literature and theory discussed	91	9.52	2.85
Literature, theory, policy, experience discussed what will do as a result	139	14.54	4.35
Reflects on literature	14	1.46	0.44
sub total	**956**		**29.91**
School Practice			
Asking other professionals/seeking help from others	15	3.56	0.05
Questioning of practice in current placement	31	7.36	0.97
Reference to own teaching experience	181	42.99	5.66
Comment re impact on school of doing this	35	8.31	1.1
What school policy says	159	37.77	4.97
sub total	**421**		**13.17**
Reference to Teachers' Standards	32		1.00
TOTAL	**3196**		

ePortfolios in School Practical Studies at Vienna University of Teacher Education – from Theoretical Considerations to Practical Implementation.

Thomas Strasser, Harald Knecht, Vienna University of Teacher Education

Introduction

The 21st century has initiated an intensive discourse on new learning technologies especially in the context of a constructivist learning paradigm in primary, secondary and tertiary education (cf. Collins, Halverson 2009, Baumgartner et al. 2009, Wiley 2009, Strasser 2011, etc.). Among the wide range of educational tools, the use of ePortfolios especially in the tertiary sector has been in the centre of attention: “At the moment, the integration of electronic portfolios in higher education is an important topic in the e-learning community.” (Mayrberger 2009, p. 91) Several experts claim that “a large and growing body of literature examines the various features of the software [i.e. ePortfolio software] and the different kinds of application scenarios that exist for instruction and education.” (Baumgartner 2009, p. 13). Therefore, it can be stated that there is a generic but steadily growing interest in using ‘unconventional’ tools like ePortfolios especially in education (cf. Himpsl-Gutermann, Bauer 2011, Mayrberger 2009, Strasser et al. 2012, etc.). One very simple but logical reason for these tendencies might be revealed in the fact that in the 21st century many areas of life (also education) are tending to become fully digitized with the use of various electronic devices. The “e” has become a culturally relevant prefix: e-learning, e-education, e-government, e-bike or ePortfolio (cf. Strasser 2012; Wiley 2009; Collins, Halverson 2009, etc.). However, “just assuming of having the right software-system or tool is not enough to integrate the "e"-portfolio in the academic context of teaching and learning.” (Mayrberger 2009, p. 91)

Just using an “e”-tool for the sake of digitization shall not suffice. There is general need to rethink existing, mono-directional knowledge transmission approaches, mainly in the field of university teaching towards a culture of putting the emphasis on didactical implications of an electronic tool (cf. Strasser et al. 2012): “The portfolio-concept shows that if you want to change learning, teaching and assessment in higher education, pedagogical or rather didactical implications should have the first priority.” (Mayrberger 2009, p. 91)

However, didactical implications of classical knowledge transmission processes of continuous lessons at university still evidently differ from didactical approaches of new learning technologies (cf. Wiley 2009):

> *[...] the rapid expansion of modern technologies are "changing the ways we produce, consume, communicate and think" (Collins & Halverson, 2009, p. 5). Yet, many universities continue to use traditional teacher-centred information delivery modes (Maor, 2003) that focus on delivering theory via lectures, and assessing students through end of semester exams. This approach no longer seems appropriate for education students in the 21st century. (Smith, Parker 2011, p. 2)*

Modern technologies can be used to effectively support a revised paradigmatic concept of teaching that no longer exclusively consists of mono-lateral knowledge acquisition in seminars or lectures where the professor represents the sole source of knowledge and the students act as passive, hierarchy-bound recipients of curricular input (cf. Strasser 2011, Heckmann, Strasser 2012, Strasser 2012). Smith and Parker (2011, p. 2) emphasise a tertiary teaching and learning model that can be adapted to the basic concept of an ePortfolio:

> *[…] in the 21st century world, content is so abundant as to make it a poor foundation on which to base an educational system; rather, context and meaning are the scarce but relevant commodities today. This alters the purpose of education to that of helping learners communicate with others, find relevant and accurate information for the task at hand, and be co-learners and partners with teachers and peers in diverse settings and leaning communities that go beyond school walls (cf. McCombs & Vakili, 2005, p. 1582)*

This article attempts to reflect on the possible approach of self-organized learning within the concept of tertiary education at Vienna University of Teacher Education using the ePortfolio software Mahara.

ePortfolio at the Vienna University of Teacher Education

Theoretical grounds

Academic discourse offers several explicit definitions of ePortfolios (Baumgartner 2009, Buzzetto-More 2010,Himpsl-Gutermann, Bauer 2011). Hilzensauer and Schaffert (2009, p. 79) suggest the following:

> *The ePortfolio work can be defined as a technologically supported pedagogical approach to the development of competencies, the entire developing process and results of which are demonstrated as well as illustrated and documented through digital information objects. Learners collect (or rather store) their self-contained and self-made products (artefacts) in a learning environment and reflect on their achieved goals and results according to their personal development plan.*

Various experts (Baumgartner et al. 2006, 2009, Collins, Halverson 2009, MacEntee, Garii 2010, Meyer et al. 2011, Himpsl-Gutermann & Bauer 2011) have dedicated their publications focusing on certain advantages concerning the use of ePortfolios within an educational context:

> *From our point of view, ePortfolios offer and allow an overview of the competencies of individuals or groups of people. Besides the acquired and learned elements, ePortfolios document the learning process and, therefore, the actual process of competence development. (Hilzensauer, Schaffert 2009, pp. 79–80)*

It has to be stated that there is a considerable amount of complex types or categories of ePortfolios presented in a theoretical but also practical academic context (Baumgartner et al. 2009, Chang Barker 2006, MacEntee, Garii 2010; Mayrberger 2009, Himpsl 2009a, etc). Therefore, the scientific focus of this paper shall not be put on general definitions of ePortfolios, but rather on suggested applicative concepts within the framework of the research at our institution. Baumgartner (2009, p. 13) emphasizes the criterion of learning effectiveness using certain ePortfolio-software in a practical context: "Ongoing educational discussions on ePortfolios assume that the appropriate use of this relatively new software tool can improve the efficiency and effectiveness of learning."

In this article the advantages and benefits briefly mentioned before are tried to be put into a precise performative framework, implying the idea how ePortfolios can be efficiently used for certain learning scenarios at the Vienna University of Teacher Education.

Considerations for implementation

For the University of Teacher Education Vienna the role of reflection and reflective processes concerning the development of professionalism mechanisms, i.e. student teachers should constantly reflect on their role as a teacher including all the accompanying factors, like lesson planning, lesson design, general pedagogical performances in the classroom, etc., can be seen as highly important (cf. Pädagogische Hochschule Wien 2006, Pädagogische Hochschule Wien 2009). Therefore, ePortfolio implementation scenarios at certain courses at Vienna University of Teacher Education can be considered relevant seen from a curricular but also conceptual point of view. Hilzensauer and Schaffert (2009, p. 80) state:

> *An ePortfolio is especially worthy if it is implemented for purposes and points in time where the usage of reflections on the learning processes and developed competencies is extremely high, either personally motivated or as a result fo the circumstances (cf, Hornung-Prähauser et al. 2007)*

Taking this observation into consideration, it can be seen that the role of reflective processes in learning and professionalization is considerably important when working with ePortfolios. But before such scenarios can be applied to higher education (in our case student teacher education on a tertiary level), the following aspects have to be considered:

When working with ePortfolios, the following five processes are crucial (cf. Hilzensauer & Hornung-Prähauser 2005): to clarify the target and context of the digital portfolio work; to collect, select and connect artefacts with a learning target; to reflect on and manage the learning processes and development of competencies. (Hilzensauer, Schaffert 2009, p. 80)

In addition to these basic considerations mentioned above, the following questions[1] for a successful implementation of an ePortfolio in an educational institution are of evident relevance:

Q1: what is/are the purpose/s?

Q2: Who wants to create an electronic portfolio and why?

Q3: Why electronic? What about electronic is central to the model? And is sufficient infrastructure (resources, knowledge, commitment) available for the electronic portfolio?

Q4: What skills will students need to develop? (Mayrberger 2009, p. 99)

[1] For the complete list, see Butler 2006, pp. 15f.

All these considerations are tried to be included in the implementation process of an ePortfolio for the practical studies[2] of student teachers at Vienna University of Education.

Based on Himpsl's (2009b) assessment of certain ePortfolio software, the University of Teacher Education decided to work with Mahara[3]-ePortfolio. The next step was to take various implementation aspects mentioned in Butler (2006, pp. 15f.) into consideration. The main purpose of the ePortfolio (cf. Q1) in the practical studies is that students continuously reflect on their personal, internal development in terms of retrospective self-evaluation (cf. reflection portfolio in Baumgartner et al. 2006, Himpsl-Gutermann, Bauer 2011, Hilzensauer, Schaffert 2009, MacEntee, Garii 2010, etc.), that they focus on their future personal development within a reflective process but with an emphasis on external aspects, like the development of their career (cf. Himpsl-Gutermann, Bauer 2011, MacEntee, Garii 2010, Baumgartner et al. 2006) and to present their skills and qualifications to the public (cf. Baumgartner et al. 2006). In addition to suggested applicative scenarios of ePortfolios, the role of self-organized learning, especially in the practical studies with their curricular demands of self-reflection and constructivist learning approaches (cf. Curriculum Pädagogische Hochschule Wien 2006) seems to be of great importance (cf. Q4).

Hornung-Prähauser & Wieden-Bischof (2010, p. 247) suggest the following considerations:[4]

Self-organized learning shows:

- the development towards a responsible learner, who develops self-determination, self-responsibility and autonomy in the learning process.
- the development of decision-making processes and/or autonomy in thinking and acting (e.g. the skill to know where to find a certain source of knowledge, differentiate between useful and obsolete knowledge, etc.).
- the development of learning competency.
- the support of social competency (cf. Dimai 2005).

Concepts like self-determination, self-responsibility and autonomy can be found as a recurring conceptual and curricular pattern in the school practical studies at Vienna University of Teacher Education (cf. Pädagogische Hochschule Wien 2006), are closely related to the idea of constructivist learning and therefore also tied to the basic pedagogical concept of a(n) (e)Portfolio.

The decision to initiate implementation processes of an ePortfolio (cf. Q2) in the practical studies was generally based on an explicit manifestation of new learning technologies in the curriculum of Vienna University of Teacher Education (cf. curriculum Pädagogische Hochschule Wien 2009). Especially for teacher training institutions, the approach of keeping an analogue portfolio has not been a new one. The decision to go for the "e" (cf. Q3) was evident in various fields: apart from the curricular recommendation to use new learning technologies with student teachers and the pragmatic fact that keeping an ePortfolio saves a lot of paper and that professors do not have to carry a vast amount of analogue portfolios in order to correct or feedback them at home, there have been several other convincing features:

- ePortfolios can easily 'grow' in form and structure (e.g. through hyperlinking)
- ePortfolios can be easily saved, adapted, revised
- ePortfolios offer versatile possibilities for collaboration and feedback
- ePortfolios can be accessed anytime and anywhere
- ePortfolios can be designed on an aesthetically appealing but also personalized level (cf. Unruth 2011, p. 117).

In order to consider theoretical approaches and recommendations of current ePortfolio literature for the curriculum of Vienna University of Teacher Education supporting the use of new learning technologies and to compare practical experience with academic discourse, a research project examining the role of self-organized learning with ePortfolios was initiated. This project will be briefly described (mainly in a taxative way) in the next chapter also providing general aims of the research and examples concerning the students' use of Mahara in their practical studies.

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[2] In the practical studies, student teachers have to teach a certain amount of lessons per semester, should gain teaching expertise and constantly reflect on their experience and professional development. Regular face-to-face peer sessions with supervisors are vital part of their education.

[3] www.mahara.org (last access July 6, 2012)

[4] Translated by author

3. Research project "The role of self-organized learning within the context of ePortfolio software Mahara at Vienna University of Teacher Education."

As mentioned earlier, the project examines the role of self-organized learning with ePortfolios. Our focus shall be put on the question whether by means of using ePortfolios additional benefits can be generated by student teachers during their teaching practice in contrast to analogue portfolios[5].

The aims (A) of the project were divided into 4 sections according to our scientific focal points.

3.1. Technical implementation procedure (winter term 2011/2012)

A1: Documentation of technical and administrative work with all their inhibiting and supporting factors (e.g. bulk user generation, students' problems with creating a Mahara account, etc.)

A2: Enquiry with online research tools concerning the acceptance of Mahara among students: subjective impressions about introduction, usability, benefits for communication and collaboration and self-organised learning with Mahara.

The survey from winter 2011/12 showed that 57% of the students of the first semester had problems mainly with uploading documents and managing author rights but only 10% of the students of the third semester thought that Mahara is a simple tool. In contrast, only 26% of the student teachers of the first semester would like to continue with Mahara and 73% of the student teachers of the third semester would appreciate a continuous use with the ePortfolio-software.

In the verbal feedback students complained mostly about the time-consuming complex structure of Mahara and they claimed a manual would be of great help. As a result of this enquiry, the research group decided to release a user's manual.

3.2. Didactical versatility and effectiveness of Mahara applications (summer term 2012, more data to be analysed)

A3: Methodological and didactic versatility of Mahara within the context of the curriculum of Vienna University of Teacher Education by analysing Mahara-internal (e.g. journals, etc.) and Mahara-external (various Web 2.0 applications) tools, e.g. use of collaborative exercises in forums, course design regarding self-reflective processes and the question if an additional benefit for self-reflection by using Mahara exists.

A4: Comparative analysis concerning the students' autonomous use of Mahara tools

in order to develop their self-reflection.

3.3. Analytical study of the role of the students' competence-orientated learning performance within the context of Mahara (winter term 2012/13)

A5: Interviews with students about the supportive character of Mahara in the context curricular-manifested competencies, such as self-organized learning.

3.4. Dissemination of research findings (summer term 2013)

In the final phase of the research project collected data will be analysed and published (journals, Mahara-forums, etc.). Furthermore, Vienna University of Teacher Education will set up a Mahara-page where all the data, publications and documented experiences are publicly accessible for dissemination and networking reasons.

3.5. Practical work within the research project.

After a short and rather taxative presentation of the research project at Vienna University of Teacher Education, some examples regarding the practical use of Mahara within a curricular context (i.e. which portfolio types/views students have to create) shall be provided:

3.5.1. Presentation portfolio for basic information (contact, details, bio, create folder, etc.)

In order to promote a rather authentic use of ePortfolio in an educational institution, it seems to be of great relevance that also lecturers and professors try to establish at least a presentation portfolio of their own. In the example below, the professor exploits various Mahara-tools in order to present himself. Next to the contact details, he also provides a short CV to inform his students who they will have to deal with next

[5] It should be noted that at the time the article was written, not all data have been interpreted.

semester (cf. image 1). Using Mahara's 'skills' or 'education' tool (i.e. Résumé section), the teacher can display his expertise and professional development (cf. image 2). The "plan or milestone tool" enables him to present his dates (conferences, etc.) or personal goals (cf. image 2). Mahara also makes it possible for the teacher to link GoogleDocs documents (for the lecture) or embed relevant YouTube videos (cf. image 1). Mahara also facilitates an active and coherent linking of the professor's social media channels. In our case, the teacher can embed/link all of his Twitter feeds and blog posts (cf. image 2). Here the professor's presentation portfolio also allows the students to download relevant presentations or check reading lists for the seminar (cf. image 3).

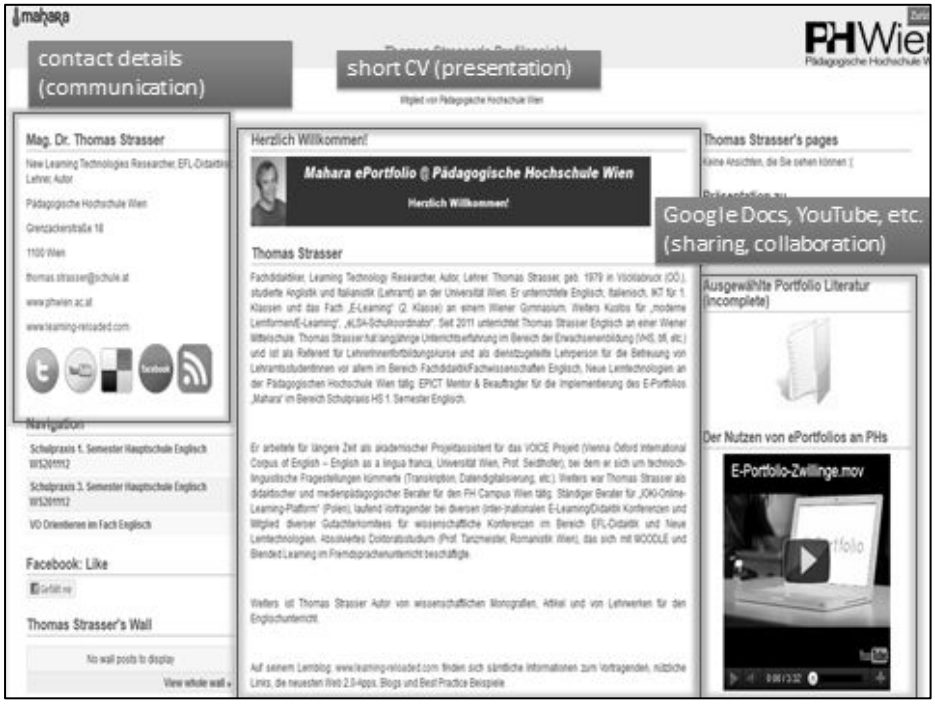


image 1: presentation portfolio (professor)

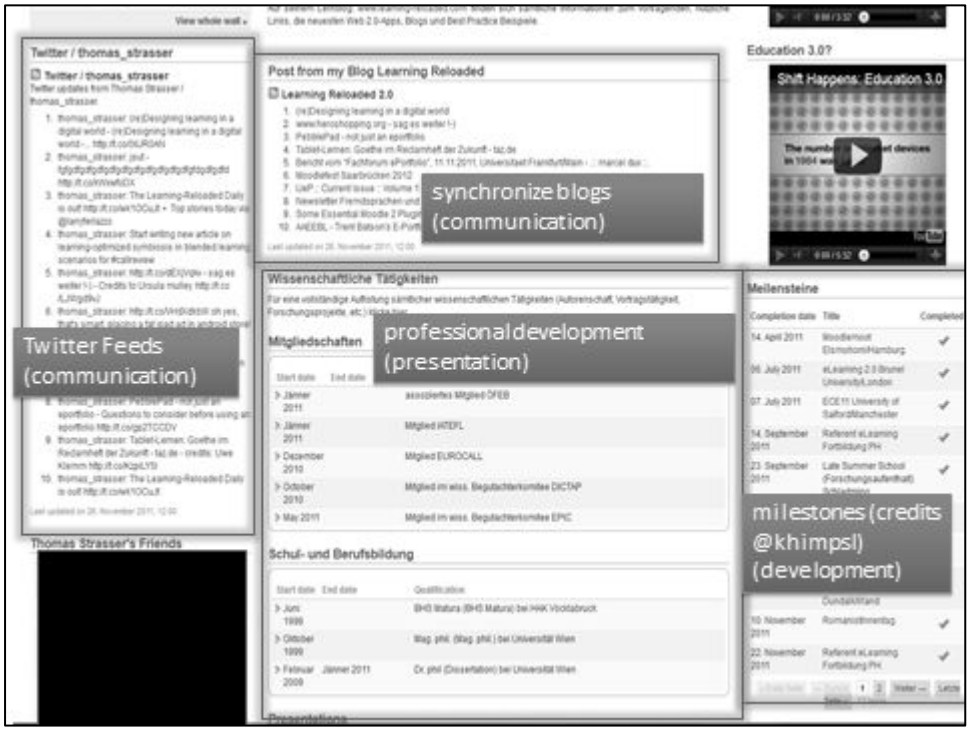


image 2: presentation portfolio part 2 (professor)

image 3: presentation portfolio part 3 (professor)

Due to the fact that the teacher presents himself with quite a versatile presentation portfolio, some students find it easier to design their own (cf. image 4).

image 4: presentation portfolio (student)

3.5.2. Portfolio for communication, collaboration and reflection (mix of modes: reflection and development portfolio)

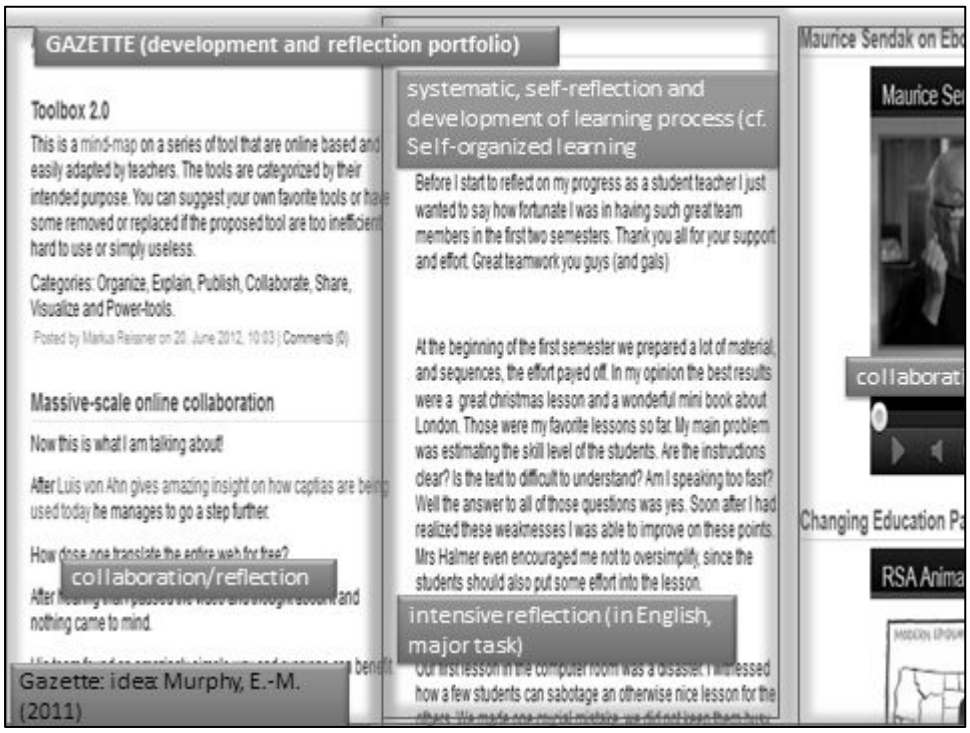
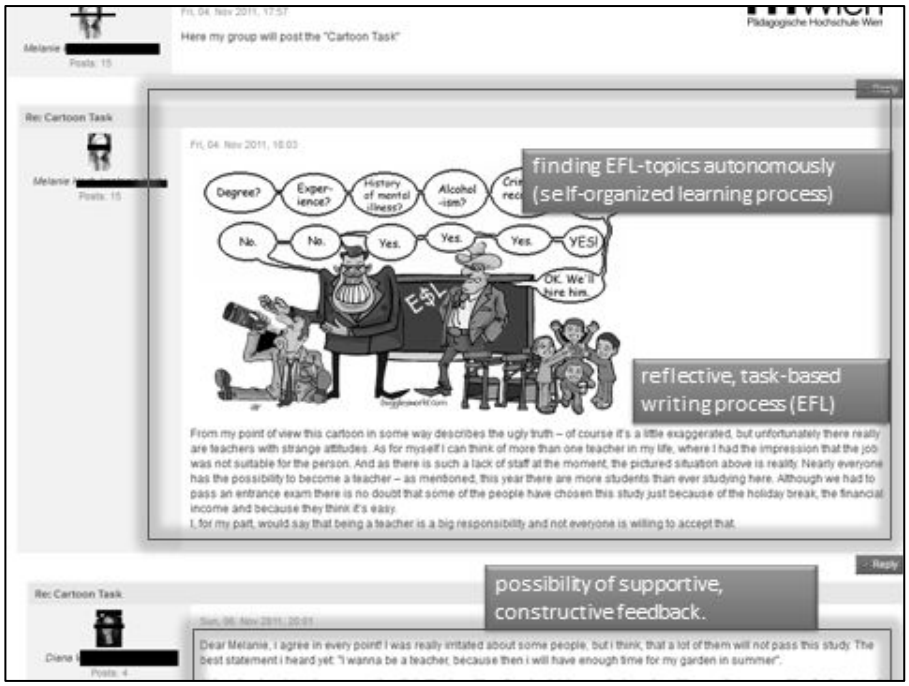


image 5: Portfolio for communication, collaboration and reflection

Here students mainly need communication and collaboration participation. Therefore, students were instructed to write a “Thought a Day” and a “Link a Day” Journal, to upload their teaching materials in preparation for their classes, their reflection about their lessons and to give feedback to the other students (cf. image 5). Furthermore, they had to solve topic-specific tasks given by the professors.

3.5.3. Tasked-based reflection

image 6: task-based reflection



Students have to reflect on specific topics. In this case EFL-students had to find a cartoon which deals with EFL-grammar teaching, briefly reflect about it and let other peers give feedback to their statements. Since this task was given by a professor during an EFL-seminar, students had to formulate their thoughts and

ideas in English (cf. image 6). Within the framework of their peer groups, students have the possibility of giving one another supportive and constructive feedback.

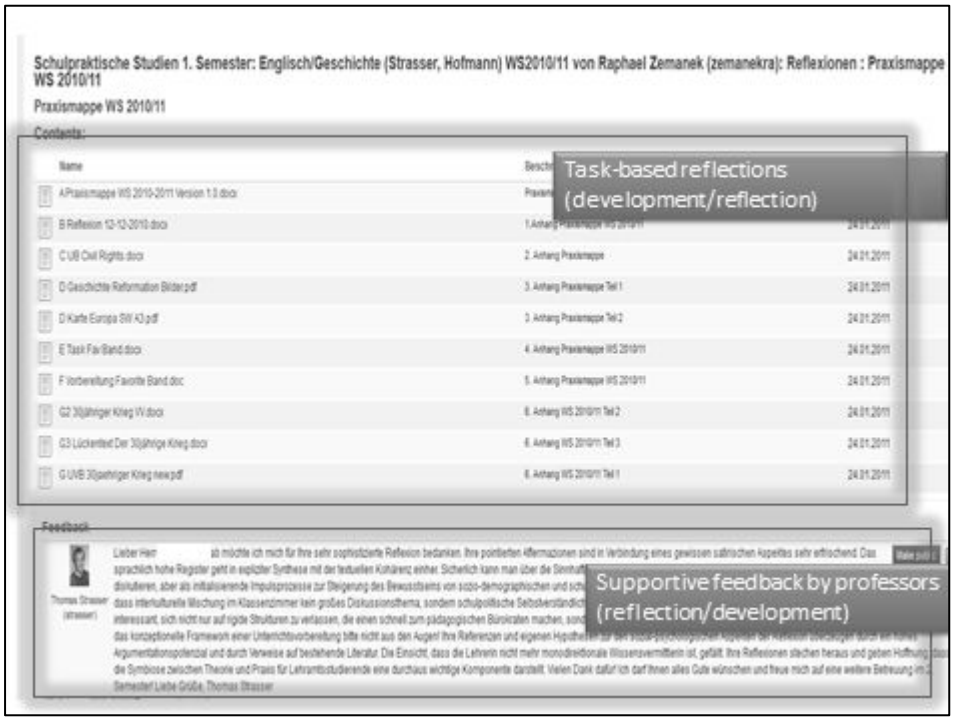


image 7: feedback digital folder

At the end of the semester, students have to create another Mahara-view, their digital folder. Here they upload all of their task-specific reflections concerning their teaching practice of one semester. The professor reads all of the reflections and tries to give supportive feedback, so that students maintain a certain amount of motivation towards their reflective processes of professionalization.

4. Conclusion and outlook

For Vienna University of Teacher education the ePortfolio itself does not only represent a tool to use just for the sake of meeting curricular demands (i.e. the use of new learning technologies in tertiary education), but is seen as a versatile companion for students and professors to improve their processes of professionalization. Especially in the field of pedagogical education, the role of self-organized learning and continuous reflection seems to be of great importance in order to constantly adapt, modify or improve one's professional performance since there is not anything such as homogenous teaching scenarios which the student teachers can use over and over again. The ePortfolio with its capability to constantly update certain new insights or experiences within no time and the fact that supervisors and professors can immediately give feedback on certain reflective journal or forum entries, can therefore be considered as an attractive alternative to an analogue portfolio. Taking the processed data from the first term (out of four) of the research project into consideration, one can explicitly see that there is a generally positive reception concerning the use of Mahara at the school practical studies at Vienna University of Education, whereas the clearly uttered concerns about technical complexity of the tool shall not be underestimated and should be taken seriously (e.g. development of a Vienna University of Teacher Education-specific Mahara manual). Concerning a more global implementation of Mahara at Vienna University of Education (now approximately 1/10 of our students actively use Mahara), the project team has to wait for the upcoming data to be analyzed in order to combine scientific input with informal everyday face-to-face-talks and to develop conciliated introduction scenarios on a wider scale. Taking the rather disappointing numbers concerning an institution-wide coverage into consideration, one can argue that Vienna University of Teacher Education is at the beginning, but regarding the didactically-structured and seminar-specific use of Mahara, several lecturers and professors have tried to come up with job-relevant (forum discussions about subject-related topics, collection of reflections, display of skills, etc.) and competence-oriented (giving constructive feedback, self-organization of learning process, etc.) Mahara courses that might support a student teacher's process of reflective professionalization, meet the demands of 21st century curricula on a tertiary level and are a solid contribution to Blended Learning.

Publication bibliography

1. Baumgartner, Peter (2009): Developing a Taxonomy for Electronic Portfolios. In Peter Baumgartner, Sabine Zauchner, Reinhard Bauer (Eds.): Potential of ePortfolios in higher education. Innsbruck: Studienverlag, pp. 13–44, checked on 3/06/2012.
2. Baumgartner, Peter; Himpsl, Klaus; Zauchner, Sabine (2006): Einsatz von Eportfolios an (österreichischen) Hochschulen. Teil 1. Edited by bmwf. Wien, updated on 1/04/2009, checked on 3/01/2012.
3. Baumgartner, Peter; Zauchner, Sabine; Bauer, Reinhard (Eds.) (2009): Potential of ePortfolios in higher education. Innsbruck: Studienverlag.
4. Butler, P. (2006). A Review of the Literature On Portfolios And Electronic Portfolios. Retrieved August 30, 2012, from http://www.tss.uoguelph.ca/projects/ePresources/Review%20of%20literature%20on %20portfolios%20and%20ePortfolios.pdf.
5. Buzzetto-More, Nicole (Ed.) (2010): The Eportfolio Paradigm: Informing, Educating, Assessing, and Managing With Eportfolios. Santa Rosa, California: Informing Science Press, checked on 3/06/2012.
6. Chang Barker, Kathryn (2006): ePortfolio. A Tool for Quality Assurance. Available online at http://www.futured.com/documents/ePortfolioforQualityAssurance_000.pdf.
7. Collins, A.; Halverson, R. (2009): Rethinking education in the age of digital technology. New York: Teachers College Press.
8. Dimai, Bettina (2005): Selbstgesteuertes Lernen. Institut für Future Studies. Available online at http://content.tibs.at/pix_db/documents/Selbstgestuerertes%20Lernen_fin.pdf, updated on 3/09/2006, checked on 3/01/2012.
9. Heckmann, Verena; Strasser, Thomas (2012): Von der technischen Komplexität hin zur didaktischen Vielseitigkeit - “3-Clicks-Edu-Apps” zur Steigerung der Sprechkompetenz im fremdsprachlichen Unterricht. Preprint. In zeitschrift für e-learning, lernkultur und bildungstechnologie 2. Quartal (2), pp. 1–16.
10. Hilzensauer, Wolf; Schaffert, Sandra (2009): Eportfolio as a Means to Reflect on and Assess Learning. Didactical Challenges for Higher Education. In Peter Baumgartner, Sabine Zauchner, Reinhard Bauer (Eds.): Potential of ePortfolios in higher education. Innsbruck: Studienverlag, pp. 79–90.
11. Himpsl, Klaus (2009a): Implementation Strategies for E-Porfolios in Austrian Higher Education. In Peter Baumgartner, Sabine Zauchner, Reinhard Bauer (Eds.): Potential of ePortfolios in higher education. Innsbruck: Studienverlag, pp. 123–136.
12. Himpsl, Klaus &. Baumgartner Peter (2009b): Einsatz von Eportfolio an (österreichischen) Hochschulen. Eportfolio an Hochschulen. Teil III des BMWF-Abschlussberichts. Edited by bmwf. Available online at http://www.peter.baumgartner.name/schriften/publications-de/pdfs/evaluation_eportfolio_software_abschlussbericht.pdf, updated on 18/05/2009, checked on 30/12/2011.
13. Himpsl-Gutermann, Klaus; Bauer, Reinhard (2011): Kaleidoskope des Lernens. Eportfolios in der Aus- und Weiterbildung von (österreichischen) LehrerInnen. In Andrea Back, Peter Baumgartner, Gabi Reinmann, Rolf Schulmeister (Eds.): zeitschrift für e-learning, lernkultur und bildungstechnologie, 3/2011. 6. Jahrgang. Innsbruck-Wien-Bozen: Studienverlag (3/2011), pp. 20–36.
14. Hornung-Prähauser, Veronika; Luckmann, Michaela (Eds.) (2008): Selbstorganisiertes Lernen im Internet. Einblick in die Landschaft der webbasierten Bildungsinnovationen. Innsbruck: Studienverlag.
15. Hornung-Prähauser, Veronika; Wieden-Bischof, Diana. Theorie und Praxis zu Eportfolios in der Hochschule. In: Hugger, Kai-Uwe; Walber, Markus (Eds.) (2010): Digitale Lernwelten – Konzepte, Beispiele und Perspektiven. Wiesbaden: VS Verlag, pp. 245-268.
16. MacEntee, Virginia; Garii, Barbara (2010): Eportfolios in Teacher Education. In Nicole Buzzetto-More (Ed.): The Eportfolio Paradigm: Informing, Educating, Assessing, and Managing With Eportfolios. Santa Rosa, California: Informing Science Press, pp. 191–205.
17. Mayrberger, Kerstin (2009): Integration of Eportfolios in Higher Education fromt the Pedagogical and Didactical Point of View. In Peter Baumgartner, Sabine Zauchner, Reinhard Bauer (Eds.): Potential of ePortfolios in higher education. Innsbruck: Studienverlag, pp. 91–105.
18. Meyer, Torsten; Mayrberger, Kerstin; MünteGoussar, Stephan; Schwalbe, Christina (Eds.) (2011): Kontrolle und Selbstkontrolle. Zur Ambivalenz von Eportfolios in Bildungsprozessen. Wiesbaden: VS, Verl. für Sozialwiss (Medienbildung und Gesellschaft, 19).

19. Pädagogische Hochschule Wien (2006): Auszug aus dem Curriculum Schulpraktische Studien. Available online at http://www.phwien.ac.at/fileadmin/Benutzerdateien/Menuepunkt_Ausbildung/Menuepunkt_Ausbildung_SPS/Praxisberater_innen/Auszug_Curriculum__Module_SPS.pdf.
20. Pädagogische Hochschule Wien (2009): Curriculum für das Bachelor-Studium Lehramt an Hauptschulen.
21. Smith, T.; Parker, J. (2011): Designing an authentic blend: Development of a real-life learning environment for higher education. In Murdoch Research Repository (Ed.): Eculture 2011: Internationalisation and diversity. Perth, pp. NN, checked on 3/06/2012.
22. Strasser, Thomas (2011): Moodle im Fremdsprachenunterricht. Blended Learning als didaktisch innovativer Ansatz oder pädagogische Eintagsfliege? Boizenburg: Verlag Werner Hülsbusch.
23. Strasser, Thomas (2012): Mind the App! Zur pädagogischen Vielseitigkeit von Web 2.0-Tools im Unterricht. In Alessandro Barberi, Andreas Oberprantacher, Wolfgang Sützl (Eds.): Medienimpulse. Beiträge zur Medienpädagogik, 2/2012 (2). Available online at http://www.medienimpulse.at/articles/view/419.
24. Strasser, Thomas; Knecht, Harald; Kulhanek-Wehlend, Gabriele (2012): Mighty Mahara? Zur Rolle des selbstorganisierten (Sprachen)lernens im Kontext von Mahara-ePortfolio. Eine Forschungsprojektbeschreibung. In Thomas Tinnefeld (Ed.): Tagungsband der 1. Saarbrücker Fremdsprachentagung. Saarbrücken, pp. 1–23, checked on 3/06/2012.
25. Unruth, Thomas (2011): (E-)Portfolios in der Lehrerausbildung am Landesinstitut für Lehrerbildung und Schulentwicklung Hamburg. In Torsten Meyer, Kerstin Mayrberger, Stephan MünteGoussar, Christina Schwalbe (Eds.): Kontrolle und Selbstkontrolle. Zur Ambivalenz von Eportfolios in Bildungsprozessen. Wiesbaden: VS, Verl. für Sozialwiss (Medienbildung und Gesellschaft, 19), pp. 115–118.
26. Wiley, David (2009): Openness, Dynamic Specialization, and the Disaggregated Future of Higher Education, pp. 1–16. Available online at http://www.irrodl.org/index.php/irrodl/article/view/768/1415, checked on 25/02/2012.

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Design and Implementation of an ePortafolio Learning Strategy Aimed at Teachers Training: Making Sense of the Process of Learning

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Abstract: A learning strategy with electronic portfolios was designed and implemented in order to be used in a Master level of Teacher Training Erasmus Mundus. The Research Group FORTE at Rovira I Virgili University has given support to the implementation of experiences with learning ePortfolios to foster professional identity building and the learning process. What are the implications for student's professional development and their learning approaches with ePortfolios? In this sense, we consider a concept of professional identity formation with ePortfolios needs to be established in the higher University context.

Keywords: professional identity, assessment, learning, eportfolio

Introduction

A general tendency of ePortfolio practice in Spain is the generation of numerous pilot experiences. The experience presented shows how ePortfolios can be integrated into the classroom settings at a Master level of Teachers Training. Although, this experience went in accordance of the tendency, there are some variations of the application of the ePortfolio. These variations include the mechanisms used to encourage the developing of a digital identity and a professional development.

This paper shows how ePortfolio in Higher Education can be focused on preparing teachers for their future professional roles and its significance when evaluating with ePortfolios as guiding the process of learning. The importance for the use of ePortfolios rely on giving the base for it, and promote the use of an ePortfolio system integrated with a learning Management System (LSM), guidelines and setting forms that can be used in classroom.

Background

ePortfolios are still a less frequent practice in Spanish Teacher Education than in other countries (Barberà, 2006). However, there are many ePortfolio initiatives in the field of Teacher Training that show an emerging practice. The most common application of ePortfolios is helping the teaching and learning process, and the integration of new evaluation strategies. Also, ePortfolios had been applied more in subjects than in programmes, it is not a holistic approach, because the ePortfolio is not applied during the whole student learning process, in terms of all the courses or the studies in the University (Spanish Network on ePortfolio, Barbera 2006). Although, is not a holistic approach, the practice with ePortfolios had been carried out with experiences involving mostly scenarios of assessment, guiding of the process of learning, evidence of practicums, in short terms an ePortfolio for Teaching and Learning. Also, it is important to remark that most of the practices had resulted in benefits for the students in more awareness of their learning and their professional situation through the meta-cognitive mechanisms and presentation of digital evidences.

According to the research on ePortfolio in Spain, offered by the ePortfolio Network. Additionally, it has brought to light the necessity for more institutional support, a lack of knowledge of good practices and mechanisms of design and techno-pedagogical implementation with ePortfolios. Barberà, E., Guardia, L., Guash, T. (2009).

The implementation of ePortfolios in student teacher programme had focused on a continuous evaluation of the student in the framework of a comprehensive teaching (one that considers principles of equity and diversity) and evaluation of a dialogic approach. However, it's getting more evident that implications go beyond the evaluation system, and they make explicit the necessity for a more methodological and didactic design. It turns very interactive where the spotlight falls mainly in the student.

ePortfolio helps to "remediate" the self, allowing the student to use multimodal literacies to construct a relationship between technology and identity. Yancey (2004). Then, ePortfolio is an expansive space for students to develop into professionals "they can create develop a professional identity by multiplicity, elaboration by working in visual and verbal modalities". ePortfolios provide visibility for graduates, due to the many roles played in the academic setting and professional audience.

The ePortfolio is a system of a versatile authentic assessment, but with clear criteria for application, attributing the responsability to the student in their own assessment and their own learning.

In order for ePortfolios to connect professional growth to the process of learning to teach, We included in the experience various learning activities chosen because they can enhance a metacognitive kind of

reflection. There are some examples of some of the activities that show reflection (Johnson, 2006): *explanation of the purposes,* it refers to the educational or professional goals clearly articulated; *reflective statements,* can be personal or collaborative and are the result of communication with tutors and professors, these are the reactions and responses to the products of learning and context to clarify the purpose of the ePortfolio, also show the interaction with learning products and process; *heading of statements,* include identifications and explanations that provide the logic of the selection and inclusion of learning products as evidence. They refer to levels of learning ePortfolios in higher education: an opportunity to rethink, teaching with reflection, the definitions presented, explanations of learning products and their source; *continuous assessment and learning assessments*, it refers to both formative and summative evaluation, indicate the growth or fulfilment of the criteria or goals, allow comparisons with the beginning and give life and meaning to learning products.

From the literature review there is evidence of development of a professional development for both academic and professional audiences through the process of portfolio design and development by expansion of their technology literacies and thematic choices. For example, an ePortfolio carried out in Master Program of Scientific and Technical Communication, PhD in Rhetoric and Writing. Blair & Monske (2009). Other academic spaces for portfolio development include the undergraduate writing curriculum, including first-year composition and technical communication, the latter stressing the application of various project management and document design competencies to specific business and industrial settings. Results from previous experiences had shown a significant development in technology–based literacy and communication because of the communicative context that allow graduate students to view technological documentation as a careful choice that impact their character and professional identity. In this sense, bringing to light the concept of remediated self and identity offers new opportunities for self-definition through “New Media”. A remediated self is increasingly evident through various digital tools that allow users to not only construct a personal identity but also establish connections with other members of the discourse communities. Then some of the characteristics of literacy through the use of ePortfolios chosen for this study are: use of tools and resources for learning according to own needs, select potential sources of information, reuse and remix content, negotiate learning goals and outcomes, personalise information sources and services, manage and organise own learning, self-monitor own progress, adjust performance based on feedback, critically analyse own learning, externalize individual learning intentions, choose own sources of information and content and make own judgements about their quality, apply the do-it yourself principle to digital issues

Also, one part of the ePortfolio implementation that more concerns educators is assessment, a change of educational paradigm from one “center on the teacher” to “one center in the student” and the necessity to have control of learning while shifting from one paradigm to another. In this sense, recent research shows that the way the learning and assessment environment is perceived by students affects to a large extent, how they cope with the learning environment and their learning approaches (Lawness and Richardson 2002; Segers, Nijhuis, and Gijselaers 2006).

Case of integration of ePortfolio at higher education

In 2011, the research group FORTE at the Rovira I Virgili University launched a project to support learning and development of professional identity through digital portfolios. Mahara was used as a technological platform. It is relevant to emphasize the importance of ePortfolio use either inside or outside of the University while learning to become teachers. At the Rovira I Virgili University is not mandatory the ePortfolio use, but there are future plans for ePortfolio implementation with Mahara, currently it is at a starting stage at the Institutional level, initiating with various courses at preservice secondary and primary teachers in sciences, nurse, physiotherapy, economic, and communications course that are going to start the next course this year. All of them initiated by teachers that after attending a Mahara training course were motivated to use it for the first time, all of them supported by the Educative Resource Department where the Mahara Platform is hosted as institutional for the university.

We remarked that our research has as a context, the Master Erasmus Mundus for Teacher Training. It works in collaboration with five European Universities from Reims (Université de Reims Champagne), Portugal (Universidad do Porto), Spain (Granada and Rovira I Virgili University) and Norway (Oslo and Akershus University College). We applied the student ePortfolio in a group of students during one academic year of the first year of Master and then as a continuo for a second academic year. This group was formed in turn by an intercultural team of students from South America, Catalonia and Lithuania.

To successfully complete the course, students were required to complete classroom work, an individual project and a group project. In this sense, all the activities got done across the ePortfolio an assessed according to a rubric concerted between students and teachers from the beginning of the course. In this case Rubric can give a sense of track. The ePortfolio implementation was designed to be introduced in a

regular class that in a “normal way” as the one where the professor presents the content and the students receive information. While integrating the ePortfolio tool in this course, part of the didactical part was changed. In this sense, we designed an action plan to introduce the ePortfolio to be able to combine it with this kind of lectures. At the same time, the ePortfolio implementation was continuously monitored with the completion of weekly activities on assignments related with the subject; institutional educational assessment. Each activity comprise the use of specific digital artifacts selection and the creative eLearning activities designed to be instrumental in crafting a meaningful ePortfolio and facilitating reflection and critical thinking that take them for a professional development.

From all the classes pertaining to the subject; we used three initial sessions for the tool integration, one for each of the first three classes. The first session consisted of an explanation of the concepts of ePortfolio, the purpose that it has for the course and the accompanying work with Mahara. This would set up the base on the dynamics of the activities used and the thought process that goes hand in hand with the course content. In addition, to continue the work with ePortfolio, two final sessions were used to complete and conclude on the work done during the academic year.

The students had clear that the purpose of the ePortfolio was to determine the professional development throughout the use of ePortafolios and its incidence in learning approaches, to examine student´s perceptions of the assessment practices and the relationships to their learning approaches, and to create an eLearning Portfolio environment to evidence formal and informal learning.

In order to give relevance to the research, we highlight that both the design of the Eportfolio strategy and the study applied to value the implications of the ePortfolio were of the same importance. For the latter, we have the application of two questionnaires, the first one applied at the beginning on the initial approaches to learning and identity skill development. The second one at the end, on perceptions of the assessment practice and its influence on learning approaches.

The initial questionnaire applied guide us to know the level of technology skill development and the attitudes of participants about the ePortfolio use for projecting them as professionals. It was necessary to know the level of technology skill development in order to relate it with a successful ePortfolio implementation and the level of training needed for the use of the platform. Both & Heath (2005) agree that an ePortfolio takes time to build and need some good technology skills and proper training to gain these skills.

Consequently, a revised Assessment Experience Questionaire was applied to measure the perceptions of the assessment practice and its influence on learning approaches after the practical use of the ePortfolio. The dimension of identity and professional development is enhanced by reflecting, creating and designing their eportfolios (Mac Donald, Liu, Lowell, Tsai, & Lohr, 2004).

The dimensions used to design the questionnaires were; Initial questionnaire: genre, age, discipline, perceptions regarding assessment, perceptions regarding professional identity, perceptions regarding the tool. Final questionnaire: level of digital skill development, initial perceptions of the tool.

The table below show how the Integration of the ePortfolio was designed to be integrated in regular classes, accompanied with the application of the questionnaires.

	Initial Questionnaire
Session 1	Introduction Explanation and agreement on rubric Pedagogical and technical guidelines
Session 2	Pedagogical and technical guidelines Integration with Web 2.0 tools Reflective process Professional identity construction
Session 3	Conceptual Reflection Process Presentation of the working ePortfolio to an audience
Across the course	Reflection and recording evidence of individual work and team work
At the end of the course	

Session 4	Self-Assessment using the rubric Complete eportfolio activities required for the course
Session 5	Assessment ePortfolio Final feedback from teachers and suggestions for the ePortfolio by students.
	Final Questionnaire

Table. ePortfolio integration design

At the end of the course students self-evaluated their own performance using the Mahara ePortfolio tool adapted for the experience. The use of Rubrics was used as self-evaluation guide for students to assess the level of the reflection over concepts and practical work.

Results

For educational practice, the study firstly indicates four crucial elements on the ePortfolio process: *feedback, professional devlopment, ePortfolio appropriateness, guided formative assessment.*

Firstly, the students acting on the feedback, this means teachers encouraging students to make explicit how they used feedback to reorient their reflections or adding value to the process of knowledge construction. Secondly we tackle professional development with the ePortfolios giving sense of appropriateness; it was proved the importance of including activities mainly at the beginning of the experience, where pupils could show their previous experience, their personal identity and the goals or objectives they want to reach. This phase of the ePortfolio process was successfully managed reflecting and sharing among the course, about personal perceptions of attainments, conceptual meanings, and ideas and characters that inspired everyone.

Although, the quantitative data obtained were made with a small sample the intention was to know from the beginning the level of digital competences of the students, the predisposing with ePortfolios, their cultural attitudes. In this way, we could compare with the assessment, ePortfolio organisation and purpose for professional development at the end of the academic course. Having that not all of the students show the ability to work with Mahara as they said the digital competences they have, some students show more confidence with digital tools and work with Mahara beyond the training given, those students helped the others on reaching the same level. Most of the students have never worked with rss tools but all of them with blogs. Also, the initial expectatives of the majority of the students were to use ePortfolio to reinforce the content, assessment and to share information, most of them didn't use to establish objectives and record progress of activities. After building the ePortfolio Mahara they agree on using Mahara for assessment, organisation of learning and professional projection.

Following we present in a more qualitative way some of the evidences and reflection from the students.

Some of the reflections taken from the tool are presented; we chose the ones that clearly show the evolution seen from the student respected their own learning as their professional development. One of the students remark in their ePortfolio "The Mahara ePortfolio is an important finding, along my academic, work and profession. I have been recording, organizing all the material used in paper folders and subfolders out of there. This old paradigm is broken today with this portfolio. A new way to organize, record and share information, knowledge, learning, experiences, and socialize this process to be more transparent, more and more delight, is a boom that need a few days to process, admire, to contemplate and make it your own".

One of the comments that show the phase to go to more autonomy on the student but at the same time some attitude stick to and old way of doing "Maybe I'm used to a training system that creates more dependence on facilitators and teachers, which it has cost me to adapt to this model. But in a nutshell, I was lost and confused about where to go"

All the students expressed what they thought about their professional area and how they identify with it. They explained in front of the group the goals that they have achieved both personally and in their careers, some examples included presentations of projects including photos, videos, presentations, quotes or characters they admire and identify with.

Most students believed that the goal of using digital portfolios was the learning process work provides. They therefore put emphasis on the formative assessment, being assessed during both the teachers and fellow students. The responses show that post their assignments and reflection notes for the assessment is an important part of becoming more aware of their own learning.

One student said: "When one becomes conscious of the cultural frame, which reduces the complexity of

relationships". The answers students give, indicates that they are able to reflect beyond their own narrow horizon of learning. Once in different ways reflecting on their own and others' knowledge, that it expands their perspective and makes them safer on their own standpoint. All said they master digital files and are able to handle this on a factual, first-order level. But we see that more students can't utilize a greater potential for the use of digital portfolios. We have reason to question the potential of the ePortfolio are used to its fullest.

ePortfolio promotes self-regulatory learning processes, as well as a more personalized tutoring of students. We found a relation with the level of expertise using the tool, the performance obtained measured by the frequency of writing, feedback, interaction and the level of development reflecting on their professional field.

It seems that understanding student perceptions of their experiences can lead to improve practices and policies with regard with ePortfolios. There are latent considerations to study further, this is the personal identity, ideologic identity, and learning identity of the students and their interactions with tutors and institutional agents. Nevertheless, this is only a small-scale study documenting an individual group's effort in technology and pedagogy integration at one university faculty. Given the dynamic nature of the traditional classes intended to be integrated with Mahara ePortfolio, the generalizability of these findings is limited. Future research may replicate this study with a larger sample to validate the findings of this study.

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References

1. Barberà, E., Gewerc, A., & Rodríguez, J. (2009). *Portafolios electrónicos y educación superior en españa*. mon. VIII.revista de educación a distancia..
2. Barberà, E., Guash, T.,Rubio, E. (2009). *Creating a Research Network for a succesful ePortfolio design and implementation*. CICEI – Members of Spanish Network on Eportfolio)
3. Barberà, E., Guardia, L., Guash, T. (2009). Electronic portfolio practice in Spanish universities.
4. Blair, L. K, (2009). *Developing Digital Literacies and Professional Identities. The benefits of ePortfolios in Graduate Education. Journal of Literacy and Technology*.
5. Heath, M. (2005). *Are you ready to go digital? The pros and cons of electronic portfolio development.* Library Media Connection, 23(7), 66-70.
6. Lawness, C.J., and J.T.E. Richardson. 2002. *Approaches to studying and perception of academic quality in distance education*. Higher Education 44, no. 2: 257–82.
7. Johnson, R. S., Mims, J. S., & Doyle-Nichols, A. (2006). *Developing portfolios in education: A guide to reflection, inquiry, and assessment.* San Francisco: SAGE Publications
8. Segers, M., J. Nijhuis, and W. Gijselaers. 2006. *Redesigning a learning and assessment environment: The influence on students' perceptions of assessment demands and their learning strategies*. Studies in Educational Evaluation 32, no. 3: 223–42.
9. Segers, M., Gijbels, D., & Thurlings, M. (2008). *The relationship between students' perceptions of portfolio assessment practice and their approaches to learning*. Educational Studies, 34(1), 35.
10. MacDonald, L., Liu, P., Lowell, K., Tsai, H.T., & Lohr, L. (2004a*). Graduate student perspectives on the development of electronic portfolios:* Part one." Tech Trends,48(3), 52-55.
11. MacDonald, L., Liu, P., Lowell, K., Tsai, H.T, & Lohr, L. (2004b). *Graduate student perspectives on the development of electronic portfolios: Part two*." Tech Trends, 48 (3), 56-60.
12. Yancey, K.B. (2004). *Postmodernism, palimpset, and portfolios: Theoretical issues in the representation of student work."* College Composition and Communication, 55(4), 738-761.

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Eportfolios in Initial Teacher Education in Singapore: Methodological Issues Arising From Initial Attempts to Make Meaning of Artifacts

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Introduction

Eportfolios were introduced into teacher education in the 1980s. Since then, educational researchers and practitioners have increasingly cited the use of portfolios as an important assessment and learning tool in teacher education programs. In the domain of teacher education, the need to improve quality, attain established standards and to resolve accreditation issues have led to the increased use of ePortfolios in many European states and others around the world (Granberg, 2010).

An electronic portfolio (ePortfolio) is often defined as "a digitized collection of artifacts, including demonstrations, resources and accomplishments that represent an individual, group, community, organization, or institution. This collection can comprise of text-based, graphic or multimedia elements archived on a Web site or on other electronic media (Lorenzo & Ittelson, 2005, p. 3)."

In pre-service teachers' ePortfolios, artifacts can be samples of work that include lesson plans, stimulus materials, videos, pictures and picture files, classroom assignments, classroom tests, newsletters, and in-service materials produced by the pre-service teacher (Bruneau & Bie, 2010). With the creation of ePortfolios, student teachers can document their journey in becoming a teacher by selecting, sharing, and reflecting on artifacts such as educational philosophies, classroom management plans, unit and lesson plans, plans to meet the needs of diverse and special needs pupils, and video clips of practice teaching (e.g., Strudler & Wetzel, 2005). They can not only showcase their best work as a professional, but also exhibit the knowledge and skills in using technology.

Artifacts in Student Teachers' Eportfolios

Eportfolios can serve as authentic assessment tools that provide a rich repository of information about learning (Keino, 2006). As ePortfolios become institutionalized in teacher education, it is imperative to understand the types of artifacts that student teachers include in their ePortfolios. Yet artifact evaluation presents and continues to present the greatest challenge for researchers (Bruneau & Bie, 2010). There are no universal standards in terms of classifying artifacts. In addition, attaching numeric scores to highly contextualised, qualitative pieces of writing is questionable as artifacts are not quantifiable in the sense that they involve a great deal of reflection, knowledge, and skill. The different types of artifacts present further challenges as they serve different purposes and carry different weights in the overall ePortfolio presentation. Indeed, some theoreticians and practitioners have written about the technical problems associated with trying to establish some sort of reliability to portfolio scoring systems (Salvia & Ysseldyke, 2007; Koretz, 2008; Delanshere & Petrosky, 1998).

In this paper, we describe our initial forays into making meaning of artifacts in student teachers' ePortfolios. We describe a pilot study wherein we attempt to develop a coding scheme to examine the types of evidence that student teachers placed in their ePortfolios, the preliminary findings and the methodological issues faced. We were specifically interested in the number and types of artifacts included in the ePortfolios and the interpretations we could make from these.

Method

Participants and Context of Research

This investigation took place at the National Institute of Education (NIE). The NIE is the sole institution providing initial teacher training in Singapore. A developmental ePortfolio was designed for initial teacher education with the purposes of: (i) charting the learning and personal growth of the student teacher through his/her experiences at the NIE and developing his/her personal teaching philosophy over time; (ii) helping to bridge the theory-practice nexus and providing evidence for the theory-practice link in the student teacher's learning and classroom teaching; and (iii) providing evidence of the attainment and integration of standards and competencies in teaching.

It constitutes an electronic collection of authentic and diverse evidence of a student teacher's learning and achievement over time, on which he/she has reflected and designed for personal development, as well as for presentation to audiences for specific purposes. It is termed the 'Learning and Teaching Portfolio', to make salient the continuum in its role in charting the development of a student teacher at NIE, his/her induction as a beginning teacher and his/her eventual professional development as a skillful teacher and is to be presented in the first instance to school leaders and NIE supervisors prior to practicum.

A commercially developed ePortfolio platform, designed by Desire2Learn Inc., was partially adapted to meet the requirements of the NIE PGDE program. The participating student teachers were granted access to the platform for the entire duration of their one-year program, in the course of which, they would be provided with the relevant support and guidance on the use of the ePortfolio to chart their learning and practice of teaching.

Participants in this pilot study were 5 student teachers enrolled in the Postgraduate Diploma in Education (Junior College) track – a program for university graduates who are preparing to teach at the Junior College level. The student teachers will be hereafter referred to as (i) WP; (ii) SE; (iii) WZ; (iv) GM; and (v) JH.

Analysis of Data

We began by specifying what we considered an artifact. Our working definition of 'artifacts' was 'an item purposefully placed in a portfolio' (Wilton, 2004). This definition was deliberately broad so as to encompass any form of content placed in the ePortfolio by the student teacher, whether image, prose text or video.

Next, we counted the number of artifacts in each ePortfolio and classified the artifacts according to three levels following Bruneau and Bie (2010): (i) knowledge-level artifacts; (ii) skills-level artifacts; and (iii) application-level artifacts. While Bruneau and Bie (2010) did not explicitly define the three categories, we conceptualized knowledge-level artifacts as those exemplifying the knowledge and theoretical content of teaching and learning; skills-level artifacts as the artifacts focused on the practice of teaching; and application-level artifacts that specifically demonstrate the connection between theory and practice, that is they show how the theories of teaching and learning can be applied in the classroom.

Some of the artifacts fell under more than one category. In these instances, they were double-coded. For example, a lesson plan (an application-level artifact) that included concept maps (a skill-level artifact) was scored as both 'application-level' and 'skill-level'. Some artifacts found in the student teachers' ePortfolios, such as reflections and teaching philosophy, did not fall into any one of the above categories as we defined them, so we created two separate categories –'reflection' and 'teaching philosophy', and another category labeled as 'other' for artifacts which did not fit into any of the preceding categories. Artifacts in the 'other' category included things like the teacher's curriculum vitae or photo. We had six categories in total.

Results

A count of the number of artifacts embedded in each ePortfolio showed that there was a wide range in the number of artifacts uploaded by each student teacher (refer to Table 1). The number of artifacts ranged from 16 to 130.

WP	SE	WZ	GM	JH
16	47	41	32	130

Table 1: Number of artifacts uploaded by the five student teachers

All the artifacts in the student teachers' ePortfolios were then classified into the 6 categories of knowledge, skill and application-level artifacts, teaching philosophy, reflections and other. Where relevant, some artifacts were double-coded when they covered more than one category in a single piece of artifact. The number of artifacts produced by each student teacher under each category was then computed by number and by percentage. The results are reflected in Table 2 and 3 respectively.

Table 2 includes the total score obtained by each student teacher after computing all the total number of artifacts including those that were double-scored. Table 3 includes the total score in percentages for each student teacher and the percentage of artifacts belonging to more than one category.

Name of student teacher (Total no of artifacts)	Knowledge-level artifacts	Skill-level artifacts	Application-level artifacts	Teaching Philosophy	Reflections	Other	Total score
WP (16)	6	2	3	2	3	1	17
SE (47)	5	8	22	2	6	8	51
WZ (41)	4	9	14	2	4	11	44
GM (32)	5	9	11	4	8	4	41
JH (130)	40	17	82	2	33	4	178
Total (266)	**60**	**45**	**132**	**12**	**54**	**28**	**331**

Table 2: Classification of artifacts in the 5 pilot ePortfolios (by number)

As shown in Table 2, there were the most number of application-level artifacts (132 out of 331), followed by knowledge level artifacts (60 out of 331), reflections (54 out of 331), skill-level artifacts (45 out of 331), other artifacts (28 out of 331) and teaching philosophies (12 out of 331).

Name of student teacher (Total no of artifacts)	Knowledge-level artifacts	Skill-level artifacts	Application-level artifacts	Teaching Philosophy	Reflection	Other	Total score	% that belong to more than 1 category
WP (16)	35%	12%	18%	12%	18%	6%	106%	**6%**
GM (32)	16%	28%	34%	13%	25%	13%	128%	**28%**
WZ (41)	10%	22%	34%	5%	10%	27%	107%	**7%**
SE (47)	11%	17%	47%	4%	13%	17%	109%	**9%**
JH (130)	31%	13%	63%	2%	25%	3%	137%	**37%**

Table 3: Classification of artifacts in the 5 pilot ePortfolios (by percentage)

From Table 3, we can see that the student teacher, JH, uploaded the largest number of artifacts – 130, and had highest overlapping score of 37%. This was followed by SE who uploaded 47 artifacts and obtained an overlapping score of 9%. WZ uploaded 41 artifacts and obtained an overlapping score of 7% while WP who uploaded the least number of artifacts – 16, obtained the least overlapping score of 6%. GM was an exception. He uploaded 32 artifacts but obtained an overlapping score of 28%.

Discussion

Our findings regarding the kinds of artifacts uploaded showed that the application-level artifacts were the largest category in our sample. 132 out of 331 artifacts were application-typed taking up 39.9% of artifacts. This was followed by Knowledge-level artifacts (18.13%), Reflections (16.31%) and then Skills-level artifacts (13.6%), with a relatively smaller number teaching philosophies and other artifacts.

Due to the emphasis of theory-practice links in teacher education at NIE, and the fact that student teachers had to showcase their teaching and learning to school leaders and NIE supervisors via the ePortfolio before embarking on their practicum, we expected the ePortfolio construction in our context to be very application-focused. This was evidenced by a larger portion of artifacts at the application level.

Meanwhile, the richness of artifacts was seen by the percentage of overlap between categories. We found that the ePortfolio with the fewest artifacts also had a lower percentage of overlaps, while the ePortfolio that had the most artifacts had a high percentage of artifacts that overlapped categories. This suggests that in general, student teachers who uploaded more artifacts also uploaded artifacts of richer quality, which would not fit under one category alone (high quantity; high quality). In fact, the overall pattern was that the number of artifacts uploaded tended to correlate strongly with the amount of overlapping of categories. A Pearson's correlation of 0.75 indicates a strong positive correlation between number of artifacts uploaded and the richness of those artifacts (as determined by amount of overlapping). We need to note that this analysis (not statistically significant) was only exploratory as the sample size is clearly too small. Although the correlation may not be meaningful in this instance, it does suggest an interesting avenue for future research. A larger sample size is needed to verify this finding. There is however one outlier - GM, who exhibited a high level of overlapping (28%) though he uploaded only 32 artifacts. This may be an exception, a high quality ePortfolio with relatively fewer artifacts uploaded (low quantity; high quality).

Remaining Questions and Methodological Issues

The student teachers' background and their profiles could be a factor affecting the quantity and quality of artifacts created. High achieving and low achieving student teachers could produce ePortfolios of different quality. Moreover, student teachers' perceptions and use of the ePortfolio as a generic archiving tool versus that of using ePortfolios for selective purposes would play a part in the quantity and quality of artifacts uploaded.

The different permission-levels granted by the student teachers to their artifacts would impact upon the artifacts that we had access to. This raises the question of how should we as researchers seek to make meaning of the student teachers' ePortfolios? Should we only analyse items specifically shared which may only be those of high quality or seek to view and analyse everything in the ePortfolio which includes all the good and the bad?

Conclusion

Clearly because of the small sample size, the findings in this preliminary study are skewed by the outlying cases. Further research is necessary to corroborate the findings. In addition, this methodological approach towards classifying and interpreting artifacts needs to be tested in future research in order to test the transferability and workability of the framework.

A number of difficult questions have been raised to which we have no clear resolutions. Added undertakings in this area are necessary to advance the understanding of the field.

References:

1. Barrett, H. (2010). Balancing the Two Faces of ePortfolios. *Educação, Formação & Tecnologias, 3*(1), 6-14. [Online], Available online: http://eft.educom.pt
2. Bruneau, O. & Bie, A. (2010). The pre-service teacher portfolio: A formative approach. *International Journal of Learning, 17, 441*-448.
3. Delandshere, G., & Petrosky, A. R. (1998). Assessment of complex performances: Limitations of key measurement assumptions. *Educational Researcher, 27*(2), 14-24.
4. Granberg, C. (2010). Eportfolio in teacher education 2002 – 2009: The social construction of discourse, design and dissemination. *European Journal of Teacher Education, 33*(3), 309-322.
5. Hurst, B., Wilson, C., & Cramer, G. (1998). Professional teaching portfolios. *Phi Delta Kappan, 79(8),* 578-582.
6. Keino, L. C. (2006). Electronic learning portfolios: Evaluating artifacts in an international FCS program. *Journal of Family and Consumer Sciences, 98(4),* 44-46.
7. Koretz, D. (2008). *Measuring Up: What Educational Testing Really Tells Us*. Boston: Harvard University Press.
8. Lorenzo, G, & Ittelson, J. (2005). An overview of ePortfolios. *EduCause Learning Initiative Paper, 1*.
9. Robinson, L., & Kelley, B. (2007). Developing reflective thought in preservice educators: Utilising role-plays and digital video. *Journal of Special Education Technology (JSET), 22*(2).
10. Salvia, J., & Ysseldyke, J. E. (2007). *Assessment in special and inclusive education* (10th ed.). Boston: Houghton-Mifflin.
11. Strudler, N., & Wetzel, K. (2005). The diffusion of electronic portfolios in teacher education: Issues of initiation and implementation. *Journal of Research on Technology in Education, 37*, 411-433.
12. Sulzen, J., Alfano, M., Zack, J., & Young, M. (2007). Validation of electronic portfolios for preservice teacher assessment. In M. C. Buchanan (Chair), *Electronic portfolio assessment: implications for quality teacher education programs across the nation.* Symposium conducted at the meeting of the American Educational Research Association, Chicago, IL.
13. Vandervelde, J.M. (2004). *A+ rubric: Rubric for electronic portfolio.* Retrieved from http://www.uwstout.edu/soe/profdev/eportfoliorubric.html
14. Wilton, D. (2004). Eportfolio portal. www.danwilton.com/eportfolios/

Identity & Social Recognition

Constructing Digital Myself: Authenticity, Folio Thinking, and the Representation of Self

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Introduction

Now that information and communication technologies (ICT) such as the Internet, personal computers, and mobile phones are widely used in daily life, our activities in the real world are reflected and becoming more observable through activities in the digital world. However, the one-way flow of information from the real world to the digital world has introduced a serious identity crisis due to the uncontrollable distribution of information about each of us in the digital world. If we could create a virtual identity to reflect our real identity in a continuously interactive way, we would be able to maintain both identities in the real and digital worlds more consistently and meaningfully.

At ePIC 2011 we introduce the concept of "Digital Myself" as the development of a virtual identity by using ICT to parallel and reflect the self living in the real world [1]. We discuss the challenges of creating a mirror image entity that is as faithful as possible to the original "Analog Myself" regardless of the constraints of the digital environment.

In the current cyber world, there are two sources of information for the mirror image representation of Digital Myself: 1) External representations of the self that have been scattered throughout the digital environment, and 2) Internal representations of the self that have not yet been externalized through speech or other media or perhaps not even formalized in words. Digital Myself emerges when external representations and corresponding internal representations are reconciled into one holistic mirror image of the real world Analog Myself

In our ePIC 2011 paper, we refer to the interaction of internal, external, and mirrored representations of the self as "authenticity." We human beings are said to be authentic when others accept us as who we represent ourselves to be, with the mirror image of our external representation serving as a medium for others to observe aspects of our internal representation. In the current paper, we examine the notion of authenticity as it relates to the representation of self in order to reconcile the gap between Digital Myself and Analog Myself.

Constructing Digital Myself

Mirror Image Modeling between Digital Myself and Analog Myself

A futuristic vision from today's popular media helps us imagine how we might capture and synthesize our cyber footprints to create a digital copy of the real world self. Caprica, the prequel to the popular Battlestar Gallactica television series [2], explains how the Cylons, who originated as digital copies of actual human beings, first came into existence.

A digital copy of the character Zoey survives in a virtual universe after the analog Zoey perishes in a terrorist attack. In this scene, digital Zoey rebuffs the doubts of analog Zoey's father by describing how access to digital information scattered throughout the Internet allowed her to come into existence. Analog Zoey's father counters by asserting we are much more than our digital footprints.

> Digital Zoey: The question isn't how to store it; it's how to access it. You can't download a personality. There is no way to translate the data. But the information being held in our heads is available in our databases. People leave footprints as they travel through life. Medical scans, DNA profiles, psychological evaluations, emails, recordings, video, audio, CAT scans, genetic typing, synaptic records, security cameras, test results, shopping records, talent shows, ball games, traffic tickets, restaurant bills, phone records, music lists, movie tickets, TV shows, even prescriptions for birth control.

> Analog Zoey's Father: She could have programmed those memories into you. There's a lot of detail in what was a minor event. It's possible she could have found a way to translate synaptic records into usable data. But a person is much more than just a bunch of usable data. You might be a good imitation. You might be a very good imitation. But you are just an imitation, a copy.

We agree that there must be more to Digital Myself than a synthesis of the vast quantities of digital data each of us generate, but we do not imagine that Digital Myself would achieve consciousness or in any way compete with Analog Myself. Instead, we concern ourselves with how best to capture the ever-expanding amount of digital information that exists about each of us and synthesize it into a recognizable digitized representation of ourselves. Just as the writer Jules Verne 150 years ago envisioned possibilities that have only now come into existence, we believe that Digital Myself will become a reality in the not too distant future, helping us better understand ourselves while we are alive and offering a legacy to those we love after we are gone.

Consolidating Digitized Information

Current trends in authentication and application services for medicine and education point to future success in the use of ICT to consolidate vast quantities of personal information that originate from or pertain to the individual and have been digitized and made available through 21st century technology. Sampling methods employing sophisticated computation and analysis are required to sift through sets of data that are so extensive and complex that they would overwhelm traditional data management tools.

Newly available iPhone applications allow users to track, graph, and share data about their health, diet, exercise habits, or almost any other aspect of daily life. An article in Discover Magazine reports that this new phenomenon builds on Gordon Bell's concept of "life logging" [3].

> From 1998 to 2007, Bell collected his emails and scanned documents, photographs, and even continuous audio and video recordings of his day-to-day life into a searchable online database - an attempt to create a digital record of every thought and experience he'd had for a decade.

Digital Myself takes Bell's life log and the new practice of self-tracking one step further in claiming that access to a mirrored representation of oneself will help us improve our lives in the real world.

Sampling requirements for Digital Myself include making the same measurements consistently over a meaningful duration of time, comparing like to like, and integrating multiple measures into one accessible whole. Research on speech technologies, which has led to such innovations as the cell phone, provides an analysis-by-synthesis approach with major relevance to Digital Myself, but the difficulties of synthesizing speech pale in comparison to those of synthesizing the complex evidence of an individual's digital footprint.

Authenticity and Digital Myself

Defining Authenticity

Michael Meade defines authenticity as discovering one's "own unique essence" [4]. Meade cites the African proverb: "When death finds you, may it find you alive," and further asserts,

> *Alive* means living your own damn life, not the life that your parents wanted, or the life some cultural group or political party wanted, but the life that your own soul wants to live. That's the way to evaluate whether you are an authentic person or not.

Meade sees human beings as authentic

> . . . when we're living the story we came here to live . . . [and through our stories find] "an internal authority of experience and wisdom. . . If people can figure out who they are, at their essence, then they can act out of inner authority."

We recognize authenticity in other human beings when we see them as very much their own selves. Meade reminds us that, "Everyone needs some help learning who they already are. That's the root of genuine education and the task of real culture." We suggest that the creation of Digital Myself provides a rich opportunity for us to see ourselves as others see us and work with that self to bring our own uniqueness into clarity and focus.

Challenges and Limits to Authenticity

Recent Internet innovations speak to the need humans have to believe they are represented accurately and fairly in the cyber world. Individuals whose reputations are challenged by youthful indiscretions, false accusations, or inaccurate information are willing to pay for services that promise the rehabilitation of one's digital image. http://reputation.com finds personal data about you on the Internet, prevents identify theft by preventing its sale, and removes personal data that could be "used by people and businesses to secretly assess and discriminate against you without your knowledge" [5].

There are also limits to the authenticity of Digital Myself. Individual human beings represent themselves differently according to context and audience, developing and transforming how they choose to present themselves over time. The consolidation of external representations of the self will be successful when the resulting selection of information accurately represents the diverse digital data produced by an individual across time and space.

While the achievement of authenticity in Digital Myself represents an ideal, it may also present an unbearable extreme. Only the most fearless among us can endure the fierce light of truth about ourselves or want to share the fullness of that truth with colleagues, friends, and family, whether the sharing takes place during our lifetime or following our death.

At the same time, many of us yearn for a continued social connection after we die. http://deadsoci.al offers a free service allowing people to create and schedule messages to be sent to our social networks after our death. “This allows us all to say our final goodbyes on our own terms and [provides a way] to extend our digital legacy using the social web” [6].

Reconciling external representations of self with one’s internal sense of authenticity requires the willingness to know oneself and integrate potentially painful sources of self-knowledge with more positive aspects of one’s identity and experience. Digital Myself will provide an arena in which to do this important life work.

Applying Folio Thinking to Digital Myself

The strategies of folio thinking, a term coined by Helen Chen and explicated strategically by Darren Cambridge [7], provide a concrete and practical way for individuals to reconcile representations of their external authenticity with their internal concept of self (which we refer to as internal authenticity). Folio thinking focuses on the meta-cognitive skills of 1) taking responsibility for one’s own personal development; 2) documenting and reflecting on one’s skills, strengths, and weaknesses; 3) synthesizing learning about oneself and transferring it to new contexts; and 4) interacting with peers in our chosen communities of practice. Acquiring the meta-cognitive skills of folio thinking can assist individuals with reconciling the external evidence of success and failure with their internal sense of self to share with selected others via Digital Myself.

Taking Responsibility for Personal Development

Paul Treuer and Jill Jenson [8] emphasize the need for self-regulation in the growth process of every human being. Much of our development as human beings depends upon our willingness to become “aware of behavior that can be controlled and exercising that control for learning” in each of the contexts in which we live our lives. The full benefits of Digital Myself will be obtained when Analog Myself takes responsibility for self-development and the impact of our successes and failures on ourselves and others. Taking responsibility for one’s own development paves the way for other folio thinking strategies to reconcile the ambiguities between the internal and external authenticity as we create and maintain Digital Myself.

Documenting and Reflecting on Skills, Strengths, and Weaknesses

Having taken responsibility for our own development, the next step in reconciling the differences between Digital and Analog Myself is to adopt a consistent and continuous practice of documenting and reflecting upon our skills, strengths, and weaknesses across the various contexts in which we live our lives. Donald Schön refers to this process as a continuous cycle of reflection and action [9]. John Seely Brown and Paul Duguid [10] further claim that information only becomes knowledge we situate it in a cycle of reflection and action. James Zull asserts that this cycle is hard-wired into our brains [11].

Documentation of our skills, strengths and weaknesses brings answers to questions of what, when, where, why, and how into our conscious awareness. Once we become aware of how we have developed our attributes, we are ready to reflect upon our process in developing those attributes and consider how we might apply that process to our continuing development as human beings. Reflection is not a skill that comes readily to 21st century citizens, but the benefits of reflective practice are of tremendous value in taking control of one’s own development. Kathleen Yancey [12] offers a variety of reflective practices for us to choose from. What is important is for individuals to choose modes of reflection that is most hopeful to them in navigating the gap between Analog Myself and the mirror image Digital Myself.

Synthesizing Learning and Transferring It to New Contexts

Of necessity, our lives in the 21st century lives involve a great many contexts. Each context invites us to develop a conceptual framework for information in which we notice features and patterns, organize our knowledge for deeper understanding, apply the resulting knowledge to new situations, and monitor our understanding by modifying concepts and identifying information gaps [13]. Our modern-day career

trajectories (rather than single careers) demand that we undergo this process iteratively, given that multiple careers demand continuous learning [14]. It is vital that we learn to integrate knowledge about ourselves and what we do in our various contexts in order to survive and thrive professionally and personally. Creating and maintaining Digital Myself can help us with the process.

Interacting with Peers in Communities of Practice

Our identities are formed through participation in a continually evolving series of communities of practice [15]. In fact, Brown and Duguid assert that learning to be a member of a disciplinary or professional community is as or more important than learning the content of that community [10]. We form multiple identities in the context of multiple communities, which we integrate into our career trajectories [7]. Digital Myself can play a crucial part in understanding how we are perceived in each community of practice. By seeking to reconcile internal authenticity with the external authenticity reflected by our communities, we become more able to be the people we want to be in relation to those communities.

Conclusion

In the present paper, we argue that strategies of folio thinking can be used to harmonize sources of external and internal authenticity for the process of defining and refining Digital Myself to accurately reflect the image of Analog Myself. This process offers a unique opportunity for each of us to develop a better self in the real world and leave behind a meaningful legacy after we depart.

References

1. Shoji Kajita, Janice A. Smith, and Michiaki Omura in (2011) *Digital Myself: A Mirror Image Model of Identity and Its Implementation Through a Second Culture*, The 9th international ePortfolio & Identity Conference (ePIC), 11-13 July 2011, London, UK, http://2011.epforum.eu//programme/abstracts2011.pdf/
2. SyFy Channel in (2010) *Caprica Pilot Episode*, http://www.syfy.com/caprica
3. Kate Greene in (2011) *Our Data, Ourselves*, Discover Magazine, December 2011. http://discovermagazine.com/2011/dec/16-our-data-ourselves
4. John Malkin in (2011) *Your Own Damn Life: Michael Meade on the Story We're Born With*, The Sun, November 2011. http://www.thesunmagazine.org/_media/article/pdf/431_Malkin.pdf
5. http://reputation.com
6. http://deadsoci.al
7. Darren Cambridge in (2008) *Introduction to Folio Thinking*, portfolio training materials developed by rSmart
8. Paul Treuer and Jill Jenson in (2012) *Developing ePortfolio Literacy for Lifelong Learners*, AAC&U Annual Conference, Washington, D.C., http://www.aacu.org/meetings/annualmeeting/AM12/documents/treuerAACU2012.pdf
9. Donald A. Schön in (1983) The Reflective Practitioner: How Professionals Think in Action, Basic Books. Inc., USA
10. John Seely Brown and Paul Duguid in (2002) The Social Life of Information, Harvard Business School Publishing Corporation
11. James E. Zull in (2002) The Art of Changing the Brain: Enriching the Practice of Teaching by Exploring the Biology of Learning, Stylus Publishing, Sterling, Virginia
12. Kathleen Blake Yancey in (1998) Reflection in the Writing Classroom, Utah State University Press, Logan, Utah
13. National Research Council in (2000) How People Learn: Brain, Mind, Experience and School, National Academies Press
14. Helen Chen, Stanford Center for Innovation in Learning
15. Etienne Wenger in (1998) Communities of Practice; Learning, Meaning, and Identity, Cambridge University Press, Cambridge, UK

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Integrative Knowledge Eportfolio - Building Teachers' Professional Identity

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The presentation describes preliminary findings stemming from the Integrative Knowledge Eportfolios (IKEs) project in a Teacher Education program. The reflective stance that IKE requires is at the root of a *New Genre* which provides learners with a new way to document their intellectual journey, resulting in a new sense of themselves as learners and teachers, a new professional identity.

Backgound

Eportfolios have become commonplace in teacher education. Often, teacher candidates' eportfolios are used as a competency assessment tool (i.e., collection of assignments). However, there has been an urgent call to move beyond how-to thinking and form educators that are not as much *knowledge holders* as they are *knowledge makers,* reflective on their development and the ways in which they teach, and thus, more effective. Many teacher education programs have adopted eportfolios as a tool for reflection.

Teachers' reflective practices are frequently framed within a cognitive, critical and/or personalist/narrative approach that encourage educators to 1) consider different educational/ developmental theories so as to look at practice from different angles, 2) think critically about the social and political aspects of education in general, or 3) reflect on their own practice to become more aware of their own identity, beliefs and professional growth, respectively. Additionally, different cognitive activities are involved in critical reflective process from simpler Recollection and Analysis to more sophisticated Critical Processing.

Novice teachers' reflective narratives are primarily focused on Recollection and Analysis; more in-depth Critical Processing is less common. It is difficult for new professionals to engage in Critical Processing due to lack of sustained experience with content and process knowledge. In other words, it is difficult to reflect critically on what does not know well. Yet, it is important to find tools to better model for novice educators how to take a thorough reflective stance that goes beyond mere recollection and results in critical thinking and, potentially, effective transformation.

Objectives

IKEs are not depositories of previously completed work. Rather, the IKE framework is intended to support learners in taking a critical stance on key learning experiences as they discover their 1) values/beliefs 2) core capacities/areas of challenge, 3) guiding concepts that inform their work, and 4) connection to valued networks and communities. As such, IKE thinking becomes a genre: a set of practices to present oneself and one's skills, qualities, achievements (Hughes, 2011).

This study was conducted in a graduate Teacher Education program at a US university. IKEs were introduced during student teaching seminars. Students were supported in the crafting of the different components of their individual IKEs: Welcome Page, Goals, Philosophical Statement, and Work Showcase. This study focuses on the processes that supported the crafting of IKEs. More specifically, we look at the scaffolds provided for students to compose Critical Reflective Narratives, the central component of IKEs.

Data come from 1) students' IKE samples, and 2) thirty exit-interview video excerpts from the Fall, Winter, Spring seminar.

The emergent results from ongoing data analysis indicate that:

- Students experienced IKE thinking and building as a different and new kind of learning and thinking tool to reflect on their work and knowledge, different from their previous reflective learning engagements, a new genre they needed to *apprehend*.
- Students experienced the IKE model--different from their preconceived notions of eportfolios as depositories of assignments) as "very revealing", a tool that gave them "a new way of looking at and portraying" themselves as teachers and people in connection to their profession and other social networks, a mechanism to chart and thus better understand their intellectual journeys and professional persona.
- The affordances of the medium (multimedia) empowered students to present their work and ideas in ways that they felt were much more representative of their knowledge than any other kind of assessments they had experienced during their previous coursework.

- The particular genre structure of the reflective narratives, with specific set of components and style, proved to be a very strong scaffold to move students beyond recollection and analysis of their experiences—typical of novice teachers—and engage them in critical processing.

Conclusions

IKEs have tremendous potential as a tool of learning and identity building for educators. IKE processes and genre seem to be effective in supporting students' use of eportfolios as true tools of critical reflection, metacognition and, thus, professional identity development.

Gender-Specific ePortfolio Practice and Gender-Sensitive ePortfolio Design

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Abstract

Until recently, research on ePortfolio has paid little attention to the role of gender in perceptions and uses of ePortfolio. In view of a growing body of research indicating differences in ICT interest, access, competencies and use among men and women, it appears important to investigate how expectations, needs and use patterns of male and female users can be taken into consideration when designing and guiding ePortfolios practice in educational settings. This paper specifically explores ePortfolio practice of female students in higher education, taking into account research and literature related to gender differences in ICT adoption and Internet use. The research presented in this paper is based on the exploratory case study inquiry into subjective re-/construction ePortfolio experience and gender-based analysis of data with the aim of examining ePortfolio practice of female students within real-life context of course-based ePortfolio in higher education. The paper addresses the following questions: What do female students expect from and value in creating and using ePortfolios? How do female students choose to work with ePortfolios? How to design and support gender-sensitive ePortfolio practice taking into consideration preferences, needs and use styles of female students? Insights from this qualitative, exploratory case study research point towards relations between personal experiences in technology use, subjective perceptions of own technical aptitudes and styles in ePortfolio use. In examining gender-specific ePortfolio practice, the paper argues for further work on gender-based analysis of ePortfolio use and gender-sensitive design of ePortfolios in diverse educational settings.

Keywords: ePortfolio, gender, higher education, gender-based analysis, case study, exploratory inquiry

Introduction

Gender differences in learning and use of digital media have been recognised as an important focus for research (McSporran & Young, 2001; Taylor, 2004; Nsibirano, 2009). In view of numerous studies pointing to gender differences in access and use of ICT, including the use of ICT for learning, it becomes important to explore gender-specific ePortfolio practice. Gender-related differences reported in research on gender and ICT encompass a broad range of aspects, such as access to ICT, interest in ICT and ICT competencies, frequency and intensity of use, different types of ICT-supported activities, access to ICT training, differences in computer-mediated communication, different perceptions of information security and online privacy, different presentations of the self on digital media and different ways of constructing online identities (Hafkin & Taggart, 2001; Stockdale & Stoney, 2007).

Understanding gender differences in ICT use has not yet been sufficiently reflected and researched in relation to ePortfolio practice. Only a handful of studies consider the role of gender, for example research on ePortfolios for women returning to employment, emphasising gender as a significant aspect in ePortfolio design (Herman & Kirkup, 2008). The purpose of this paper is to contribute towards a better understanding of gender-specific ePortfolio practice and gender-sensitive ePortfolio design, linking contextual analysis of ePortfolio use to individual perceptions of own skills, aptitudes and personal experiences, especially in relation to biographical uses of technology. The paper addresses the following research questions: *What do female students expect from and value in creating and using ePortfolios? How do female students choose to work with ePortfolios? How to design and support gender-sensitive ePortfolio practice taking into consideration preferences, needs and use styles of female students?*

The research presented in this paper is based on the exploratory case study inquiry into subjective re-/construction ePortfolio experience and gender-based analysis of data with the aim of examining ePortfolio practice of female students within real-life context of course-based ePortfolio in higher education. This approach is closely related to the post-structuralist, post-modern perspective to feminist research emphasising gendered construction of meaning in context and incorporating interpretation and subjectivity into research (Brooks & Hesse-Biber, 2007).

Gender and Internet

Much of the research considering gender issues in ICT is framed within a positivist philosophy and uses a dichotomising approach to examining gender. For example, a growing body of research provides an insight into how women and men differ in their uses of ICT. Research on technology adoption suggests that females lag behind males in adopting new technologies and are also more likely to perceive difficulties in

using technologies (Venkatesh, et al., 2000). Research related to gender differences in Internet access and use indicates that men more often than women tend to be interested in technology (Fallows, 2005). There is also research indicating gender imbalance between male and female ICT professionals (Holmes, 1998). These gender disparities are often linked to different media biographies, gendered ICT practice emerging already in schools, socioeconomic status, including education, income, and employment. These and other gender inequalities related to access and use of ICT, especially the Internet, have been termed as "digital gender divide" (Bimber, 2000; Shaw & Gran, 2002; Simerska & Fialova, 2004; Nsibirano, 2009; Broos, 2011). Digital gender divide has been reported to be especially wide in developing countries, where the use of the Internet is still limited to a mostly male, urban population (Hafkin & Taggart, 2001; Nsibirano, 2009).

With male students outnumbering female students in mathematics, technology, engineering and science, there have been a number of national initiatives worldwide attempting to close the ICT-related gender gap, e.g. Science, Technology, Engineering and Mathematics (STEM) in UK or Mathematics, Informatics, Natural Sciences and Technology (MINT) programs in Germany. The report by GWK (2011) documents the slow uptake of female students in technology and science in Germany and pledges for*"fixing the organisation"* rather than *„fixing the woman"*. Further research shows that it is not only computer classrooms that tend to be dominated by male students, but also new forms of participation, such as user-driven generation of content in web-based media, e.g. Wikipedia, which may be dominated by male users (Spender, 1995; Cohen, 2011). A number of other quantitative studies have analysed gender differences related to the use of social media, indicating the dominance of male users in such media as YouTube, LinkedIn or Google+, and at the same time pointing to the dominance of female users in such media as Facebook, Twitter or Pinterest (Google, 2012). A comparison of statistical data from studies on ICT and gender conducted in the last ten years shows that in general the digital gender divide has been diminishing, mainly due to the female uptake of social media. Tufekci (2008) explored the rapid adoption of online networking sites and showed that female users are more likely to participate in some social networks such as Facebook or Twitter. Other studies also confirm this worldwide trend. The study of Facebook users in the USA in 2010 showed that that 61% of Facebook users were women (Watkins & Lee, 2010). More recently, the Nielsen Report 2011 found that women are more likely to represent themselves as digital personas (Nielsen, 2011). Similarly, research conducted by Sensis (2011) in Australia showed that females are more likely than males to use social networking sites and are much more likely to be frequent users, with females taking over on Facebook in terms of frequency of use and the number of friends. A similar situation can be observed in Europe. The national statistics in UK shows that access to the Internet has become well balanced between genders with 86% of men compared with 82% of women Internet users (ONS, 2012). Also in Germany women are catching up with 70.5% female compared to 81% male Internet users in 2012. The ComScore 2011 report took a global look at the Internet use and showed that women have become a digital global mainstream shaping the Internet today, with social networking sites reaching more women (75.8% in 2010) than men (69.7% in 2010) (Abraham, et al., 2011). From this perspective, social media has been considered as an agent of social change, enhancing women's adoption of the Internet (Abraham, et al., 2011).

In view of this abundant quantitative data, relatively little is known yet, how men and women perceive and use these latest technologies in real-life and whether male and female perspectives and practices differ. Similarly, little is know how male and female students are different and/or similar in viewing the value of ePortfolios and how they approach ePortfolios practice. In order to gain more in-depth insights into the use of ICT, including tools and technologies used for creating and using ePortfolios, more qualitative and context-based approaches to research are necessary to supplement what is already known at the statistical, macro-level. The post-structuralist, feminist approach to research as described in this paper, examines the relation between gender and technology based on the subjective construction of personal experiences and situated perspectives by means of in-depth interviews as part of case study inquiry (Brooks & Hesse-Biber, 2007). This approach poses a shift away from the objective observations at the macro-level towards gaining insight into personal, contextualised accounts of subjective experience at the micro-level.

Gender and Digital Practice

Beyond the issue of Internet access and uptake, a number of studies have looked into *how* women and men use digital media, addressing gender-specific use. Based on some of the key research results in this area, six *digital practice styles* have been worked out by the author of this paper to provide conceptual basis for the case study inquiry on ePortfolio practice. The digital practice styles express gender-specific preferences and ICT uses reported in research in this area. The six styles can be considered as poles on the continuums of three dimensions. These six digital practice styles, together with three risks of ePortfolio use described in the section below, have been applied in the case study inquiry presented in this paper to explore how female students use digital media to create ePortfolios.

Expressive and instrumental media practice (appropriation)

The expressive-instrumental spectrum of media practice relates to preferences in appropriation of media. Tufekci (2008) proposes to differentiate between "expressive practice" (e.g. social interaction, self-expression, communication, content-creation) and "instrumental practice" (e.g. online purchasing, looking for information, searching for news) in Internet use. While preferences for self-expression and self-reflection have been associated with “female” styles of digital practice, using digital media instrumentally to solve problems or take decisions tends to be viewed as “male” practice (ComScore 2011). The current uptake of females users on the social media site Pinterest (68.2% female users in 2012) has been interpreted as a result of a stronger female inclination towards expressive practice (Erickson, 2012). Studies exploring gender-specific motivations driving the Internet use show that men and women use social media, e.g. Twitter, for different activities, i.e. women tend to use Twitter to engage in conversations, while men tend to use Twitter to get informed (Abraham, et al., 2011). Thus it can be hypothesised that male and female digital practice may differer, with female style being more *expressive* (valuing self-expression and self-reflection) and male style being more *instrumental* (valuing problem-solving and decision-making).

Intensive and extensive media practice (communication)

The intensive-extensive spectrum of media practice relates to preferences in communication with others. While preferences for an intensive, deeper communication with a close circle of family and friends have been viewed as “female”, communicating with a broader range of person and looking for information on a wider variety of topics tend to be viewed as “male” digital practice. This distinction can be found in a number of research studies. For example, the PEW Internet Study in Northern America points to gender-specific patterns in Internet use: While men tend to embrace more new technologies and use the Internet more widely, e.g. use search engines more often to explore a wider range of topics, women frame their online experience with a greater emphasis on nurturing relationships and pursuing personal interests, e.g. use the web to share experiences, get support and directions (Fallows, 2005). Further research shows that female users tend to use the Internet to communicate with family and friends in order to socialise and foster relations (Taylor, 2004). Thus it can be hypothesised that male and female digital practice may differer, with the male style being more *extensive* (valuing broader, horizontal experience), and female style being more *intensive* (valuing deeper, vertical experience).

Overt and covert media practice (exposure)

The overt-covert spectrum of media practice relates to preferences in exposure on the media. While preferences for communication in a protected environment and concerns about security tend to be associated with a “female” practice, communicating in public and self-exposure tend to be viewed as a “male” practice. Studies show that women appear generally more concerned about online risks and privacy than men (Fallows, 2005; Broos, 2011). Female users tend to display information privacy protection behaviour and reflect more about ethical issues, such as software piracy, copyright issues, child pornography, computer viruses and computer hacking (Fallows, 2005; Broos, 2011). Women tend to fear more about other people misusing their personal data (Fallows, 2005; Peslak, 2008). Other studies indicate male dominance in more expository uses of the Internet, such as public blogging or sharing videos on YouTube. Yang et al. (2010) and Vedantham (2011) found significant gender differences in the use of YouTube, with male users being more likely to create and edit online videos. Fallon et al (2011) explored political participation in Internet and found out that activities such as political blogging are largely skewed towards men, probably due to the public exposure and possible conflicts, which female users tend to avoid. Thus it can be hypothesised that male and female digital practice may differer, with the female style being more *covert* (valuing restricted access and privacy) and male style being more *overt* (valuing exposure and publicity).

Gender and ePortfolio

In analogy to gender-specific ICT and Internet practice, it seems plausible to inquire about male and female perceptions and uses of ePortfolios. Numerous researchers and educational practitioners have explored the value and potential of ePortfolios for planning, documenting and reflecting learning. Some authors also pointed towards the risks of using ePortfolio. For example, Reinmann & Sippel (2009) discussed ePortfolio risks in higher education, linking problematic ePortfolio practices in context of research-based learning and arguing that the assessment of ePortfolios by lecturers and peers may lead to exaggerated compliance with rules, self-reflection and actionism. Research-based learning is a concept referring to a variety of educational strategies linking research, teaching and learning, and focusing on engaging students in learning by participating in the research process, e.g. designing and conducting own research projects (Euler, 2003). The three main of risks of ePortfolio use proposed by Reinmann & Sippel (2009) are over-

conforming, over-reflecting and over-acting. Reinmann & Sippel (2009) do not consider possible gender-specific differences related to these three risks in their publication, however, given a number of parallels to the research on gender and ICT, it seems plausible to explore tendencies of male and female students of ePortfolio use. Combined with the three dimensions of digital practice described in the previous section, these three risks have been used in the case study inquiry to explore how female students create and use ePortfolios.

Over-conforming

Over-conforming can be viewed as a pattern of ePortfolio use which is related to strong compliance with specifications and assessment criteria established externally, e.g. by a course lecturer. Over-conforming means taking on a “strategic approach”, i.e. adhering to guidelines and requirements pre-defined by other, at the same time neglecting personal criteria and judgments. Over-conformity may take a form of excessive compliance to gain reward to avoid punishment or a form of identification with a person or a group. In both cases students do not choose to act in an intrinsically satisfying way, but adopt certain strategies or behaviours to adjust to the group and conform with external norms. Over-conformity to external norms and values often leads to distortions of perception and judgement, which may impede creativity and personally meaningful practice. Over-conforming in ePortfolio practice may lead to doing just what is required, without critically questioning or reflecting these requirements. In fact, a number of studies explored gender differences related to conformity. For example, Maslach et at. (1987) links these differences to socially constructed gender roles, with male role being more independent and assertive, leading males to conform less, and female roles being directed towards establishing and maintaining harmony and interpersonal bonds, leading females to conform more. Over-conforming may be related to the *intensive digital practice* as described above.

Over-reflecting

Over-reflecting can be viewed as a pattern of ePortfolio use which is related to the exaggerated reflective endeavour directed towards self-analysis and self-reflection. A number of research studies indicated that women more than men are inclined to be overly self-analytical, i.e. over-think. For example, Nolen-Hoeksema (2004), observed that women may be more prone to over-think due to their gender-specific role, in which they are expected to be sensitive to others and solve conflicts without offending anyone. This may lead to examining oneself or own situation in-depth. In relation to ePortfolio practice, over-reflection may lead to exaggerated examination of the learning experience, and in consequence to neglecting the reflection of the subject-matter. Over-reflection in ePortfolio practice may be also observed when students invest more effort in creating their digital profiles or describing their biographies, drifting away from the thematic focus or course-related goals related. Over-reflecting may be related to the *expressive* and *covert digital practice* as described in above.

Over-acting

Over-acting can be viewed as a pattern of ePortfolio use which is related the excessive hoarding of artefacts. Over-acting means collecting large numbers of artefacts as evidence of own expertise, at the same time failing to meaningfully select from these artefacts, relating the artefacts to learning goals. Over-acting may be related to the traditional male role, in which men are expected to display the evidence of their actions and frame their communication in terms of achievements to gain a certain level of power and status in the social hierarchy (Ickes, 1993). Over-acting may hinder reflection and in-depth learning since students are engaged in collecting large amount of data, possibly suffering under information overload. Over-acting may be also a strategy related to avoiding making mistakes, i.e. students assume that hoarding many artefacts provides a good evidence of their work and helps camouflage some competency deficits. Over-acting may be related to *instrumental* and *overt practice*.

Context and Method of Study

Based on the gender-related styles of digital practice as described in the two previous sections, the study presented in this paper explores whether female students display a tendency towards these particular styles of digital practice related to course-based ePortfolio use. The exploration of gender-specific perceptions and uses of ePortfolio was embedded within the case study methodology, integrating in-depth interviews based on the post-structuralist, post-modern feminist research, which emphasises the creation of meaning in context (Brooks & Hesse-Biber, 2007).

The study was conducted at Beuth University of Applied Sciences in Berlin as part of the course-based ePortfolio practice in the course "Mobile Web and Society" (AW600), in which students created and maintained their ePortfolios in Mahara to document and reflect their research projects conducted in small

teams. For the purpose of the study, five female students were chosen randomly to participate in in-depth interviews towards the end of summer semester 2012 to provide insight into the process and the outcomes of their research-based projects as part of the course work.

The study encompassed case study observations and semi-structured interviews aiming at the reconstruction of ePortfolio perceptions and practice. The questions used in the interviews related to the styles of digital practice were structured into eight thematic groups. The cooperative interview style allowed adjusting the flow of the interview to individual student perceptions and uses of ePortfolio. The questions used in interviews related to digital practice styles and biographical media experience. These questions were used as staring points for the inquiry of ePortfolio practice:

ePortfolio experience:

- How much experience did you have in working with ePortfolios prior to the course?
- How much experience did you have in using digital media prior to the course?

ePortfolio media use:

- How did you use digital media in the course to create your ePortfolio?
- How difficult was it for you to use digital media? How did you solve problems?

ePortfolio specifications:

- How did you use the specifications related to working with ePortfolios? What was helpful?
- How closely did you follow the specifications related to ePortfolio use in the course?

ePortfolio artefacts:

- How did you choose, collect, select and present the artefacts in your ePortfolio?
- What type of artefacts did you collect and present in your ePortfolio?

ePortfolio reflections:

- How did you approach the reflection part in your ePortfolio? What did you reflected upon?
- How did you feel about reflecting in your ePortfolio? Was reflection helpful and why?

ePortfolio communication:

- How did you communicate with peers in Mahara? Was communication with peers helpful?
- How did communication (sharing, feedbacks) in Mahara influence your work on ePortfolio?

ePortfolio privacy:

- How did you feel about making some parts of the ePortfolio visible to peers and to the public?
- How do you prefer working with ePortfolios in terms of privacy and publicity?

ePortfolio value:

- How do you view the value of ePortfolio for learning, especially research-based learning?
- How do view the value of ePortfolio as learning assessment method?

Answers to these questions were analysed as part of the case study inquiry. The case study inquiry included three different sources of evidence, i.e. (1) documentation of learning processes and outcomes in Mahara, (2) contextual observation of student practice within the course, (3) data gained through in-depth interviews encompassing the different digital practice styles and biographical data.

ePortfolio Case Studies

This section presents two exemplary case studies describing ePortfolio practice of two female students. These case study are based on students' insight into the eight thematic fields addressed during the in-depth interviews, documentation of learning in Mahara and contextual observation of student practice in the course. The two case studies have been chosen to illustrate different digital practice styles of female students. The reports have been paraphrased as self-narratives to reflect subjective perspectives of the three female students. The narrative method in constructing case study reports has been applied in a number of studies (Yin, 2008). The names used below are pseudonyms.

Case study "Ella"

I am a 29 year old bachelor student of Media and Computing in my 6th semester.

ePortfolio experience: I did not have any experience with ePortfolio or Web 2.0 before the course. Before I only used Facebook and Google+. In the course, I started exploring what ePortfolio and Mahara were about. My first association was that ePortfolio was something I could use for my career, something like a CV. I was surprised to find out that ePortfolios can be used for documenting learning, projects and group work. I have been always fascinated by new technologies. I grew up with the Internet. My interest for technology started with my A-levels. I took information technology as my first major and discovered that it was absolutely my thing! I soon realised that I was talented but I also wanted to do something creative, something like digital art. So I decided for art as my second major.

ePortfolio media use: Already at school I was the only female student in my computer class but I soon noticed that my performance was much better than that of male students. I was better especially in design, but also in inquiry, structuring and producing content. While male students focused more on programming and on the functional level, I investigated topics in-depth and was more interested content and design. I have noticed the same difference at the university. I tend to focus more on what users need and on the design, while male students focus on functions and programming features. They first want to solve a problem on the functional level and if they have some spare time they do the design. Female programmes work the other way round. They integrate design, content and functional aspects. I also used these skills in my ePortfolio. I could quickly learn how to work with Mahara and other new tools like blogs. I enjoyed doing this, especially creating content on my own. Based on my experience in the course and working in the team with male students, I can say that male students don't produce much content, they don't collect many artefacts. They wait what the others do. They react instead of acting. So, in our group I decided to take over work on ePortfolio content and design.

ePortfolio specifications: What I enjoyed in ePortfolio work was to have complete freedom. I like to take full responsibility for my learning. I like it best when I can decide what I want to learn. I enjoyed freedom to do my own research and to decide about the focus of the study. I always want to fight for my own grade and I do not like to be limited by specifications. If I have too many specs, where I cannot decide about anything, I do not learn anything. So I really liked the freedom to decide about the design, topics, content and organisation of my learning. Some guidelines were helpful though. For example it was good to know about possible topics for the research project and to have a general time frame with milestones. I also appreciated that we had to work with Mahara in the course. I think today we all have to learn how to use such tools for our learning and work. It was very, very important for me to comply with course specifications. I want to get good grades, and I think it is not only me. I think all students think this way. If the lecturer says something has to be done in this way, I follow the instructions. I think this way of thinking starts already at school. The specifications about Mahara and topics for research were interesting and they gave me a chance to do my own research. I have a feeling I researched a lot and found things about which I have never heard before. I really learned a lot.

ePortfolio artefacts: This is what I find great about ePortfolio - I can first collect everything in my ePortfolio and don't have to worry about selecting. I can first collect and aggregate all I can find on a given topic and then select and filter what I find most useful. In my work with ePortfolio I first collected everything I found related to the topic and then selected most valuable artefacts. The choice of artefacts to be presented in the Mahara view, were decided by the group. We met face-to-face, discussed and took decisions collectively about which artefacts best fit to our project idea. In my work with ePortfolio I first collected as much as I could to understand the topic but later it was more important for me to focus on a selected aspect and explore it in more depth. I like to inquire in-depth rather than include a little bit of everything. If you cover too many aspects you don't learn much!

ePortfolio reflections: I don't think that reflecting is important for learning. I would not like to have to reflect in the process of research-based learning, I think it is good to reflect at the end of the course, but during the semester I would not have time to reflect. I think it is better to have discussions rather than ask students to write their individual reflections in ePortfolios. When it comes to reflection I find it important to reflect on my own learning goals. I would not like to reflect on the group process. I am always a bit afraid how the others react if I criticise something. I have already experienced an unpleasant situation in my studies, because I criticised someone. Students know they should not criticise one another. Reflection about the team is difficult. Nobody wants to say anything negative.

ePortfolio communication: I liked to work with others, but the whole environment was new to me so I did not use many communication and sharing functionalities at the beginning. Later I only used them in my team. It was good to communicate in Mahara forum about the progress of group work. I also communicated with some other students from the course but it was not much. We could probably do more, for example help each other, share links and resources. I think the cooperation functionalities in Mahara have been used too little and I wished there was more conversation going on. I think students should

support each other and I also think it is good, when the lecturer is part of the Mahara forum. In this way the level of conversation is better, but also maybe that is why not so many students use it.

ePortfolio privacy: I did not like creating the imprint with my name, address and e-mail for my public Mahara view. My insight from working with ePortfolios this semester is that I can present myself better online and I can show what I can. I prefer open work with ePortfolio and I like making things visible to public. I think that making things public adds value to my work. Things that I do at the university normally remain unseen and when I work with ePortfolio I can show what I have done and what I have learnt. I can control it and I can influence it. I like using the Mahara view as a starting point from which people can explore my other profiles and websites. Publishing on the Internet influenced my work. I think this made me work more and better. I wanted to present our group work in the best way as I knew other students and people on the Internet can view it. It motivated me to work better. I felt if it is public, I have to present myself better, because others, even potential employers can read it. In this way I could design my online identity much better. Now when I google myself I can see the Mahara view on the top of search results. This definitely improved my digital identity. The best part of it was that I got an internship at a company which was looking for people with social media skills. They saw my Mahara view!

ePortfolio value: With ePortfolio I could learn faster and more effectively. I could see my own learning process because I documented all steps. I could always start where I stopped last time. I could read my own thoughts and modify things. I have a feeling I've learned faster and better. My ePortfolio also helped me organise my learning and work in the group. I could set my own agenda and organise materials. I could also communicate with others without having to meet everyone in the group all the time. I could present myself, what I learnt and my competencies and I got an internship. I can always come back to my view and I can use the content I produced even after the course is finished.

Case study "Leila"

I am a 22 year old bachelor student of Mathematics in my 1st semester.

ePortfolio experience: I did not have any experience with digital media before. I only used Power Point to present my ideas, or I linked to YouTube videos. I have never worked with blogs, wikis or ePortfolios. In general I like digital tools and media. I think they make work more interesting and I can present things better. I can show what I have done. I want to improve my computer skills in my study.

ePortfolio media use: At the beginning it was hard for me to start working with Mahara. I got much support from my group on Mahara and now I can work with Mahara pretty well. On the first day I spent the whole evening trying to understand Mahara. I think if I had spent three evenings more then I would know how Mahara works without the help from others. In our group, we first met at the university and talked about the topics for our research and who will take responsibility for what. One person created a Mahara view. We also used Facebook to communicate. I think Mahara is good to present the process of group work, we could show how we worked in the group and what the steps were. But at the moment I cannot imagine how I could use it in the future.

ePortfolio specifications: I wish there were more specifications on how to use Mahara and create views. I wish there were more specifications on designing ePortfolios. Specifications are very useful to plan own work. My intention was to comply with the requirements and guidelines. Also the aim in our group was to comply with the specifications. I think we had enough freedom to decide about the design. We could take our own decisions. But I think too much freedom is not good. I need guidelines to know if I go in the right direction.

ePortfolio artefacts: I collected many artefacts and searched for many resources on the Internet together with other group members. I collected some artefacts like photos and graphics to present what I learned, but I don't think they were particularly many artefacts.

ePortfolio reflection: I like the idea of reflection in ePortfolio because in this way I know how it was before and how it is now, what I knew at the beginning of the course and what I know now. I liked to reflect on my own learning goals. Group work will be definitely the part of my reflection. I will include the reflection on how we worked together in the team in my final reflection.

ePortfolio communication: We worked really well in the group. We divided tasks and helped each other. Everyone was asking permanently what the next steps were and we were communicating on Facebook every day. Making Mahara views visible to the public was not so important to us, because it was important to us to focus on our work. If I worked alone I would have many concerns about the quality of my work, but because we worked together and everyone was reading and editing I could trust the quality of what we

created. Also, I would like to get more feedback from instructors and peers because they have different perspectives and this would help with my work.

ePortfolio privacy: I did not have any concerns about privacy. We put our names to it and we have nothing to be ashamed of. We did good work in the team and we can show to the public. I think ePortfolios can be sometimes private and sometimes public. Private will be good to get feedback from the group and from the lecturer. Public is good to present what we have done.

ePortfolio value: I think ePortfolio was better than a final test. I could work in my own pace and in this way in better quality. I had no remorse like I have when I take an exam and I think I could have done more or I was not able to deliver at a particular point in time. With ePortfolio I know that I had time and peace of mind to show what I have done and what I have learned.

Case Study Analysis and Discussion

While gender-based analyses of exploratory case studies cannot usually be generalised to a wider population, the results of such subjectivist research can point to areas and issues that need further investigation. The analysis of the five case studies within the study allowed to identify some of the preferences and needs for ePortfolio practice of female students. The two case studies described in the section before have been chosen to contrast different perceptions and preferences related to ePortfolio practice and relate them to the different styles of digital media practice.

The differences and similarities in digital practices of female students are discussed below:

ePortfolio experience and using technology: All interviewed female students had no prior experience with ePortfolio and also little experience in productive or creative uses of digital media, such as blogging, creating online videos or other digital content. The two case studies presented above illustrate that female students perceive themselves as skilled in using technology. All female students participating in the study experienced initial hurdles of working with the new system (Mahara), but eventually managed to overcome these hurdles. As the case study "Ella" show, some female students may be very enthusiastic about using new technologies and are eager to learn using a new system like Mahara on their own, sometimes by trial and error, also taking responsibility for the technical administration for the whole team. There are also female students, as the case study "Leila" shows, who tend to rely on the help from other students in handling a new system like Mahara, but they also trust their skills in mastering technology on their own, provided they are given enough time.

ePortfolio media use: The insights into media use reveal that female students focus strongly on the design aspect of ePortfolio practice. It may be that female students tend to pay more attention to the content and the visual side of ePortfolios. As the case study "Ella" shows, there may be female students who enjoy the design side more than technical side of a system. The study "Leila" shows that female students may prefer to display pictures and graphics as artefacts in their ePortfolios. The analysis of documentations in Mahara related to all female students included in the study points towards the tendency of female students to pay attention to the visual effect of their ePortfolios, including appealing design, layout and visual artefacts. These preferences may be related to the *expressive digital practice* as opposed to instrumental practice. Based on the sample of students in the course, it seems that ePortfolios created by male students tend to be text based.

ePortfolio specifications: All female students who participated in the study, reported that complying with the external ePortfolio specifications established by the lecturer was important to them. As the case studies "Ella" and "Leila" show, female students considered specifications useful for guiding their ePortfolio practice. At the same time, the two students appreciated certain degrees of freedom, especially in relation to ePortfolio design. Two students expressed a strong need for specifications to help them with ePortfolio practice. This finding however cannot be interpreted as a female tendency to *over-comply,* which could be related to socially constructed female roles. Based on the data from all case studies, it seems that compliance with rules is rather related to typical educational roles and patterns to which both male and female students are exposed to already at school. Especially, as the case of "Leila", a first year student, may indicate the importance of specifications and a stronger preference for compliance for students, who just left the secondary education system.

ePortfolio artefacts: At the onset of the study it was expected that female students would not report collecting and hoarding many artefacts in their ePortfolios. In fact, only one student in the study reported collecting a larger number of artefacts, from which specific artefacts were chosen to be displayed in Mahara views. An *over-acting* strategy was not reported by other female students. In interviews, female students were not so much concerned about how many artefacts they collected but rather about how they displayed

them. This could, on one hand, support the hypothesis that female user do not tend to hoard large numbers of artefacts. On the other hand, hoarding or not hoarding larger numbers of artefacts can be related to how ePortfolio practice is designed and what is expected from students. It can be that lecturer specifications or group behaviour contribute to over-acting more that gender roles. This aspect, however, should be explored in further studies of ePortfolio uses.

ePortfolio reflection: All female students who participated in the study, reported on the perceived value of reflecting about own learning goals, especially at the onset of the course. There are individual differences related to reflection of female students, however, as the comparison of case studies "Ella" and "Leila" demonstrates. While "Ella" prefers not to reflect on group work manly due to fears of negative consequences of criticising others, "Leila" is eager to write a reflection on group work which may be linked to her satisfaction of how the group conducted work and supported her in learning to handle Mahara. Based on these reported preferences and on the analysis of reflections in Mahara, a tendency of female students towards *over-reflection* could not be observed. In fact, none of the female students who participated in the study produced longer, more frequent or more in-depth reflections compared to male students. Differences in reflection, however, should be explored further in relation to different course designs and based on more in-depth analysis of reflection texts and artefacts.

ePortfolio communication: All female students who participated in the study, reported on the perceived high value of communication with other course participants as an important part of learning in the course and specifically group work based on ePortfolio, including getting support and feedback from other course and team members. This finding seems to be in line with research demonstrating female preference for communication and cooperation, which may indicate a tendency towards *intensive media practice valuing personal relationships*. Further studies should explore related communicative preferences as part of ePortfolio practice. As both case studies "Ella" and "Leila" show, communication with other students was crucial to personal satisfaction with the course in general and team work. "Ella" wished for more conversation and sharing of resources among students. For "Leila" cooperation with other students was helpful to gain confidence in ePortfolio work.

ePortfolio privacy: Based on the results of research from other studies, it was expected at the onset of the study, that female students would have significant privacy concerns and would tend to refrain from publishing their personal details in Mahara views to avoid public exposure. Conform with this expectation, all interviewed female students reported no difficulties in publishing their ePortfolio views online, provided that no private or personal information is revealed and viewable by others. As the case studies "Ella" and "Leila" show, the two students indicated a strong need for protection of their private sphere. This may to some extent indicate a tendency towards a *covert style valuing privacy* of female students. However, this concern may be more typical of students in Germany, who seem to be more cautious about data privacy on the web compared to their peers in other countries. The course "Mobile Web and Society" was part of the international collaboration - iCollaborate- with parter universities in UK, New Zealand and Spain. It is in this context, that differences in perceived risks of publishing online were observed in relation to cultural background rather than gender.

ePortfolio value: The value of ePortfolio practice was considered to explore the perceptions of female students towards creating and maintaining own ePortfolios. All female students who participated in the study reported on having recognised the value in ePortfolio, especially in relation to such aspects as supporting own learning process, opportunities to present what one has learned and to present oneself online, but also in relation to more instrumental aspects such as finding an internship or finding a method for organising the process of writing a bachelor thesis. Based on this insight, both *expressive* and *instrumental* uses of ePortfolio were reported by female students. None of these two styles could be observed as being more pronounced than the other. It seems that regardless of gender differences, students in educational settings may in general show an instrumental tendency related to assessment and grading. Nevertheless, the expressive vs. instrumental digital practice related to ePortfolio practice of female and male students should be explored in more detail in further studies.

To sum up, it seems that female students may be inclined towards paying attention to the design of ePortfolio, complying with ePortfolio specifications, being concerned more with appealing ways to display artefacts rather than collecting larger numbers of artefacts in ePortfolios, valuing reflection on own learning goals, favouring intensive communication with other students as part of ePortfolio work, being cautious about publishing personal details online and valuing both expressive and instrumental opportunities of ePortfolio practice. Based on the case study inquiry there is some evidence supporting the hypothesis that female students may exhibit a rather expressive and covert style of digital practice. None of the exaggerated or excessive ePortfolio uses, which have been identified as three risks of ePortfolio use by Reinmann & Sippel (2009), i.e. over-conforming over-reflecting, over-acting, could be observed with the

female students participating in the study, be it based on the documentation in Mahara, communication in the course, or self-reports in interviews. Given the case study inquiries based on analysis of documentation in Mahara, observation of ePortfolio practice in the course and self-reported preferences and perceptions in in-depth interviews with individual female students, it remains unclear to what extent particular preferences and perceptions reflect some more general gender-specific tendencies in ePortfolio practice, for example related to socially constructed gender roles. Further research should explore these issues in more detail, applying such research methods, such as ethnographic and biographical studies with male and female students.

Gender-sensitive ePortfolio design

In view of the results from the case study inquiry related to the different digital practice styles and risks of ePortfolio use as described in the sections above, it appears important to consider gender-related preferences for ePortfolio for gender-sensitive ePortfolio designs. Some of the key aspects to be considered when supporting female students in creating and maintaining ePortfolios include: (a) possibly little to no experience with ePortfolio practice and middle to low levels of initial media literacy related to creative uses of web-based media; (b) preferences and special attention to appealing ePortfolio design and visual display of artefacts in ePortfolios; (c) preference for intensive communication and cooperation with other students including sharing of resources, feedback and mutual support in creating ePortfolios and handling technology; (d) preference for protecting privacy and personal data which may be reflected in reluctance to publish anything personal on the web; (e) valuing reflection on learning goals and possibilities to present work samples, learning outcomes and acquired competencies; (f) need for specifications to guide ePortfolio work and at the same time flexibility and degrees of freedom to make own choices. Based on perceptions of female students participating in the study presented in this paper, it seems that the following strategies may be effective to support ePortfolio practice of female students: (i) introduce ePortfolio including the concept and the technology in small steps, granting ample time and giving intensive support; (ii) allow for opportunities and choices in the visual design of ePortfolios; (iii) foster communication and collaboration, including peer feedback and peer support; (iv) enable making choices in revealing or concealing personal information, and (v) encourage presenting own achievements, providing good practice examples. Further studies should explore which ePortfolio designs are supportive to specific preferences in digital practice of male and female students.

References

1. Abraham, L. B., Morn, M.P. and Vollmann, A. (2010). *Women on the web: how women are shaping the Internet.* Reston, VA: ComScore. Available at: http://www.iab.net/media/file/womenontheweb.pdf
2. Bimber, B. (2000). *Measuring the Gender Gap on the Internet*. Social Science Quarterly *81*, 868-876.
3. Brooks, A., Hesse-Biber, S. N. (2007). *An Invitation to Feminist Research*. In: Hesse-Biber, S. N., Leavy, P. L. (Eds.): Feminist Research Practice. A Primer. Thousand Oaks, Sage, 1-27.
4. Broos, E. (2011). *Gender Perspective on e-learning and information sharing*. IT Forum, 1-9.
5. Cohen, N. (2011). *Define Gender Gap? Look Up Wikipedia's Contributor List*. The New York Times. Available at: http://www.nytimes.com/2011/01/31/business/media/31link.html?_r=1&hpw
6. Erickson, C. (2012). *13 `Pinteresting` Facts about Pinterest Users*. Mashable. Available on: http://mashable.com/2012/02/25/pinterest-user-demographics/
7. Euler, D. (2003). *Forschendes Lernen*. In: A. Obolenksi and H. Meyer (eds.), Campus. Available at: http://www.gbv.de/dms/hebis-darmstadt/toc/110740335.pdf
8. Fallon, F. Williamson, A. and Pack, M. (2011). *Gender and Digital Politics*. Digital Papers *5.*
9. Fallows, D. (2005). *How women and men use the Internet*. Pew Internet and American Life Project. Available at: http://pewinternet.org/~/media//Files/Reports/2005/PIP_Women_and_Men_online.pdf.pdf
10. GWK: Gemeinsamen Wissenschaftskonferenz (2011). *Frauen in MINT-Fächern. Bilanzierung der Aktivitäten im hochschulischen Bereich*, Heft 21
11. Google Ad Planer (2012). *Chicks rule? Gender balance on social networking sites*. Available at: http://www.informationisbeautiful.net/visualizations/chicks-rule/
12. Hafkin, N., and Taggart, N. (2001). *Gender, Information Technology, and Developing Countries: An Analytic Study*. Most, 1-6.

13. Haraway, D. (1988). *Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.* Feminist Studies *14*, 575-599. Available at: http://www.jstor.org/stable/3178066?origin=crossref

14. Herman, C., and Kirkup, G. (2008). *Learners in transition: the use of ePortfolios for women returners to science, engineering and technology*. Innovations in Education & Teaching International *45*, 67-76. Available at: http://oro.open.ac.uk/10295/1/Herman_and_Kirkup_short_version_280907.doc

15. Holmes, M. C. (1998). *Comparison of gender differences among information systems professionals: A cultural perspective.* The Journal of Computer Information Systems. 38 (4):78–86

16. Ickes, W. (1993). *Traditional gender roles: Do they make, and break, our relationships?* Journal of Social Issues, 49, p. 71-86

17. Initiative D21 (2012). *(N)Onliner Atlas 2012: Basiszahlen fuer Deutschland*. Available at: http://www.nonliner-atlas.de/

18. Lam, S. K., Uduwage, A., Dong, Z., Sen, S., Musicant, D. R., Terveen, L., and Riedl, J. (2011). *WP: Clubhouse? An Exploration of Wikipedia's Gender Imbalance*. In WikiSym 2011 (ACM). Available at: http://grouplens.org/system/files/wp-gender-wikisym2011.pdf.

19. Maslach, C., Santee, R.T, and Wade, C. (1987). *Individuation, Gender Role, and Dissent: Personality Mediators of Situational Forces.* Journal of Personality and Social Psychology, 53(6).

20. McSporran, M., and Young, S. (2001). *Does gender matter in online learning?* AltJ *9*, 3-15. Available at: http://newrepo.alt.ac.uk/348/.

21. Nielsen (2012). *State of the Media. Advertising and Audiences*. The Nielsen Company. Available at: http://nielsen.com/content/dam/corporate/us/en/reports-downloads/2012-Reports/nielsen-advertising-audiences-report-spring-2012.pdf

22. Nsibirano, R. (2009). *"Him and Her"- Gender differentials in ICT uptake: A critical literature review and research agenda*. International Journal of education and Development using ICT, 5 (5), Available at: http://ijedict.dec.uwi.edu/viewarticle.php?id=858

23. Nolen-Hoeksema, S. (2004) *Women Who Think Too Much: How to Break Free of Overthinking and Reclaim Your Life.* Holt Paperbacks.

24. ONS (2012). *Statistical Bulletin: Internet Access Quartely Update, 2012 Q1*. London: Office for National Statistics.

25. Peslak, A.R. (2008). *Current Information Technology issues and Moral Intensity Influences*. The Journal of Computer Information Systems*,* 48 (4), 77-86.

26. Reinmann, G. & Sippel, S. (2009). *Koenigsweg oder Sackgasse? Eportfolios für das forschende Lernen*. In: T. Meyer, K. Mayrberger, & C. Schwalbe, 1-13.

27. Sensis (2001). *Sensis® Social Media Report. What Australian people and businesses are doing with social media*. Available at: http://about.sensis.com.au/ignitionsuite/uploads/docs/sensis%20social%20media%20report.pdf

28. Shaw, L. H., and Gant, L. M. (2002). *Users divided? Exploring the gender gap in Internet use.* Cyberpsychology and Behavior *5*, 517-527. Available at: http://www.ncbi.nlm.nih.gov/pubmed/12556114.

29. Simerska, L. and Fialova, K. (2004). *Bridging the Gender Digital Divide: A Report on Gender and Information and Communication Technologies in Central and Eastern Europe and the Commonwealth of Independent States (CEE/CIS)*, UNIFEM & UNDP, 2004

30. Spender, D. (1995). *Nattering on the Net: Women Power and Cyberspace*. Spinifex Press, Melbourne, Australia.

31. Stockdale, R. and Stoney, S. (2007). *Encouraging Gender Balance in Information Technology*. Communication Journal of New Zealand *8*, 41-49.

32. Taylor, W.A. (2004). *Computer-mediated Knowledge Sharing and Individual User Differences: An Exploratory Study.* European Journal of Information Systems *13*, 52-64.

33. Tufekci, Z. (2008). *Grooming, Gossip, Facebook and Myspace.* Information Communication Society, *11*, 544-564. Available at: http://www.informaworld.com/openurl?genre=article&doi=10.1080/13691180801999050&magic=crossref.

34. Vedantham, A. (2011). *Making Youtube and Facebook Videos: Gender Differences in Online Video Creation Among First-Year Undergraduate Students Attending a Highly Selective Research University*. Doctoral Thesis. Available at: http://repository.upenn.edu/cgi/viewcontent.cgi?article=1082&context=library_papers

35. Venkatesh, V., Morris, M., and Ackerman, P. (2000). *A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes.* Organizational Behavior and Human Decision Processes *83*, 33-60. Available at: http://www.ncbi.nlm.nih.gov/pubmed/10973782

36. Watkins, S.C. and Lee, H.E. (2010). *Got Facebook? Investigating What's Social About Social Media*, Austin: University of Texas.

37. Yang, C., Hsu, Y. C. & Tan, S. Y. T. (2010). *Predicting the Determinants of Users' Intentions for Using YouTube to Share Video: Moderating Gender Effects*. Cyberpsychology Behavior and Social Networking 13(2): 141-152.

38. Yin, R.K. (2008). *Case Study Research: Design and Methods* (4th ed.). Beverly Hills, Calif: Sage Publications.

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Reflecting on a Predicament of Professional Identity

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Background

Professional and effective early childhood teacher/educators have the opportunity to advocate, through their own teaching practices, for the development of high-quality learning communities that clearly articulate a professional teacher identity (Rodd, 2006). The Australian Catholic University (ACU), with campuses spread across four separate legislative state and territory boundaries, mandates the development of an ePortfolio within its teacher education courses. Whilst mandated, the development of the ePortfolio within the Bachelor of Education (Primary) course features predominately in the first and final year, in preparation for the pre-service teacher's transition into the teaching profession. The introduction of a Bachelor of Education (Early Childhood and Primary) course, in 2008, afforded the opportunity to develop a coordinated approach to the development of the ePortfolio, spanning across the four years of the course and culminating in the final year. This coordination has yielded a critical focus for both the academic staff and the pre-service teachers to make creative use of a variety of Information and Communication Technologies (ICT) to demonstrate their pedagogic strengths, to identify the pre-service teacher as meeting a variety of legislated requirements for teacher registration, and to meet the University's mandated course requirements. It has also provided a platform from which to promote the professional identity of the Early Childhood teacher in a more traditional socio-political climate where teachers are still classified as those who educate children in formal school settings.

Objectives

As each year unfolded, from 2008, the academic staff took the opportunity to fine-tune the ePortfolio, clearly establishing the following aims were to:

- Establish the professional identity of those who educate children in prior-formal-school-settings as teachers.
- Encourage academic staff and pre-service teachers to consider a variety of ePortfolio platforms, ranging from internal ICT to external Web 2.0 in order to substantiate their developing professional identity to a wider, potentially global, audience.
- Investigate ways in which such digital approaches both connect key information to the pre-service teacher's own local experiences and enables clear university-wide outcomes for academic staff and students to be met (Ramsden, 1991; Augar, Raitman & Zhou, 2004; Chapman, 2008; Murphy, Casey, & Fraser, 2007).

Approach

Action Research is like breathing to an effective Early Childhood teacher, whose every moment is filled with a critical reflective practice. This is described simply as the cyclic collection, analysis and interpretation of data that is interwoven with outcomes from previous reflective cycles. The emergence of the Early Childhood course began with, and has maintained, a continuous sifting and sorting process to evaluate and sustain effective practices in a number of strategic teacher education domains:

- Evolving – encouraging a culture where the gradual and natural collaborative process continues to evolve an understanding of the professional identity of an Early Childhood teacher.
- Efficient – the deliberate integration of digital technologies to deliver an engaging teaching and learning program.
- Effective – where standard course review processes are harnessed to identify a coordinated approach to the development of a Professional ePortfolio that creatively charts each pre-service teacher's learning, demonstrates their achievement of professional standards for teaching, in a manner that meets the requirements of four different state and territory requirements for teacher registration and teacher course accreditation.

Reflective narrative

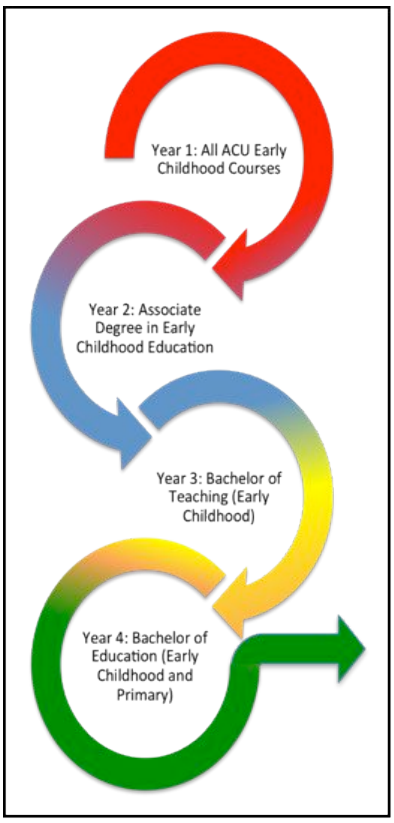

figure 1

Since 2008, the Australian Catholic University (Canberra Campus) has offered a series of three nested early childhood education courses. The main course is a four-year teacher education course accredited to provide graduates with both primary and early childhood teacher qualifications. This is no small matter. When the courses were developed, there were no accredited four-year training programs for early childhood teachers. In Australia, to qualify for four-year trained teacher registration, a graduate must have successfully completed either: an accredited primary teacher education program, or to have first completed a three-year Bachelor Degree and then undertaken an accredited two-year of post-graduate program in secondary teacher education.

The structure of the Bachelor of Education (Early Childhood and Primary) was the only way to meet the legislated requirements for both an early childhood qualification AND a four-year trained teacher registration. The nested course was quite intense, with the early childhood qualification being completed by the end of the first two years and the final two years meeting the remaining requirements for graduates to be registrable as a four-year trained primary teacher. From the onset, it was the University's expectation that the students were to progress through two quite separate cycles of teacher education: first the early childhood educator and then the primary teacher. The 80-day early childhood Professional Experience Program contained its own beginning phase (red), a graduate phase (blue) for the Associate Degree that was also an intermediate phase (blue) for the Bachelor of Teaching with its own graduate stage (yellow) as illustrated in Figure 1. The end of the first two years marked a significant transition for the students as they complete the early childhood qualification and moved 'seamlessly' on into the last two years that would conclude with their four-year primary teaching qualification.

Initially, the first two years of the ACU early childhood courses divided the Professional Experience Program into eight clusters (domains) for the Early Childhood qualification: The Workplace, Leadership and Management, Caregiving, Play and Development, Children's Health and Safety, Communications, Planning Programs, and Supporting Diversity. These clusters were developed from the legislative authority for Community Services, not Education. Each of the clusters held a number of competencies as articulated by the Australia's National Training Authority as leading to the achievement of a CH50302 Diploma of Children's Services, now CHC50908 Diploma of Children's Services (Early Childhood Education and Care). The Diploma was viewed not as an academic program but as a vocational program. The final two years of the course utilised the same professional domains as the Bachelor of Education (Primary): Professional Knowledge, Professional Practice, Professional Values and Professional Relationships. However, by the end of 2009, the Canberra campus had remapped those vocational competencies into those same professional domains of the Bachelor of Education (Primary). This marked the beginning of a significant shift in the professional identity for the early childhood student; acknowledging that the competencies being achieved for the Diploma of Children's Services also contributed to the graduate professional standards for a Bachelor of Education.

As each year unfolded, a number of significant political and legislative events encouraged further examination of the way that the academic staff represented the professional identity of the early childhood teacher within the ACU Early Childhood courses, see figure 2. With each year's new cohort of students came a new stage in the unfolding national political reform agenda; forcing each cohort and the academic staff to conceive a new vision for the professional identity of an individual within the Early Childhood sector. We actively encouraged the deliberate professional dialoguing between all the participants within the Professional Experience Program: the early childhood academic staff, the students and the industry hosts within the childcare industry. With this level of participation, over the years, came an evolution of professional understandings, with the student's exposure to political initiatives came their own emerging professional identity as a 'teacher' rather than 'educator', which was how the original ACU's course documentation referred to them.

With our collaborative reflective practice now well embedded into the Professional Experience Program, each year became the opportunity to re-map the how we represented the professional identity of the first two years of the four-year course. This process was managed through a number of formal and informal mechanisms, to ensure a critical responsiveness of the Professional Experience Program to the rapidly changing academic, political, legislative and industrial landscape. The reflexivity of the course meant that across the ACU four campus locations the Early Childhood courses were each evolving a different structure that positively responded to the individual state and territory legislative processes and in response to the University strategic and financial directives.

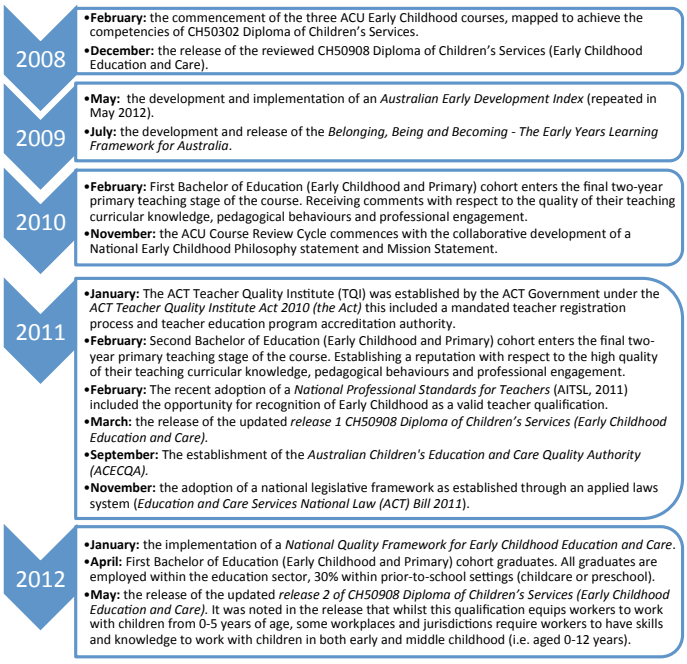

figure 2

With the introduction, in 2011, of the ACT Teacher Quality Institute (TQI) came a new era in teacher education for the territory, marked by a collaboration between ACU and the University of Canberra (UC) in creating a common framework to guide and support all stakeholders who would be participating in the Bachelor of Education (Primary) Professional Experience Program. For ACU, the Bachelor of Education (Early Childhood and Primary) was not included in the initial thinking.

Finally, towards the end of 2011 came the decision to remap the competency-based Associate Degree in Early Childhood Education into the newly released National Professional Standards for Teachers. Which, when combined with the decision to include the new framework and reporting mechanism devised for all Bachelor of Education (Primary) students, built a credible professional identity for the pre-service teachers as teachers of very young children. The adoption of the new framework brought about a new vision that illustrated the Bachelor of Education (Early Childhood and Primary) students as going through two complete cycles of professional teacher education: each containing a beginning phase (blue), an intermediate phase (orange) and a graduate stage (green) as illustrated in Figure 3. The end of the first two years still marks a significant transition, for the students, as they complete their early childhood qualification and commence an enriched degree of teaching practice that would conclude their four-year primary teaching qualification.

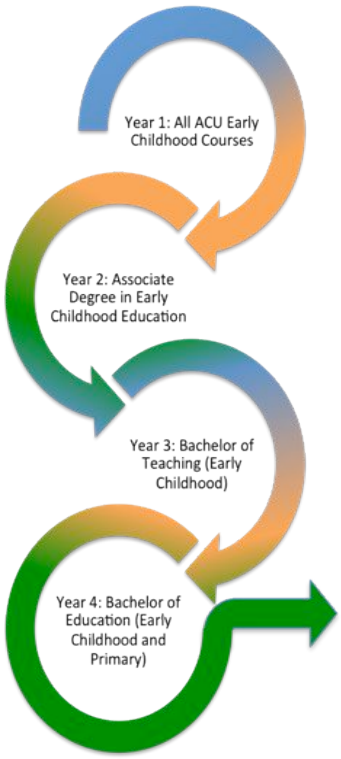

figure 3

Throughout all of these years, the development of an ePortfolio has been a stable element within the early childhood Professional Experience Program. With the exit-point for the Associate Degree in Early Childhood Education came the University's mandated requirement for a presented professional learning ePortfolio. In terms of efficiency, we required the ePortfolio of all early childhood students regardless of the course in which they were enrolled. This was easy to achieve, as the first two years contained a 90-day Professional Experience Program that was focussed upon the development of a strong, reflective teaching practice. The students were observing, creating teaching resources, planning, implementing and evaluating play-based learning experiences for children aged five years and

under. Initially, the platform was based upon wordpress.com ® in the first year, and opened up to other web-based platforms in the second year. With the academic shift into the focus on primary teaching, there was no opportunity for the early childhood staff to continue their embedded ePortfolio program. The ePortfolio, for ACU's Bachelor of Education (Primary) course, was developed and graded as a component of a fourth-year primary education academic unit, called Transition into the Profession.

The constructivist approach is implemented through a number of different mechanisms. Firstly, there are a number of Professional Experience Program workshops that are specifically aimed at introducing the concept of an ePortfolio, the benefits of using digital technology, what it can be used for and how one could be crafted through using existing resources, for example: assignments, teaching resources, and various Professional Experience Program reports and documents. Secondly, the development of the ePortfolio is also embedded into four academic units, one per semester for the first two years of the ACU early childhood course, each with the following foci:

- The exploration of caregiving as teaching (Professional Knowledge) with infants in childcare.
- The development of holistic intentional play (Professional Practice) with toddlers in childcare.
- The building a continuity of learning (Professional Practice) with preschool-aged children in childcare.
- The commitment to building community (Professional Engagement) with preschool-aged children in primary school.

We insist that the ePortfolio is to be a crafted through a natural flow between the student's learning and their participation in the Professional Experience Program. We encouraged the use of original artefacts and for the student to annotate their meaning for their individual professional development. This created the opportunity for the student to reflect in a critical manner upon his or her own developing professional identity. Believing that we were contributing to an emerging global professional community, the students were introduced to the benefit of placing their ePortfolio onto the Internet, we achieved this by using Wordpress.com ®. This was introduced from the beginning, paying strict attention to privacy, ethics and the protection of their artefacts.

In 2012, due to timetable challenges, an early childhood academic staff member undertook the delivery of the fourth-year unit, Transition into the Profession, for those students enrolled into the Bachelor of Education (Early Childhood and Primary). This afforded the opportunity to conclude the constructivist approach to the development and final assessment of an early childhood professional ePortfolio. Using a blended teaching approach, the unit utilised 3 assessments that supported and scaffolded the learning from the first through to the last. The specific aim was to encourage the student to work in a constructivist manner that would support the beginning of their emerging professional selves (Ramsden, 1991). Visiting speakers were lead teachers, specialists in inclusive education, early childhood directors, and primary school principals all from a variety of educational sectors. The first assessment required students to set the pace and take the led in developing a series of professional dialogues based upon the National Professional Standards for (Teaching Murphy, Casey, & Fraser, 2007). The second was the formulation of a Professional Development Plan, without the provision of a strict ACU Proforma, but developing their own through reviewing education department websites that simply stated the current expected structure and required standards for a graduate teacher (Augar, Raitman & Zhou, 2004). The final assessment was the development of an ePortfolio, which used a maximum of four artefacts to demonstrate the student's achievement of the 7 standards of the National Professional Standards for Teachers. The ePortfolio was not restricted to any particular platform, stating only that what was to be submitted needed to be accessible by the lecturer's own available technology. The students were given freedom to use their own judgements, regarding technology, content and approach, with the objective that they would utilise their current funds of knowledge to support the outcomes of the assessment task (Chapman, 2008). This approach sought to engender within the students a feeling of high degree of wellbeing and involvement through their autonomy and a reflexive style of teaching (Laevers, 2008).

Of the ePortfolios submitted for assessment, the following observations were made. 12% were built within Microsoft word, where the students struggled with the development of bookmarks and hyperlinks between the document and PDF's of the artefacts. 25% remained with the initial blogging website. 63% opted to utilise a newer form of website authoring software. Most students discarded their second-year ePortfolio preferring to start from 'scratch' and utilised artefacts derived from their Primary Professional Experience Program. Very few students chose artefacts from their Early Childhood Professional Experience Program. Interestingly, where a student did utilise an artefact from the years prior to formal schooling they consolidated their achievement of the National Professional Standards for Teachers by using some form of planning document from the lower Primary grades only. Most students used slideshows or movie footage to support their planning documents. Most students used pristine condition text documents in preference to

scanned images of original planning documents (complete with scribbled anecdotes, jottings, observations, reflective practice and mentoring teacher feedback). This preference for pristine word-processed artefacts was in spite of the authenticity of the original planning documents. Very few used an artefact more than once, preferring to have something different to speak to each of the demonstrate each Professional Domain with separate artefacts.

To use the submitted ePortfolios to determine the perceived professional identity of these fourth-year preservice teachers, it would appear that all of them have pitched that identity firmly within the first years of Primary School. It appears that despite the raised legislative, political, educational and academic profile of the Early Childhood sector, the pre-service teachers did not chose to use artefacts that were derived from the years prior to formal schooling. Interestingly, for all of the artefacts the annotation or discussion in presenting those artefacts drew heavily from the observation and the reflective practice of the years prior to formal schooling. All discussed the pedagogic principles of holistic caregiving as teaching and the critical role that relationships play within the classroom.

The author's own reflective practice would ask if it were possible to use the ePortfolio on such a small sample to determine a shift in professional identity? Obviously further cohorts would be required to determine the degree of confidence that student's have to utilise artefacts that are derived from outside formal school settings, such as: childcare, preschool or even outside of school-hours-care to demonstrate their professional competence. Or whether the students prefer to pitch an ePortfolio towards an employment prospect that lies mainly within primary education, with its far more attractive employment conditions and remuneration. The progressive instruction on how to structure the ePortfolio, what artefacts to choose in order to 'speak' to the target audience, how to use those artefacts in a complex manner would have had some degree of influence on what artefacts to choose. Watching future cohorts and noting the evolution of the ePortfolio within the course, may become a barometer of confidence in a professional identity that is still being shaped.

References

1. Augar, N., Raitman, R. & Zhou, W. (2004). Teaching and learning online with wikis. In R. Atkinson, C. McBeath, D. Jonas-Dwyer & R. Phillips (Eds), Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference (pp. 95-104). Perth, 5-8 December. http://www.ascilite.org.au/conferences/perth04/procs/augar.html
2. Chapman, D. N. J. (2008). Using Pulp Motion videos as instructional anchors for pre-service teachers learning about early childhood special education. In Texas Computer Education Association (TCEA) Educational Technology Research Symposium: Vol. 2 (pp. 36-43). Lancaster, PA: ProActive
3. Laevers, F. (2008). Observation of well-being and involvement in babies and toddlers [videorecording]: a video-training pack. Centre for Experiential Education, Belgium: Leuven University.
4. Murphy, D., Casey, D., & Fraser, J. (2007). Talk about walkabout: Evaluation of a flexible learning initiative. In P. Tsang, R. Kwan & R. Fox (Eds.), Enhancing learning through technology (pp. 11-26). Hackensack, NJ: World Scientific Publishing.
5. Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The course experience questionnaire. in Studies in Higher Education, 16(2), 129-150.
6. Rodd, J. (2006). Leadership in early childhood. Crows Nest, NSW: Allen & Unwin.

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Implications of Identity Negotiation Research for the Design of the TRAILER ePortfolio

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Introduction

Eportfolios come in many forms and serve a range of functions and purposes (Chi-ChengChang, Kuo-HungTseng, Hsiu-PingYueh, & Wei-ChienLin, 2011; van Tartwijk & Driessen, 2009). For the argumentation followed in this paper it suffices to distinguish three general functions, related to the learning process, to assessment, and to presentation (Abrami & Barrett, 2005). Clearly, the three functions are interrelated and even suggest a chronological order: assessment follows learning and precedes presentation of evidence (assessed achievements). However, presentations might also precede assessment, as becomes evident when we consider the role of ePortfolios in documenting and demonstrating informal learning. Presenting evidence for informally acquired competences through a showcase portfolio (presentation) is likely to prompt some level of assessment on the part of the audience: how convincing a 'piece of evidence' is this?

From the above it is clear that one way of looking at ePortfolios is to view them as a means to document personal development in view of communicating one's competences, interests, ambitions, networks, etc., that is as a means for identity negotiation. Identity negotiation refers to "*the processes whereby relationship partners reach agreement regarding "who is who.*" (Swann, Johnson, & Bosson, 2009). The notion of identity negotiation in combination with an ePortfolio's function of showcasing competences gained through both formal and informal learning reveals an interesting paradox: whereas it is relatively easy to demonstrate competence attained through formal learning, they are at the same time less 'telling' of a person, exactly because they are formal, i.e. 'standard'. However, face validity of showcased competences attained through informal learning is much lower, as it relies on two processes, which both suffer from serious flaws: self-assessment (Dunning, Heath, & Suls, 2004) and selection of appropriate evidence to showcase a particular competence (Miao, Sloep, Hummel, & Koper, 2009). Thus showcasing competences attained through informal learning to some extent relies on establishing a sense of trust/trustworthiness which in turn requires a certain level of identity negotiation (Rusman, Van Bruggen, Sloep, Valcke, & Koper, 2012).

The TRAILER project (Tagging, Recognition and Acknowledgment of Informal Learning ExpeRiences) aims to facilitate the identification of episodes and evidences of informal learning by the learner in any of the different spaces in which she learns, with the further aim to facilitate the recognition of this learning, e.g. by a tutor, employer, educational institution, in dialogue with the learner. It aims to do so by means of an *Informal Learning Collector*, which interoperates with an existing open source portfolio.

This paper focuses on the question how to design an ePortfolio so that it optimally enables learners to gain credit (either literally or figuratively speaking) for competences attained through informal learning starting from the premise that this process can be considered an identity negotiation process. It provides a review of research findings in the area of identity negotiation and online identities in light of the implications they hold for the design of an ePortfolio that is meant to facilitate identity negotiation.

Online identity and identity negotiation

We all have an image of who we are and what we are capable of and we want others to perceive us in line with the image we have of ourselves. Our identity, our image of ourselves is closely linked up with our competences:

"*The process of maturation is marked by the acquisition of new competencies and the loss of established ones. Whether one gains or loses an ability, the associated identity needs to be updated. This may explain why people's identities are especially turbulent early and late in life.*" (Swann & Bosson, 2010)

Theories on identity negotiation distinguish between a 'target' (the person whose identity is 'at stake') and 'perceivers' (the people who have or develop behavioural expectancies towards the target) (Swann, Johnson, & Bosson, 2009). Perceivers are not necessarily individuals, but can also be a larger organisation (e.g. an educational institution, employer organisation). Whereas perceivers strive to validate their expectancies, targets seek to verify their self-views. Target and perceiver interact in symmetric or asymmetric relationships. These theoretical notions seamlessly apply to processes like accreditation of prior learning (APL) and job interviews or performance evaluations: situations in which we engage in a dialogue about what we have achieved, how this relates to what is expected from us and what it tells us about ourselves and our place in society.

Initial studies regarding identity negotiations focused on behavioural confirmation, i.e. the way perceivers influence the behaviour of targets to comply with perceivers' expectancies. However, the focus has gradually shifted to the way targets play an active role in the identity negotiation process. In this process the desire for self-verification (i.e. stabilising one's self view) tends to 'prevail' over the desire for self-enhancement (i.e. seeing oneself in the best possible light) (Kwang & Swann, 2010). This might explain why most people's online and off-line identities appear highly consistent (Farquhar, 2009; Hardey, 2002; Moinian, 2006), although there is also evidence of the contrary: people struggling to integrate multiple identities (Turkle, 1995). To illustrate the notion of identity as 'multiple yet coherent', Turkle refers to homepages on the web, which she likens to a home consisting of separate rooms, yet forming an integrated whole. Considering identity as multiple yet coherent fosters self-knowledge: "*A more fluid sense of self "makes it easier to accept the array of our (and others') inconsistent personae – perhaps with humor, perhaps with irony. We do not feel compelled to rank or judge the elements of our multiplicity. We do not feel compelled to exclude what does not fit."* (p.261 -262).

Whereas Turkle's study involves explorations of online, virtual personae and how they can be used to enhance self-knowledge and thus enrich the real, the issue addressed in this paper involves a movement in the opposite direction, i.e. from the real to the virtual: how to start from self-knowledge and real life experience, and present them online in ways that support processes of self-negotiation and self-verification. In this context too, the notion of multiple identities is relevant, which becomes clear for instance, in considering audiences for a showcase portfolio and the fact that this determines which particular competences and identities we want to highlight.

Ting-Toomey (1999) distinguishes primary and situational identities, the former being more stable and including for instance ethnic identity, gender identity and personal identity. Situational identities include for instance role identity and relational identity. Clearly, these identities are interrelated. In fact, processes of identity negotiation may involve negotiating identity conflicts stemming from the necessity to balance opposing needs. According to optimal distinctiveness theory (Brewer, 1991) a person's self-concept is influenced both by a need to be an individual (i.e. differentiation) and the need to belong to social groups (i.e. assimilation). The role these opposing needs play in identity negotiation processes is nicely illustrated by an interesting exploratory study investigating the role of identity negotiation in decisions regarding attainment and removal of tattoos (Shelton & Peters, 2008). Motivations for attaining and removing tattoos may be driven by either a desire to express a sense of belonging with a particular group or person or a desire to 'stand out and be different'. The findings of this study are consistent with the notion underlying optimal distinctiveness theory, that a person's self-concept consists of three components: the individual-self ("the self as it contrasted with / considered to stand out from others"), the relational-self ('the self as it performs specific roles / relates to and assimilates with significant others), and the collective-self ('the self as defined through memberships of larger social groups) (Brewer & Gardner, 1996). For example: "I wrote a paper" (individual self). "I wrote the paper together with my colleagues Adriana Berlanga and Peter Sloep" (relational self). "I am working at the Open Universiteit Nederland" (collective self). "*Optimal distinctiveness theory suggests that an individual is constantly negotiating the need to individuate the self from others and integrate the self within relational and collective social groups as she searches for and defines her identity over time*." (Shelton & Peters, 2008).

Though these opposing needs for assimilation and differentiation strongly affect the identity negotiation process, it is most strongly motivated by the aforementioned desire for self-verification (Kwang & Swann, 2010). The need for self-verification is satisfied by seeking out self-confirmatory environments. Independent of the question whether ones self-view is positive or negative, self-verification fosters feelings of connection and positively affects creative task performance in groups (Swann, Milton, & Polzer, 2000). Before addressing the question how identity negotiation is going to be facilitated within the TRAILER project, we want to point out some differences between off-line and online identity negotiation.

Offline and online identity negotiation

The process of negotiating one's identity is different online than offline; one of the more obvious differences being that multiple identities, though equally present in both situations, become more apparent in online situation where they tend to be more 'compartmentalised' (cf. Turkle's metaphor of the home with separate rooms). In other words, negotiation constraints vary for online and offline situations (Berlanga & Sloep, 2011), and in the case of online identity negotiation they can be expected to further vary depending on the type of online environment at hand, e.g. a homepage, social network sites, a forum, an ePortfolio, etcetera. These environments vary for instance regarding interaction style and the level of awareness of a specific audience (i.e. perceivers addressed). In a homepage, for instance, one generally addresses a single, general (hence broad) audience which could work either way, i.e. make the owner feel more or less restricted than would be the case in addressing specific audiences through various ePortfolio showcases, e.g. peers,

parents, team members, tutors, an educational institution, potential employer, line-manager, general public, etc.

Though undeniably the boundaries between social networking and ePortfolio tend to get increasingly blurred, still a major difference seems to be the underlying motivation, i.e. intrinsic versus extrinsic motivation (Barrett, 2011). This distinction brings along differences in communication as is illustrated by the following quote: *"The world of check-ins, instant-messaging, texting, emoticons, and rapid response does not make self-reflection impossible, but does little to cultivate it."* (Turkle, 2008). In contrast to this ePortfolios require reflection on many levels: which evidence to store, where to store it, as evidence of what, for which purpose and which audience, etc.

Another important distinction is that in using an ePortfolio target and perceiver roles are more clearly separated than in social networking sites, where everyone is both target and perceiver. This situation is clearly illustrated by a rather peculiar finding in an investigation of identity negotiation on Facebook: "(..) *Facebookers were quick to point out that their own profiles were not complete or entirely accurate representations of themselves and yet most felt they could get a pretty good understanding of other persons based solely on viewing their profiles."* (Farquhar, 2009, p. 211). Of course this raises questions regarding the completeness and accuracy of profiles in various online environments and how this affects identity negotiation. It also brings us back to the issue of trust in online identity negotiation. A recent study on the impact of personal profiles on initial trust formation in online teams (Rusman et al., 2012) provides detailed information on the relative importance of specific information elements. The study investigated profile information elements that are typically included in a variety of online environments. These elements were rated on their importance for impression formation by a group of 226 bachelor students, most of whom were experienced in collaborating in virtual teams. Of all the elements generally considered important, those considered most important were not so much the information elements providing 'factual' information like prior work experience, educational background, personality traits, etc. but rather the elements related to motivation and preferences: personal motivation for the project, ideas for the project, expectations of the project, and preference regarding specific types of situations to work in. This suggests that the motivation for learning might be an important aspect to address when documenting informal learning, next to providing evidence for learning achievement..

Identity negotiation in the TRAILER portfolio

The TRAILER project aims to facilitate documentation of informal learning with the further aim to support acknowledgement of informal learning. One of the tools to be developed in this project is an Informal Learning Collector (ILC) that will allow a learner to identify and collect instances of informal *online* learning, and permits the identification of instances or groups of instances that indicate the acquisition or development of skills and competences. The collection of instances of learning is performed in the users personal learning network, that is to say, the set of informal and formal tools, resources, and contacts that learners use to learn. The instances of learning collected via the ILC are tagged and/or linked to competences provided in a competence catalogue, possibly annotated and subsequently stored in the learner's ePortfolio. If she so wishes, the learner may then further edit the instance and the information added.

Instances of informal learning may be tangible outcomes (e.g. a result from a test or game, one or more forum posts, a design, a picture gallery, a review etc.) or less tangible 'activities' (e.g. an article that was read, a video watched, a search process, a comparison made etc.). For each instance, the learner will have to point out why it should be seen as an instance of informal learning. The less tangible instances will likely require a more elaborate argumentation or motivation of how these activities demonstrate a particular competence as will the tangible ones. We see a parallel here with the relative importance of the profile information elements involving motivation and preferences: the fact that one has read particular articles and the merely linking them to a particular competence, i.e. stating "These articles have made me knowledgeable in field X" would not sufficiently demonstrate competence; however "Reading these articles has made me aware of the fact that, within the field of X, … etc." would. This example serves to illustrate that the ILC is no more and no less than a tool to facilitate identification and archiving of (online) informal learning. In that capacity it is a welcome addition to standard ePortfolios, which are mostly ignorant of informal learning instances. However making the inclusion of informal learning instances easier may well bring along a drawback: the risk of users being little selective as to what goes into their ePortfolio, leaving further selection to a later stage. Doing so would actually render selections for the purpose of showcasing more cumbersome.

The TRAILER ePortfolio will ensure that the user can create multiple showcases and thus negotiate various identities depending on the audience she is addressing. To create a showcase the user can include various elements from her profile (which provides very basic information like an introduction, demographic details,

and contact details), from her résumé, from her social networks and all kinds of content constituting evidence of formal and informal learning.

This means effectively, that the user in her capacity of target in an identity negotiation creates a single overall profile, and a single résumé, from which she can subsequently select and combine elements.

Perceivers may provide feedback on the entire showcase as well as on each of its components.

Conclusion and discussion

To try and gain recognition of competences acquired through informal learning means to engage in a process of identity negotiation, i.e. a process of seeking verification of our self-view.

Social networking pervades our society, learning included (Sloep & Berlanga, 2011). Although ePortfolios meanwhile have an uncontested use in formal learning, we argue that they also are very useful in networked, informal learning, even though one may think for a moment that their role can be taken over by the social networks themselves. There are obvious advantages for informal learning, more so even than for formal learning. Eportfolios support informal learning and acknowledgement of informal learning because they: a.) are likely to foster reflection as they are connected to intrinsic motivation; b.) compel users to strike a balance between the need for independence and the need for assimilation as they enhance awareness of the audiences/perceivers addressed through the showcases, which c.) are so flexible that they facilitate both elaboration and integration of multiple identities.

In our view, the fact that the creation of a showcase heightens awareness of an audience/ audiences, combined with the need to generate trust by elaborating on motivations, make ePortfolios particularly suitable for identity negotiation.

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References

1. Abrami, P. C., & Barrett, H. (2005). Directions for Research and Development on Electronic Portfolios. *Canadian Journal of Learning and Technology*, *31*(3). Retrieved from http://www.cjlt.ca/index.php/cjlt/article/view/92/86
2. Barrett, H. (2011). Blurring the Boundaries: Social Networking & Eportfolio Development. Retrieved May 31, 2012, from http://www.maclearning.org/articles/48/blurring-the-boundaries-social-networking-ePortfolio-development
3. Berlanga, A. J., & Sloep, P. B. (2011). Towards a Digital Learner Identity. In F. Abel, V. Dimitrova, E. Herder, & G. J. Houben (Eds.), *Augmenting User Models with Real World Experiences Workshop (AUM). In conjunction with UMAP 2011.* Girona, Spain.
4. Brewer, M. B. (1991). The Social Self. On Being the Same and Different at the Same Time. *Personality and Social Psychology Bulletin*, *17*, 475-482.
5. Brewer, M. B., & Gardner, W. (1996). Who Is This “We”? Levels of Collective Identity and Self Representations. *Journal of Personality and Social Psychology*, *71*(1), 83-93.
6. Chi-ChengChang, Kuo-HungTseng, Hsiu-PingYueh, & Wei-ChienLin. (2011). Consideration factors and adoption of type, tabulation and framework for creating ePortfolios. *Computers & Education*, *56*, 452-465.
7. Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed Self-Assessment: Implications for Health, Education, and the Workplace. *Psychological Science in the Public Interest*, *5*(3), 69-106.
8. Farquhar, L. K. (2009). *Identity negotiation on Facebook.com*. University of Iowa. Retrieved from http://ir.uiowa.edu/etd/289
9. Hardey, M. (2002). Life beyond the screen: embodiment and identity through the internet. *The Sociological Review*, *50*(4), 570-585.
10. Kwang, T., & Swann, W. B. (2010). Do People Embrace Praise Even When They Feel Unworthy? A Review of Critical Tests of Self-Enhancement Versus Self-Verification. *Personality and Social Psychology Review*, *14*(3), 263-280. Retrieved from http://dspace.ou.nl/handle/1820/3398

11. Miao, Y., Sloep, P., Hummel, H., & Koper, R. (2009). Improving the unreliability of competence information: an argumentation to apply information fusion in learning networks. *International Journal of Continuing Engineering Education and Life-Long Learning*, *19*(4/5/6), 366-380.
12. Moinian, F. (2006). The Construction of Identity on the Internet: Oops! I've left my diary open to the whole world! *Childhood*, *13*(1), 49-68. Retrieved from http://chd.sagepub.com/content/13/1/49
13. Rusman, E., Van Bruggen, J., Sloep, P., Valcke, M., & Koper, R. (2012). Can I trust you? - Personal profiling for a first impression of trustworthiness in virtual project teams. *International Journal of Information Technology Project Management (IJITPM)*, *3*(1), 15-35. Retrieved from http://dspace.ou.nl/handle/1820/2302
14. Shelton, J. A., & Peters, C. (2008). An exploratory investigation of identity negotiation and tattoo removal. *Academy of Marketing Science Review*, (January 1), 19.
15. Sloep, P., & Berlanga, A. J. (2011). Learning Networks, Networked Learning [Redes de Aprendizaje, Aprendizaje en Red]. *Comunicar*, *XIX*(37), 55-63. Retrieved from http://dx.doi.org/10.3916/C37-2011-02-05
16. Swann, W. B., & Bosson, J. K. (2010). Self and Identity. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (5th ed., pp. 589-628). New York: Mcgraw-Hill.
17. Swann, W. B., Johnson, R. E., & Bosson, J. K. (2009). Identity negotiation at work. *Research in Organizational Behavior*, *29*, 81-109.
18. Swann, W. B., Milton, L., & Polzer, J. (2000). Creating a niche or falling in line: Identity negotiation and small group effectiveness. *Journal of Personality and Social Psychology*, *79*, 238-250.
19. Ting-Toomey, S. (1999). *Communication across Cultures*. New York: The Guilford Press.
20. Turkle, S. (1995). *Life on the Screen: Identity in the Age of the Internet*. New York: Simon and Schuster.
21. Turkle, S. (2008). Always-on/Always-on-you: The Tethered Self. In J. E. Katz (Ed.), *Handbook of Mobile Communication Studies*. Cambridge MA: MIT Press.
22. van Tartwijk, J., & Driessen, E. W. (2009). Portfolios for assessment and learning: AMEE Guide no. 45. *Medical Teacher*, *31*(9), 790-801.

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“it’s your spell-checked version of yourself”: Student Perceptions Around (Re)Presenting ‘Self’ through ePortfolio

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Abstract

With the expansion of Web 2.0 technologies in a virtual world, digital identity issues , particularly the relationship between the personal and professional (re)presentation of ‘self’ have emerged. The use of eportfolios is common in teacher education programmes, where the showcase portfolio presents the achievements of its owner as well as representing the owner themselves to an external audience. This has inevitably given rise to the question of (re)presenting the ‘authentic self’ in a digital form. This paper reports on findings from a research project conducted in 2010/2011 with a group of Bachelor of Education (primary) students at a New Zealand university. Three findings related to the ‘self’ in eportfolio are reported. Firstly, the participants identified the eportfolio as an ideal medium for teacher education as authentic, practice-related tasks engaged their personal ‘self’ which they began to reveal through the eportfolio. Secondly, a tension was recognised between the nature of the visual and written digital components of their eportfolio which drew on the personal self and their perceived expectation to only represent their professional ‘self’ in the eportfolio. Thirdly, participants grappled with the notion that the presentation of their authentic personal ‘self’ may be different from their digital ‘self’, thus ethical issues of honesty and personal (re)presentation become more significant. The dilemma of balancing or integrating the personal and professional ‘selves’ was identified. These findings led us to conclude that the presentation of the ‘self’ through eportfolio can lead to vulnerability. However, the value of engaging the ‘self’ and considering the (re)presentation of ‘self’ in a format to be viewed by others is particularly well-aligned with future professional practice in teacher education.

Introduction

Following the expansion of Web 2.0 technologies and the associated personal and professional connections in a virtual world, representation of the digital ’self’ raises questions of (re)presentation, authenticity and ethics. The nature of an eportfolio to present and increasingly to represent the achievements of its owner to different external audiences likewise raises the profile of the ‘authentic self’ as expressed in multiple identities. Put simply, the question becomes an ethical one for users: who am I as my digital self and how closely does that resemble the essence of who I am as a human being in a professional context? The purpose of this paper is to explore the perceptions of a group of undergraduate students who describe an emerging awareness of their digital self, expressed through their eportfolio use.

Review of Literature

The showcase or presentation portfolio in which the user creates ‘views’ in the eportfolio to demonstrate achievements, attributes or competencies for a particular audience (Abrami & Barrett, 2005) is the focus of this paper. Such showcasing opportunities associated with eportfolios are widely recognised in the literature (Emmett, Harper & Hauville, 2006; Ring & Foti, 2006; Strudler & Wetzel, 2005). Within a university programme these opportunities may range from the traditional academic essay written for a lecturer, to more creative activities often related to applied professional practice and shared with peers, or even an external audience such as a prospective employer. The showcase view may include a wide range of digital artefacts and text presented in a multimodal format. Unlike Facebook or webpages, eportfolio offers the owner the unique function of control and creation of multiple views for varied audiences and purposes, raising the issue of (re)presenting the ‘self’ in what can be perceived as a constructed identity or multiple identities.

Increasingly the sum of these digital views is being read by audiences as representing the complex human (Cambridge, 2008a, Ramirez, 2011) to a far greater degree than traditionally awarded the written text. Ravet (n.d.) names the ‘presence’ of those operating in a digital world as a ‘digital identity’ or an ‘e-self’ which he describes as a “digital extension of a physical self” (p. 8). Lynch (2000) examines the idea of the ‘pervasive deceit’ surrounding information on the internet compared with the traditional acceptance of authenticity of written material. This leads one to feel suspicious of what can be perceived to be constructed identities (re)presenting digital selves. Levy (2000) cautions that the expectation of authors to create a range of digital artefacts to represent and ‘speak’ on their behalf is unreasonable, for while these may be tailored in form and content, they remain material objects and should be recognised as such by the viewer of the presentation. Despite such cautions, Ravet’s ‘digital identity’ (the total extent of a digital presence including

all data) or Barrett's 'digital self' (a more personalized presentation) are increasingly accepted concepts (Tolley, 2009; Bauer, 2009) (re)presentating the self in a digital context. The 'symphonic self' (Cambridge, 2009) with the focus on deep consideration of values, development over time of synthesised, reflection-in-presentation activities and genre characteristics such as relationships and story (p. 43) resonates most clearly with the humanness of (re)presentation of a digital self through the presentation portfolio.

To present the digital self requires an understanding of both the nature of that media and the expectation of the audience. Thus in the social media of Facebook or Twitter there is an expectation of a strong personal 'self'. For an academic, the presentation of a professional self in an ejournal meets particular conventions. ePortfolio however, presents a challenge to both the personal and professional selves, when for example, its blogging tool encourages a loosening of the professional and an incorporation of the personal. The question of how this is balanced within the eportfolio view of 'self' for external audiences becomes a dilemma for those grappling with the authentic and ethical representation of 'self' when caught up in a preconceived belief of what constitutes a professional self. Cambridge (2008b) introduces the concept of an 'integrated' portfolio which has integrity in that it represents both the personal and professional: "it represents a well-integrated and complete representation of the creator's sense of themselves as they wish to make that sense visible to their audience … the portfolio is the genre at the intersection of two spheres of life, more personal than resume, but more professional than a personal website" (p.1239) This challenge of presenting both a personal and professional self to create a perceived authentic portfolio in the face of traditional beliefs of a 'professional self' is the subject of our research findings.

The combination of control and customization thus brings to light the issue around ethics involved in showcasing the self as owners make informed decisions about material that best represents them (Ring & Foti, 2006). Stefani, Mason and Pegler (2007, p.13) sound a warning note when they observe that such selection can be "used to evidence learning in a persuasive way". Consequently the need for 'digital education' (Ravet, 2008) and 'ethical eportfolios' which reflect personal identity and values (Grant, 2003) are paramount.

These challenges around digital identity or digital self and professionalism are currently confronting teacher educators as their students use showcase eportfolios (Gerbic & Lewis, 2011) particularly in the case of graduates with intentions to seek employment. Unfortunately, the area of authenticity and integrity in the digital environment is under-researched (Levy, 2000; Lynch, 2000) with a particular paucity in the area of eportfolios (Grant, 2003).

In the field of teacher education (Sandford & Hopper, 2010; Zeichner & Wray, 2001) eportfolios are commonly used to support evidential learning through goal-setting (Blackburn & Hakel, 2006), reflection (Lin, 2008; Lyons, 1998), synthesis of theory and practice (Wetzel & Strudler, 2006) and demonstration of growth and development over time (Barrett, 2005). The presentation dimension of eportfolio is commonly used for assessment purposes, but increasingly as a tool for employment purposes. As the use of eportfolios expand through professional and academic programmes, and as they become more student-driven, inevitably the question of ethics of personal representation through this digital medium arises. This is a concern at the student-user level, as well as for quality assurance at the university level.

The lack of a strong literature base around digital identity particularly as related to academic use of eportfolios in universities is of concern as students increasingly develop presentation views for multiple audiences both within and outside their academic context. This paper makes a small contribution to the discussion on (re)presentation of 'self' through eportfolio by examining the student perspective.

The Research Project

Eportfolios were introduced into the School of Education, AUT University in 2009. From 2010, three cohorts of students within a Bachelor of Education (Primary) programme were the subject of a qualitative research project, which focussed on student perceptions of their learning through eportfolio. Emerging from this research is a theme on the (re)presentation of self in the digital medium.

During their second semester at the university, students were introduced to the open source eportfolio software, Mahara. The main focus of the eportfolio use was goal-setting related to the externally–imposed Graduating Teacher Standards (New Zealand Teachers Council, 2007). Students were required to collect evidence (in the form of artefacts) with reflection on the achievement of these to meet the Standards, across the three years of study. Furthermore, the eportfolio was embedded within two curriculum papers, where it was used to link theory with professional practice, and included a strong reflective component. While the research questions ranged across the different dimensions of eportfolio use, it is the showcase dimension that forms the subject of this paper.

A qualitative approach was used, based on notions of naturalistic inquiry (Lincoln & Guba, 1985) situated activity (Denzin & Lincoln, 2000) and a constructivist philosophy. The assumption that the participants'

reality was a complex, multi-facetted world and that each participant shaped their understanding and developed their professional knowledge both individually and within a broader social learning context aligned well with the concept of digital representation of self .

The research question: 'how does the eportfolio contribute to growth and development of students as emergent professionals' aimed to explore student perspectives of their learning. The participants were drawn from three consecutive cohorts. The first set of participants from cohort 1 consisted of 6 initial users of eportfolios with only 6 months experience; the second set of participants from cohort 2 consisted of 8 members with 12 months experience; and the third set of participants from cohort 3 consisted of 6 more-mature users with 18 months exposure to eportfolio. We were interested to see whether the student experience with eportfolio changed with length of exposure to the technology.

In total 20 students participated in the research project, all of whom were female. Rich discussions were recorded from 7 focus groups of two or three members and 4 one-on-one interviews. Transcribed data was analysed through themes and comparisons sought across cohorts. A strong theme related to (re)presentation of 'self' was identified and is elaborated in the next section.

Findings

One: Engaging the personal 'self'

Authentic tasks in eportfolio can engage the deeper self of the student in a meaningful and relevant way. Reflecting on the value of their eportfolio tasks, participants described their eportfolio as a bridge between their academic work at the university and their professional work in the classroom. Some participants considered the traditional theory/practice tension of the university/classroom as disconnected and drew attention to the nature of straight academic essays compared with eportfolio-type tasks. Beliefs about engaging and projecting a professional self at university were expressed as being in tension with engaging and projecting a personal 'self' exposed through experience. The eportfolio tasks were named as achieving the latter and were claimed to be more relevant and authentic for those engaged in teacher education.

While traditionally universities look for an expression of the professional 'self', those working with a digital self, increasingly want to express their individual personality and views through their work. According to Jean (cohort 3) eportfolio tasks that engaged her personal 'self' resulted in her sharing a more complete view of her character with the lecturer, as she considered carefully the selection of an image or reflected on personal learning through an experience. This led to a softening of professional relationships in the view of this participant.

The eportfolio offers an avenue for an integrated view of 'self'. Our participants expressed their frustration at the perceived either/or of the theory/practice tension, rather than the integration of both and thus preserving the integrity of the personal and professional 'self'. Knowing the 'self' through deep engagement at both a personal and professional level should be the pre-requisite to presenting the self, particularly as a digital expression of identity.

Two: Presenting the 'self'

The findings indicated an emerging awareness that eportfolio can be used to present and/or represent the 'self'. We noted a general increase in awareness of presenting a digital 'self' with the period of exposure to eportfolio. This was also matched with a growing awareness of using eportfolio for employment purposes.

When contrasting a personal presentation in Facebook and eportfolio there was no confusion, the former was clearly identified as a means for presentation of personal 'self' for social networking, while the eportfolio was identified as a more formal academic and professional tool. The personal and professional selves were quite separate for participants in cohort 1 and very quickly the eportfolio became known as 'Facebook for professionals'. In terms of presenting the professional 'self' through eportfolio, only one participant in cohort 1, Xena, was able to identify her control and customization of her professional self through her showcase portfolio: "*it's almost like showcasing your professional opinions and thoughts … if someone could read it, they could get a good glimpse of your professionalism"*. After 18 months of use, all participants in cohort 3 could articulate their professional 'self' as presented in their eportfolio, and were intending to make use of eportfolio to showcase achievement for prospective employers.

The eportfolio as an electronic CV for presenting a professional 'self' for employment purposes was not perceived as significant by participants in cohort 1, unlike cohort 3 which saw value in evidencing employment-related abilities and attributes. They noted that the knowledge and skill evidenced through eportfolio views would set them apart from written CVs and would persuade employers to consider their application more carefully. However, strong concerns were expressed regarding digital representation of personal and professional 'self' through artefacts which were considered sterile and one-dimensional. The participants were not comfortable to allow the eportfolio to represent their 'self' but wanted to be present

with a prospective employer and talk them through the eportfolio, bringing life and personality to the presentation. Jane expressed her view: *"it's sort of about 90% of who you really are, but that other ….. the X factor, you can only get that face-to-face, for sure. I mean you might talk to somebody, but unless it's face-to-face you don't really know how they are going to be socially as well."* This represented a tension for participants – they want to present the integrated 'self' at interview, but don't feel confident that the eportfolio can do this for them.

Participants were aware of a constructed identity in eportfolio as revealed by the following exchange between Anne and Jane in cohort 3. Anne noted that it was unlikely that anyone would put out a real version of themselves but rather one that had been airbrushed: "*it's your spell-checked version of yourself*" she declared, and Jane added "*if I was hiring someone, I wouldn't hire them on the basis of what I could see on a page… I'd want to see who they are*". Such a discussion raises the issue of ethics around constructing digital identities.

Three: The authentic or ethical self

Reaching to the heart of a digital 'self' will be questions around the ethical and honest representation of the 'self'. Participants in cohort 1 were unaware of a digital 'self' or the ethics around its construction. It was only after 12 months of use, that a participant in cohort 2 raised the issue of ethics around constructing identity. In discussion, Sonia argued for authenticity and honesty as follows:

> *Sonia: "This is kind of where it comes down to the authenticity. You'd look at who's going to be watching this and you cater it for them; you don't cater it for yourself. So you'd want to be really careful."*
>
> *Vanessa: "You could tailor it to suit the person [who's reading it]."*
>
> *Sonia: "But then that's not your authenticity, is it?"*
>
> *Vanessa: "No, but I would do it to suit that principal."*
>
> *Sonia: "Which is probably wrong!"*

The reality of putting a best foot forward to create a good impression was accepted as what we do, particularly when looking for employment! Jan (cohort 3) admitted that in order to stand out in a crowd of applicants she would: "*make myself seem more amazing than I am"*. The ethics of assuming an identity which may only be partially authentic did not seem to concern Jan too deeply: "*if the content of what you're putting in there is appropriate, you're being professional in what you say, you're being truthful and authentic in terms of your philosophies .. I don't personally see any ethical issues with that*". This raises the question of who or what is the ethical self? Is it the sanitized, airbrushed or spellchecked version; is it ethical if it aligns with personal beliefs; or is there another way to be more honest about the personal/professional self?

There was general agreement at cohort 3, that a teacher presents an integrated personality (both personal and professional) and that this cannot be hidden from the audience. In like fashion, there is an emerging awareness that the eportfolio can achieve the same integrated (re)presentation of self. "*I think we teach who we are … you teach in a way that fits your personality and your values and beliefs, so …the eportfolio is one way of showing who you are.. it forces me to think about what I'm putting out there, where it's coming from within me. People who are looking, that is going to teach them about who I am and what I believe"* (Jean, cohort 3). These participants are concerned about the integrity of their presentation of 'self' through eportfolio and are beginning to ask questions around who their authentic 'self' might be.

To summarize our findings, after 18 months of use more mature users have endorsed the value of the eportfolio as they perceive that it allows them to engage their personal selves in applied professional study. The (re)presentation of their digital selves through the eportfolio, raises frustrations for them around their perceived need to keep their personal and professional selves separate, and they express distaste at the sterility of such created views. For some the concern to be ethical and honest in (re)presenting 'self' digitally must include the personal and professional, yet how is this achieved in a university (and indeed an employment) context, where traditionally the professional 'self' stands alone? The findings describe a sense of vulnerability and insecurity in (re)presenting an authentic 'self'.

Discussion

Our research findings confirm those identified in the literature, and contribute on the subject of integration of professional and personal 'self' through eportfolio (re)presentation.

Engaging with the self in meaningful eportfolio tasks which draw on student personal experience as authentic artefacts, rather than a reliance on the traditional academic writing associated with essays was highlighted by our participants as a shift towards a more relevant teacher-education model. This brings the

theory/practice divide at university into focus, a point reinforced by Sanford & Hopper (2010) and supports the argument made by Joyes, Gray and Hartnell-Young (2010) regarding authentic activities.

The presentation of self through eportfolio was identified in our research as an area of growing awareness for participants who talked with some concern about their digital 'selves'. In the case of an electronic CV, our research confirms Cambridge's (2008) findings that the eportfolio has value as a pre-interview tool, allowing prospective employers to drill down through material in preparation for the face-to-face interview.

Engaging the 'self' and representing the 'self' are important steps towards an authentic representation of 'self' in knowing one's identity as an academic and as a professional, one's values and beliefs and how those inform the identity and integrity of the inner and outer landscape of the person (Palmer, 1998). Our participants are becoming aware of what Grant (2003) calls an 'ethical portfolio' which is based on an identity grounded in personal beliefs and values. Grant contends that the creation of a self-presentation aspect of identity through eportfolio requires focussed attention and even professional development around values, ethics and identity. Our participants would benefit from such a focus to clarify ethical thinking as revealed through the research.

According to Cambridge, (2008a, 2008b) an eportfolio has integrity when the user has negotiated the tension between the personal and the professional to the extent that the one informs and enhances the other, giving a view of self which has life and personality yet maintaining the professional edge. This is what our participants identified when declaring that the eportfolio lacked the X factor in (re)presenting the self to a remote audience. There are however, early indications of some students breaking away from traditional constraints for university presentations and engaging in knowing the self, presenting and representing the self through the selection of a variety of digital artefacts such as video and images which reveal a personality not seen in academic essays.

Conclusions

Findings from this small scale study suggest that female students welcome the opportunity to express their personal and professional 'selves' through eportfolio. While they are aware of the constructed nature of a digital identity, they do show some concern for the ethics around the perceived representation of an authentic, integrated 'self'. Widening this study to include male participants would be useful to verify (or not), the findings related to (re)presentation of 'self'.

Bearing in mind Ravet's (2008) declaration that all of us have a digital identity and presence whether we know it or not, digital identity education needs to be an essential part of learning about Web 2.0 technologies and eportfolios in particular. The issue of ethics and higher levels of personal accountability need to be addressed within more formal educational forums. Likewise, the aspiration for ethical eportfolios as described by Grant (2003) are worthy of emulation. Teacher education providers such as ourselves, must now move away from a focus on the eportfolio as tool, and even beyond the eportfolio as pedagogy, to give more space and time to a consideration of the nature of digital identity and (re)presentation of 'self'.

List of References

1. Abrami, P. & Barrett, H. (2005). Directions for research and development on electronic portfolios. *Canadian Journal of Learning and Technology, 31*(3) Fall. Retrieved from http://www.cjlt.ca/index.php/cjlt/article/view/92/86
2. Barrett, H. (2005). *The REFLECT Initiative: White Paper. Researching electronic portfolios and learner engagement.* Retrieved from http://electronicportfolios.com/portfolios.html
3. Barrett, H. (2009). *Digital identity and EIFEL's new direction*. Personal Blog June 03. Downloaded from http://blog.helenbarrett.org/search/label/Digital%20Identity
4. Bauer, R (2009). Construction of one's identity. A student's view on the potential of eportfolios. Downloaded from http://www.eife-l.org/activities/projects/epicc/final_report/WP7/EPICC7_7_Paper%20Brussells%20S%20Ravet.pdf
5. Cambridge, D. (2009). Two faces of integrative learning online. In D. Cambridge, B. Cambridge and K. Yancey. (2009). *Electronic portfolios 2.0: Emergent research on implementation and impact,* (pp. 41-49). Virginia, VA: Stylus
6. Cambridge, D. (2008a). Cultural ideals for eportfolio practice: Authenticity, deliberation and integrity. Downloaded from http://www.slideshare.net/dcambrid/cultural-ideals-for-eportfolio-practice-authenticity-deliberation-and-integrity
7. Cambridge, D. (2008b). Audience, integrity, and the living document: eFolia Minnesota and lifelong and lifewide learning with eportfolios. *Computers & Education, 51*, 1227-1246.

8. Carrington, V. & Robinson, M. (2009). (Eds.). *Digital literacies: Social learning and classroom practices.* London, United Kingdom: Sage Publications.
9. Denzin, N., & Lincoln, Y. (2000). The discipline and practice of qualitative research. In N. Denzin & Y. Lincoln (Eds.). Handbook of Qualitative Research (2nd ed.). Thousand Oaks, CA: Sage Publications.
10. Emmett, D., Harper, W., & Hauville, K. (2006). Creating a strategy for the implementation of the QUT eportfolio. In A. Hafari & C. Kaufman (Eds.), *Handbook of Research on ePortfolios.* Hershey, PA: Idea Group Reference.
11. Gerbic, P. & Lewis, L. (2011). Dimensions of eportfolios: Research perspectives from a teacher education programme. *Educational Provocations 2011, 1*(1), 19-34.
12. Grant, S. & Grant, A. (2003). Ethical portfolios: Supporting identities and values. *ePortfolio 2006 Conference Oxford 11-13 October.* Downloaded from http://www.simongrant.org/pubs/ep2006/
13. Joyes,G., Grey,L., & Hartnell-Young, E. (2010). Effective practice with eportfolios: How can the UK experience inform implementation? *Australasian Journal of Educational Technology, 26*(1), 15-27.
14. Levy, D.M. (2000) Where's Waldo? Reflections on copies and authenticity in a digital environment. *Authenticity in a Digital Environment.* Downloaded from: http://www.clir.org/pubs/reports/pub92/contents.html
15. Lincoln, Y., & Guba, E. (1985). Naturalistic Inquiry. Newbury Park: Sage Publications.
16. Lynch, C. (2000). Authenticity and integrity in the digital environment: An exploratory analysis of the central role of trust. *Authenticity in a Digital Environment.* Downloaded from: http://www.clir.org/pubs/reports/pub92/contents.html
17. Lyons, N. (1998). Reflection in teaching: Can it be developmental? A portfolio perspective. *Teacher Education Quarterly,*115-127.
18. New Zealand Teachers Council. (2007). *The Graduating Teacher Standards.* Retrieved from: http://www.teacherscouncil.govt.nz/te/gts/
19. Palmer, P. (1998). *The courage to teach: Exploring the inner landscape of a teacher's life.*
20. Ravet, S. (2008). *The eportfolio is dead? Long life to digital identity*. ElfEL Team Blog April 06. Downloaded from http://www.learningfutures.eu/2008/04/eportfolio-is-dead-long-life-to-digital.html
21. Ravet, S. (n.d.) ePortfolio for a learning society. Download from: http://www.eife-l.org/activities/projects/epicc/final_report/WP7/EPICC7_7_Paper%20Brussells%20S%20Ravet.pdf
22. Ring, G. & Foti, S. (2006). Using eportfolios to facilitate professional development among pre-service teachers (pp. 340-355) in A. Jafari & C. Kaufman (2006) *Handbook of research on eportfolios.* Hershey, PA: Idea Group Reference.
23. Sanford, K., & Hopper, T. (2010). Eportfolio for development of teaching identity: identifying learning stages. *Learning Forum London 2010 proceedings* pp 90-97.
24. Strudler, N. & Wetzel, K. (2005). The diffusion of electronic portfolios in teacher education: Issues of initiation and implementation. International Journal of Technology and Design Education, 37(4), 422-433.
25. Tolley, R. (2009) *digital identity*: Personal blog downloaded from: https://groups.google.com/forum/#!msg/eportfolios-and-plts/J82bgNqLYps/AkNTOL5bgXQJ
26. Zeichner, K., & Wray, S. (2001). The Teaching Portfolio in US Teacher Education Programs: What We Know and What We Need To Know. *Teacher and Teacher Education, 17*(5), 613-621.

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Electronic European Language Portfolio – Adult Learner's Mean Of Technologically Assisted Self-Directed English Acquisition: Transformation Of Learner's Identity

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Introduction

The language ePortfolio connects self-directed learning- SDL, language and technological competences what have an impact not only on adult learner personal development, but also transforms his or her identity. Technological assistance changes the attitude towards self-directed – SD and technologically assisted English acquisition. Nevertheless to these assumptions, adults often continue to be directed learners and more rely on educators than on themselves in the practice of foreign language acquisition. Insufficient using of technological possibilities is also possible. That is, why designing of a scale for measurement of adults' readiness to self-directed English acquisition – SDEARS in blended e-studies has been in the process. During the process, theoretically selected criteria has been compared with criteria of the ELP and empirically checked by the qualitative research.

At the same time, data obtained by the method of narratives give additional findings. This article aims to present them for identifying experienced and interested foreign language learner in the form of position paper. Obtaining quantitative data for showing the variable of learners is the next step of the research. Hypothetically, it is assumed that using technological learning resources transforms learner's attitude towards them and promotes SD acquisition of foreign languages. The following tasks are planned to complete: to show unique foreign language learning experiences, make a general characteristic of foreign language learner or what ones' have done and others might do and determine directions for facilitation of personal transformation as the goal and tasks of facilitation of SDL in the process of foreign language acquisition.

Theoretical background

The relationship between learning and personal development from humanistic point of view is considered to be learning is a personal development. The practical self-development historically arises from self-studies and self-education. It is developed by self-directed learning- SDL concept proposed by M.S.Knowles (1975), where learning goals are connected with individual's social role and realised in nonformal education. Similarly, the learning goal of small learning groups in e-environment has influenced creating the term of self-managed learning –SML, but learning of professional groups – the term of self-organized learning – SOL.

The social perspective as facilitation of learning has also included in SDL concept and according to Shpona, Chamane (2009) differs from teaching by consulting learners in solving their learning problems. Collaborative learning (Merriam and Caffarella, 1999) as the social perspective of the group is expressed in self-determined learning what is appropriate for achieving personal goals within the group. Learning contracts reflect increasing of learner's responsibility for his or her learning process and results in formal education.

Lifelong learning ensures continuity in learning where personal development is not more a linear process inside of some social or professional role and person's identity reflecting this role. It becomes integrative by necessity to develop skills of communication, using information and tehnologies, as well as, developing thinking, problemsolving and learning skills for including in the process of globalization. Blended e-studies become an appropriate form of nonformal language acquisition where the lifelong learner is facilitated socially and technically. It supports transfomation of the Self from individual to social and global level, where moving from monolingualism to bilingualism and multilingualism is essential. The last one has been actualising in the context of intercultural collaboration.

So technologies has become an important part of learning, but changing the way of learning impacts personal development and transformation. Revision of fixed assumptions make learners to be *emotionally able to change* (Mezirow, 2003 as cited in Tennant, 2006, 125) and nowadays may be connected with the way and habits of learning what increases possibilities to transform the professional role and identity. It influences self-concept, where Tennant (2006) notes its development from self-realization and resolving problems connected with a social role to self-motivation to personal development, transformation and creating *who one might become* (Tennant, 2006, 133).

Blended e-studies give additional possibilities for learners' facilitation by joining face-to-face and virtual activities. Mark Nichols (2003) establishes e-learning as a means, but development of the learner in the context of the curriculum is still the end. Digital ePortfolio connects SDL, professional development and using technologies what has an impact not only on adult learner personal development, but also transforms his or her identity and attitude towards self-directed – SD and technologically assisted learning.

In this situation, it is important, that ePortfolio not only shows the result of learning, but also is a mean of managing and assessment one's lifelong learning process in a learning society, but the European Language Portfolio- ELP specifies the context of learning and purposes collection of evidence supporting, demonstrating reflective practice and learning of foreign languages. It can be used not only in the paper, but also in the electronic way. The advantage of the ELP for its using in nonformal education is containing of methodological help. At the same time, it does not exclude facilitator's instruction and collaborative activities.

The ELP can be considered as a mean of SDL where self-development during the language acquisition process is implied and reflects motivation, desired language skills as learning goals, self-assessment of language skills, SRL, collaborative learning and learner's attitude. It is possible to make conclusions about the process of developing self-experience of learning, career, sociocultural and personal development by comparing the diaries of different language acquisition reflected in the Language Biography, data from the Language Passport and the Dossier of the ELP. It is also possible to fill it several times during the process of English acquisition for assessing the changes in the process of acquisition of one foreign language.

SDL concept supplements the ELP because the planning of the process of doing tasks is more covered there. Postindustrial integrative models include individual, social and contextual dimensions like three perspectives in researches of adult education (Rosemary S.Cafarella and Sharan B.Merriam, 2004). Tennant (2006) considers SDL as one of main concepts of practice and inquiry of adult and lifelong learning, which strengthens the identity and supposes learners' involvement in planning and guiding their learning.

Results of the research

This research presents the stories of five participants of the qualitative part of the research. The self-directedness has been studied in it through the experiences with foreign language learning. The method utilized is the contextual analysis of personal narratives, what aims to examine foreign language learners' actual experience for identifying nowadays' adult foreign language learner.

Hypothetically, it is assumed that using technological learning resources transforms learner's attitude towards them and promotes SD acquisition of foreign languages. The tasks of the study is to describe the unicality of experiences, make a general foreign language learner's characteristic and determine the directions of transformation of the identity as the goal and tasks of facilitation of SDL.

An object of the study is foreign language acquisition, the subject – learner's identity. It consists of five written narratives given by volunteers, women aged 19 - 62, with different foreign language learning experiences. Two of them are English teachers, one is a teacher of another subject and two of them are participants of the EU project who had come from different European countries and had been working at school in Latvia during one year. Two men were asked to reflect their learning experiences with foreign languages, but they did not respond to the request. The only question, asked to the participants was to describe their personal experience of foreign language learning, resulted in unique set of stories showing person's developmental adjustment to nowadays multilingual world.

The method of narratives reflecting personal foreign language learning experiences is used for obtaining data. The contextual analysis and generalization is used for their interpretation. The process of content analysis included four steps: dividing the text into sentences, selection of content units, clarifying their meaning and coding of the content units.

Data are coded according the integrative model of self-directed English acquisition - IMSDEA in blended e-studies for adults, proposed by the author of the article (Bojare, 2012). It consists of individual perspective that includes dimensions of SDL and self-regulated learning – SRL; social perspective including a facilitator and group dimensions; contextual perspective including dimensions of technological assistance for delivering of subject-matter and methodological content, the ELP for self-assessment and technological assistance of interactivity. In general, it promotes sustainable development at individual level. A learner is presented with dimensions of SDL, SRL and SDL in group, but the facilitation – with assistance of a facilitator, materials of methodological help and self-assessment and technologies.

The model differs from models of distance education by holistic facilitation of SDL by means of learner's individual contribution, sharing of SDL experiences in group, facilitator's supported discussions, including the appropriate module, methodological help for SDL and self-assessment in the content of learning added to technological assistance in delivering the content and supporting collaborative activities. It differs from

traditional models of SDL by broadening the social perspective with dimension of group; introduction of the information and communication technologies – ICT and including the methodological help. It differs from technologically assisted foreign language learning models by implementing the concept of SDL. The results of coding are presented in table 1. They show learners' individual characteristic with dominating concept.

Participant	Dimension	Perspective	Frequentivity	Dominating concept
1	SDL	Individual	6	SDL
	SRL	Individual	4	
	SDL	Social (a facilitator)	1	
2	SDL	Individual	22	SDL
	SRL	Individual	20	
	Self-determined learning	Social (a group)	10	
	SDL	Social (a facilitator)	1	
	Technologies	Contextual	1	
	Directed learning	Social	1	
3	Directed learning	Social	12	Directed learning
	SDL	Individual	2	
	SRL	Individual	2	
	Self-determined learning	Social (a group)	1	
etc.				

Table 1- Foreign language learners' individual characteristic

The proportional comparing of frequentivity show, that

- The individual perspective is the most important in the language learning, but the learners cannot do without the facilitator, group and technologies.
- Inside the individual perspective SD foreign language acquisition is mostly presented in the narratives of experienced language learners.
- It is important that they are able to transform their language learning habits according to new language learning opportunities, they show personal development and are able to change their social role according to the situation.

In general, individual perspective with dimensions of SRL and SDL is dominating for interested and experienced foreign language learner. At the same time, the proportion between SRL, SDL and SDL in group is 4 : 8 : 1. So the interested and experienced foreign language learners identify themselves as SR and SD, but for balanced personal development they need to be involved in collaborative learning, by social and technical facilitation of interactivity and using the ELP for self-assessment and reflecting on their learning habits. The participant with experience of DL has not involved in SDL projects of acquisition other foreign languages.

Nowadays adult foreign language learner's general characteristic show the unicality of language acquisition experiences. It is notable, that she has learned more than one language at school, depending on age. The social role and intercultural collaboration actualizes foreign language acquisition in different ways including distance, nonformal and informal education and self-studies. Her inner motivation of language learning is connected with realization her dreams and self-esteem. She is open with sharing her foreign language learning experience. She reflects it as a process of developing skills towards the success or obtaining real evidences of language skills.

Learning needs range from greeting and introduction to teaching and facilitation of others in foreign language acquisition. She knows full spectrum of cognitive (memorization, comprehension, organizational) and metacognitive learning strategies and uses suitable ones for herself. Memorization and comprehension of knowledge, developing of skills and using of language is important. Writing, tables, mind maps are recognized as good means of learning.

Critical evaluating of effect of learning strategies and process allow her to create her own methods of language acquisition. She is aware of her potential resources of foreign language acquisition, e.g. short time planning of time, visiting a country where the target language is used. She is ready to new language acquisition, students' and foreigners' facilitation. She is not able longer to work only with printed learning

materials, because audio materials promote skills, especially pronunciation and listening skills, accelerate language acquisition in a whole, and the progress is notable very soon. She does not fill the ELP or ePortfolio for self-assessment and reflection the process of learning.

The results of the research show, what ones' have done and others might do. They give the opportunity to specify tasks for facilitation of personal transformation in the process of technologically assisted SD English acquisition, e.g. in blended e-studies. They are:

- increasing readiness to learn the foreign languages and transformation of learner's identity;
- promoting positive attitude towards technologically assisted learning materials and self-assessment;
- introducing with learning strategies;
- supporting transformation towards SDL and facilitation of SDL;
- implementing of e-studies and technologically assisted interactivity.

The balanced personal development as the goal of learning should be facilitated in the process of foreign language acquisition.

Conclusions

1. Results of the research confirm the hypothesis that using technological learning resources transforms learner's attitude towards them and themselves what promotes SD acquisition of foreign languages.
2. The qualitative part of the research show interested learners' unique experiences of foreign language acquisition, where creating own methods of language acquisition is presented.
3. The general her characteristic shows the transformation of learners' attitude towards using of technologically assisted learning materials and readiness to change language acquisition habits, e.g. positive attitude towards learning language in virtual environment; moving from using printed learning materials to using the computer as universal technological device for language acquisition.
4. The ELP promotes the approach of SDL in foreign language acquisition, but is not used by participants of the research.
5. The goal and tasks of facilitation of SDL are formulated.

Recommendations

The electronic form of the ELP can be recommended as a suitable mean for self-motivation and facilitation of self-directed English acquisition in blended e-studies because:

1. It broadens using of the ePortfolio by specifying the context of learning and purposes collection of evidence supporting, demonstrating reflective practice and learning of foreign languages.
2. It can substitute traditional means of learning – learning contracts what are wide used in formal education.
3. The additional value of the ELP for its using in nonformal education is containing of methodological help. At the same time, it does not exclude facilitator's instruction and collaborative activities.

The quantitative research for the measurement of adults' readiness to self-directed English acquisition will be done. The questionnaire includes also the question about readiness to fill the ELP. The Language Portfolio for Adults (Public Service language Center, 2006) has worked out for learners as auditoria, but needs to be wider implemented in the practice of facilitation of foreign language acquisition in Latvia. So the practical research about its using for self-reflection and self-assessment about acquisition of the English language is planned.

The results may be compared with the results of the research about using European Portfolio for Student Teachers of languages, EPOSTL (EC, 2007) for professional self-reflection (Latkovska, L. Rutka, 2010). They show, that more than half of respondents consider it as a useful tool for self -reflection, for many it seemed too big and difficult at the beginning, but at the end they estimated its role in their professional progress.

References

1. Bojare, I. (2012). *Self-Directed English Acquisition in Blended e-Studies for Adults: Criteria of a Scale.* Journal of young Scientists, 2(35), 4-10. Šiauliai: Šiauliai University. ISSN 1648-8776
2. Caffarella, R. S., Merriam, S. B. (2004). *Perspectives on adult learning: Framing our research*. Journal for the Study of Adult Education and Learning, vol. 1, nr. 2, p.31-39.

3. EC. (2007). *European Portfolio for Student Teachers of languages, EPOSTL*, from *http://archive.ecml.at/mtp2/fte/pdf/C3_Epostl_E.pdf*
4. EC. (2006). *Eiropas valodu portfelis pieaugušajiem = European Language Portfolio for Adults.* Rīga: VMC, from http://www.vmc.lv/elp/valodu-portfelis-en.pdf
5. Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Prentice Hall/ Cambridge: Englewood Cliffs.
6. Latkovska E., Rutka L. (2010). *Eiropas portfelis topošajiem valodu skolotājiem (EPTVS) kā profesionālās darbības pašvērtējuma veids studentu skatījumā =The European Portfolio for Student Teachers of Languages (EPOSTL) as a Means of Self-Assessment of Professional Activity – Students' Perspective.* LU, *Raksti,* vol. 747 (Pedagogics), p.111-123, from: http://www.lu.lv/fileadmin/user_upload/lu_portal/materiali/apgads/raksti/747.pdf
7. Nichols, M. (2003). *A Theory for E-Learning.* Journal of Educational Technology and Society, vol.6, nr. 2, p.1-10. ISSN 1436-4522. Viewed on 20 January 2012, <http://www.ifets.info/journals/6_2/ets-6-2.pdf>.
8. Špona, A., Čamane, I. (2009). *Audzināšana. Pašaudzināšana*. = *Up-bringing or socialization. Character building.* Rīga: RaKa. ISBN 978-9984-46-084-0
9. Tennant, M. (2006). *Psychology and Adult Learning.* New York: Routledge Taylor and Francis Group. ISBN 0-415-37334-4

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Developments of Social Recognition System by ePortfolio and e-Passport to Promote Social Participation

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Ⅰ. Introduction: Outline of This Research
Ⅱ. Development of ePortfolio and e-Passport system
Ⅲ. Experiments of high school student, graduate and adult learner
Ⅳ. From Assessment To Evaluation and Recognition
Ⅴ. Conclusion

I.Outline of This Research

1. What is Civic Learning Community

１）Lifelong Learning Platform where a variety of generations learn

２）Learners can be community leader through social participation

３）Social platform to stock learning activities and learning experiences

2. Task

１）A deficiency of any system to use individual learning outcome to society.

２）A deficiency of any suitable educational system to use individual learning outcome to society.

３）The necessity of evidence based study to use individual learning outcome to society.

４）The necessity of evidence based study of purpose not only career support but on social participation

3. Purpose of Research

1) To verify educational effect of showcase which learner thinks social relation and social contribution reflecting himself of herself and present oneself to the others by assessments quantitatively and qualitatively

2) Development of social participation system with social recognition of human resources for communities through granting e-Passport after evaluating personal showcases.

II.Development of ePortfolio and e-Passport system

1.Extension of ePortfolio system

1) Devices for keeping to memorize such as using smartphone or face book

2) Implementation those devices to learning platform

2. Fulfillment of functions to assess and evaluate in showcase

1) Self-assessments by 7 steps

2) Presentation of statements of learning outcomes in the terms of activity, competency, and vision.

3) Formative assessments and evaluation by some kinds of advisor.

4) Use of electronic presentation devices

3. Development of social recognition system

1) Social recognition system to use human resources in community as social capital.

2) Social recognition system organizing with regional governments, industries and academic communities.

3) Social recognition by online system

III. Experiments of high school student, graduate and adult learner

１. High school student

2. Graduate

3. Adult learner to promote community learning

IV.From Assessment To Evaluation and Recognition

1. Assessment and evaluation of showcase

1) Formative assessment and performance assessment

2) Self-check of key competencies

3) Assessment of training to use showcase

2. Social recognition system

1) Social recognition valued to adult learners who have a variety of experiences and expect any social roles.

2) Summative assessments and new findings over personal ePortfolio.

3) Evaluation of community human resources based on quantitative and qualitative evidences.

V. Conclusion

1. The importance of supporting system for social participation and the issues.

2. The importance of key competency as a stock.

3. In line with the variety of community.

4. Goal to accumulated social capital and development of social community.

Social Capital: Determining a Student's ePortfolio Net Worth

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Abstract

Many schools or individual departments require student ePortfolios. The ePortfolios are used for different reasons including assessment, employment, internship, and/or co-op purposes. However, getting all students to "buy-in" to the idea of developing an ePortfolio is a daunting challenge as most academic professionals are well aware. There is increasing concern on the part of the student that ePortfolios are not relevant for employment purposes. From the first year through the senior year, Bachelor of Science in Management (BSM) students at Wentworth Institute of Technology are required to compile an ePortfolio of their work in consultation with their academic advisor. Since 2007 we have been struggling with helping students develop professional looking ePortfolios. Over the years we switched from static built web sites, to LinkedIn, and now we are using WordPress.com. Student ePortfolios look much more professional since we made this switch. In many ways students are building social capital for themselves through the use of an ePortfolio. But, what exactly is the net worth of an ePortfolio for a student? Developing a professional looking ePortfolio goes well beyond building social capital for the student. We define net worth as it relates solely to ePortfolios. We also propose a methodology or model that can be used to determine the net worth of a student ePortfolio. We conclude by summarizing that the net worth of an ePortfolio can be broken down into heuristic patterns that add value for the student.

Keywords: Eportfolio, social capital, technology, educational assessment, learning, value, co-op, internship.

Introduction

Eportfolios have been in use for well over a decade now. Most ePortfolios contain similar electronic items, including but not limited to: profiles, resumes, pictures, artifacts, and references. These ePortfolios can be used for many different reasons including assessment, employment, internship, and/or co-op purposes. In addition, there is a strong, current push to utilize ePortfolios for self and/or lifelong learning purposes ([3], [10]). Educational institutions have utilized ePortfolios mainly for assessment. Bachelor of Science in Management (BSM) students, at Wentworth Institute of Technology (WIT), have been required to develop ePortfolios since 2007. The ePortfolio is a core graduation requirement. Students must register for a course number and at the end of the semester a grade of a "Satisfactory" (S) or "Unsatisfactory" (U) is issued. Students begin developing their ePortfolio during freshman year and then finalize and submit during senior year. Student ePortfolios are also part of an assessment and self-study accreditation report at WIT. We also encourage students to submit their respective ePortfolios to co-op employers and upon graduation to potential career employers. Administrators and academic professionals generally understand the multi-level benefits of ePortfolio usage. However, most students do not seem to grasp the many purposes behind ePortfolio development and usage. There is an ambivalent perception on the part of the student ePortfolio developer. This perception could actually hurt a student's chance of co-op or career employment if this attitude funnels over into poor development or a lack of holistic motivation ([15]). Since 2007 we have been struggling with helping students develop professional looking ePortfolios. Over the years we switched from static built web sites, to LinkedIn, and now we are using WordPress.com. Student ePortfolios look much more professional since we made this switch.

Even though students may not realize it, in many ways they are building social capital through the development and use of an ePortfolio. There is a net worth that can be determined theoretically in relation to ePortfolio development and usage. Developing a professional looking ePortfolio goes well beyond building social capital for a student. In this article we define net worth as it relates solely to ePortfolios. We also propose a methodology or model that can be used to determine the net worth of a student ePortfolio in order to help students grasp the perceived practicality of development and usage. We conclude by summarizing survey results showing a heuristic pattern that adds additional value for the student. Finally, we suggest a need for further research from the co-op and the employer's point of view.

Perspectives

Developing an ePortfolio takes a considerable amount of skills on the part of the student, such as organizational and technical skills ([1], [2], [11]). The system upon which an ePortfolio is built are numerous and changing on a regular basis, as well ([1], [2]). Most, such as our own WIT students, started out

developing ePortfolios from scratch using basic HTML, FrontPage or other web based platforms. Today there are a large number of ePortfolio based software programs for purchase or for a small annual fee ([1], [2]). In addition, there are many purposes used for an ePortfolio, such as assessment, employment, and/or recruiting ([1], [2] [11]).

Developers Perspective

Like many student developers, at WIT, we are currently using WordPress.com as our tool of choice ([14]). WordPress.com is a free or small fee based blogging site, which contains thousands of different template themes for the user to choose from ([14]). No matter which platform a student utilizes, research shows that the process for development is intrinsically the same. Most literature implies that student developers follow a process of:

- "collecting" the artifacts
- "selecting" the artifacts
- "reflecting" about the artifacts
- "directing" or setting goals" regarding the artifacts
- "presenting" or publishing the artifacts, and finally
- "receiving feedback" pertaining to the artifacts presented or published ([1], [2], [3]).

If developing from scratch, for the presenting phase, the developer must choose the publication modality. For students using WordPress.com, the platform and presentation modality is already determined ([14]). In addition, the feedback phase can be accomplished much easier since WordPress.com is essentially a social networking blogging site ([14]).

IS Perspective

WordPress.com, although it can be more complicated, is essentially a web based information system (IS) ([14]). Just as a business uses an information system to maximize data processing, student developers can utilize an IS system for similar results ([11]). This blogging system allows student developers to enter and store information. The templates help give the information meaning by sorting and storing in a structured and professional manner. Just as information systems for businesses have evolved over many decades, ePortfolio information systems will continue to transform, as well. Currently, recruiters cannot search most systems; however, in the future these systems will give recruiters the ability to match qualifications for specific job positions quickly and efficiently ([11]). Although not considered an all-inclusive ePortfolio system yet, we are already seeing this happen with LinkedIn.com ([7]). It is in the best interest of the student developer to conceptualize and depict the ePortfolio in a structured manner, which means meeting today's objectives and planning for the IS ePortfolio of the future, as well.

Value Perspective Defined

Helping students understand the value or net worth of ePortfolio development can be a challenge. Human capital theory, as a relatively applied simple concept, provides clarity in relation to ePortfolio development ([10]). Stainback states in his article, "the logic follows that as individuals acquire more education, knowledge and skill, their productivity increases, thus raising their relative worth over the value of another" ([10]). Students utilize, perfect, and increase certain skills during ePortfolio development and usage. Also, value for the student developer is an "enduring belief" of satisfaction in the end result. ([5]). In addition, Yancey states in her article, Electronic Portfolios a Decade into the Twenty-first Century, that "research at Seton Hall University has focused on the ability of ePortfolios to foster the development of noncognitive traits as well" ([15]). She further states that these traits show "the ability to work with others, that correlate(s) with success in school and employment" ([15]).

Social-Cultural Theories

Since WIT students are using a social networking blogging site for ePortfolio development, social-cultural theories of learning also apply. Kristy Young indicates that additional learning can be tied to a desire to engage ([16]). Young presents two social-cultural theories that can directly apply to student ePortfolio developers. Situated cognition theory, in part, signifies that learning occurs in an online community via participation, investigation, and exposure ([16]). Second, that activity theory applies because "human cognition occurs as individuals engage in motivated, goal-directed activity" ([16]). Further, as participation continues mastery increases ([16]). Thus, as students continue to develop and utilize ePortfolios over time, their skills will continue to grow and learning will increase. Over time, as student developers begin to see the fruits of their hard work, their motivation level increases due to the direct impact of their demonstrated skill levels increasing.

Model Skills

Students sharpen and gain new skills at the start, during, and at the end of ePortfolio development and usage. Table 1 lists a sampling of the skill sets in relation to the stages of ePortfolio development and usage.

Development	Publishing	Networking	Marketing
Technology	Identity Creation	Collaboration	Associations/Contacts
Organization	Intelligence gathering	Social interaction	Connections
Design	Norms and Rules	People-to-People	Searching
Self Reflection	Security/Privacy	Peer-to-Peer	Viral Marketing

Table 1: Eportfolio Development and Usage Skill Sets

The skill sets listed in the above table seems simple, when in reality the value or net worth for each student will vary across the board. Over the last four years we have witnessed an increase in the level of these skills across the board with WIT students. A survey conducted during spring semester 2011 explores this insight.

Research Design

An online survey was created using Survey Monkey, which is an online free or fee-based survey tool. The survey was distributed to all WIT graduating seniors participating in the 2011 ePortfolio course. The survey remained open for a period of three weeks in March 2011. There were 31 WIT student participants.

The sample is not intended to be representative of the entire ePortfolio student developer population in general. However, this sample is an ideal representation of the 52 graduating seniors for the 2011 graduating BSM class. Although, this sample does not represent all college students, or the job seeking public in general, the survey findings provide many insights related to the student's perceived value of ePortfolio development and usage.

The survey included six Likert scale questions exploring the satisfaction or degree of:

- I believe that my ePortfolio (EP) represents me as a management professional.
- My EP tells a story of my college career.
- My EP reflects my self-achievement.
- How satisfied are you with your final EP product?
- After finishing my EP, I can tell that I have had significant improvement and growth since freshman year.
- In choosing artifacts for my EP I followed a: reflect, select, present strategy.

The survey also included two agree or disagree questions:

- I will use my EP for employment purposes.
- I will continue to update my EP after graduation.

The survey also included two ranking sets of questions related to before and after development regarding the following skill sets:

- Technical
- Organizational
- Writing
- Critical Thinking
- Self-knowledge

The survey also asked one yes or no related question:

- Did you celebrate when you complete your EP?

And, finally the survey asked one open-ended feedback question:

- During or after developing your EP did you learn anything about yourself? Please Explain.

Findings

Out of the 31 respondents 56% agree and 13% strongly agree upon completion that their ePortfolio is representative of a management professional. In regards to their belief that the ePortfolio tells a story of their college careers, 42% agree and 19% strongly agree. Not surprisingly, 45% agree and 23% strongly agree that their ePortfolio reflects personal self-achievement.

Interestingly, only 16% were slightly satisfied, 29% were moderately satisfied, and 26% were extremely satisfied with the final product. However, when asked if they could see significant self-improvement and growth over the four years of their college career a large 58% agree and 23% strongly agree.

In choosing artifacts for their ePortfolio 39% agree and 32% strongly agree that they followed a reflect, select, present strategy.

Employment

When asked if they would use their ePortfolio for employment purposes 71% agree they would. Almost 68% of the respondents reported they would continue to up date their ePortfolio after graduation.

Utilized Skill Sets

Table 2: Utilized Skill Sets represents the current skill sets students believe they utilized the most during the development stages of ePortfolio creation in five ranking orders.

Rank	Technical	Organizational	Writing	Critical Thinking	Self-Knowledge
1st	10%	**42%**	19%	3%	26%
2nd	**26%**	13%	22%	**26%**	13%
3rd	10%	13%	16%	**32%**	29%
4th	13%	16%	**26%**	**26%**	19%
5th	**44%**	13%	13%	13%	17%

Table 2: Utilized Skill Sets

From a ranking first through fifth skill sets perspective, out of each category, students indicated that their organizational skills are the most important skill they need during development, followed by tied technical skills and critical thinking skills second. In third place, they indicate critical thinking skills; in forth there was another tie of writing and critical thinking skills. Finally, current technical skills are last from the first to fifth categories in a ranking order.

Gained Skill Sets

Table 3: Gained Skill Sets represents the skill sets students believe they gained the most during ePortfolio development in ranking order.

Skill Set Gained	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Technical	3%	10%	16%	**58%**	13%
Organizational	3%	13%	20%	**61%**	3%
Writing	3%	26%	**42%**	26%	3%
Critical Thinking	3%	16%	26%	**52%**	3%
Self-Knowledge	7%	10%	19%	**45%**	19%

Table 3: Gained Skill Sets

Students believed that during ePortfolio development they gained additional organizational skills the most, followed by technical skills, critical thinking skills, self-knowledge skills and finally writing skills last in a non-ranking order. Meaning, these skill sets are what they believe they gained during ePortfolio development.

Comments

When students were asked if they celebrated upon ePortfolio completion 61% said yes. Finally, when students were asked to write open-ended comments in reference to during or after development of their

ePortfolio did they learn anything new about themselves Table 4 Skill Set Comments below represents an interpretative analysis of these comments categorized into the skill set areas.

Skill Set	Comment
Technical	"I learned that it's not as hard as it looks to put it together, or at least Wordpress is easy enough to understand." "I learned that I have Technical skills." "I just learned a new software and way to build a website." "Learned how to use Wordpress, the social networking site."
Organizational	"Yes, I learned that I need to be more organized and keep better track and records of important documents throughout my entire time at a school or business." "Learned I needed to be more organized and aware of what will be required of me."
Writing	"It was interesting looking back on the documents I wrote during my four years of college." "I learned about the certain type of professional format that should be put on the EP."
Critical Thinking	"During my EP I realized that I had a unique take on completing my EP. I wanted to show my experience from previous majors and catered my EP to what I specifically want to do after graduation." "I learned to present the work I completed in a professional manner. I also learned how my work relates to the professional environment." "Learned about what I can do to set myself up for future employers to look at my EP." "The only thing that I might have learned is to have longer thoughts about my future goals." "It allowed me to be more creative."
Self-Knowledge	"I've learned that procrastination is death. If you leave off something for too long, and you try to do the impossible "one night" ordeal, you're setting yourself up for failure. In my case, that's what happened to me." "I learned that I accomplished more than I realized. By doing an EP, you can actually see your growth from Freshman year to Senior year." "Yes, I did not notice how much I learned throughout the school year. I actually went back and was surprised at the good work I have accomplished." "When I looked at the final product I was surprised at how far I've come since my freshman year. I felt that these four years helped me grow as a person." "I was given a greater idea of the things I have accomplished over the past four years." "I learned that I am a lot more collected under pressure then I thought I would be, and I gained self-knowledge about how resourceful I can be as well." "I was able to reflect on my experiences here at Wentworth Institute of Technology and learn how much I have done over the years."

Table 4: Skill Set Comments

The survey results discussed above represent the WIT BSM senior sample of student developers. The discussion, interpretation, and limitation of the survey results are discussed next.

Discussion

The research that was conducted during March 2011 is a great start for subsequent studies and contributions to the existing literature base on the value of ePortfolios. The findings do indicate an increased skill set overall. However, it is important to note several implications of the current study.

Implications

A primary implication is the fact that the research conducted included only student's perspectives and was self completed by the students. Many problems are inherent with self-reporting based surveys; including the possibility that students may have overstated their utilized skill set and overrated their gained skill set.

Second, another consideration is refining the definition and application of the heuristic patterns included in the ePortfolio formula. It is implied that heuristic patterns are inherent in the design and development of student ePortfolios and that the e-porfolio itself represents an educational method in which learning takes place through discoveries that result from investigations made by the student.

An assumption is that our description of ePortfolio net worth (NW) is the sum of human capital (HC) and social capital (SC). In other words, NW = HC + SC. Defining human capital, social capital, and net worth need further discussion and research and is addressed in the following section entitled future research.

4.1.1 An Interesting Discovery

Since our WIT management students need to develop leadership skills, during our research it was interesting to discover that gained leadership qualities applies to the net value of ePortfolio development and usage, as well. McCallum and O'Connell suggest that leadership skills can be gained through "development experiences that provide opportunity for learning" ([8]). Also, their research shows that leadership skills can be acquired though "personal orientation to learning including's one's abilities, skills, and motivation" ([8]). They also suggest that through rewards gained, leadership abilities are further developed ([8]). These researchers believe that increased human capital equals increased social capital ([8]). Thus, the net worth of a student developer's ePortfolio can ultimately be determined by the following equation: ePortfolio net worth = The sum of human capital plus the sum of social capital. Net worth includes learning outcomes, networking proficiency, and increased vocational opportunities. In addition, as a by-product, the net worth of a student developer's ePortfolio can enhance more effective leadership skills.

4.1.2 The Eportfolio Model

An ePortfolio model defines net worth as it relates solely to ePortfolios. The ePortfolio model, as previously discussed, defines ePortfolio net worth (NW) as the sum of human capital (HC) and social capital (SC); or simply NW = HC + SC.

In short, human capital represents technological skills, organizational skills, writing skills, critical thinking skills, and self-knowledge skills. These skills are either utilized or gained during the ePortfolio process from freshman to senior year.

Social capital represents the ability of students to communicate, work with others, including faculty members, and create and maintain networks as a result of their ePortfolio. Social capital is also considered a non-cognitive trait development and that these social capital skills are transferable skills in the workplace, in school, and in personal life-long learning.

Net worth or simply, the intended outcome of ePortfolios is for the student's to maximize measurable learning outcomes (curriculum based objectives), creating and utilizing effective networks (social networking based objectives), and increasing a student's marketability in terms of employment potential (vocational based objectives).

Future Research

A number of areas are recommended for future research. More specifically, the development of an assessment rubric as it applies to the ePortfolio model is an important area to address. Other areas include employer perspectives, both co-op employer and career employer, as well as faculty buy-in, free vs. fee based platforms, and transitions from academic to professional ePortfolios.

Assessment Rubric and the Eportfolio Model

A key factor for future research is to look beyond a checklist assessment of ePortfolios. A rubric will help quantify a final grade and its respective letter grade conversion. This takes the equation of NW = HC + SC to another level, beyond simply "Satisfactory" (S) and "Unsatisfactory" (U), which is the current method for giving student's a final grade on their ePortfolio.

Can heuristic patterns be sufficiently correlated with the ePortfolio net worth equation, which equals the sum of human capital and social capital? Therefore, defining human capital, social capital, and net worth as they apply to ePortfolios is a critical next step as ePortfolios continue to expand in academia. More specifically, the definition of human capital, based on human capital theory, social capital, including non-cognitive trait development, as well as leadership skills, are all in need of further qualification and, whenever feasible, quantification.

Future research would utilize a revised matrix based on current best practices regarding ePortfolios, input from faculty members who are trained in outcomes based assessment, as well as input from employers (both co-op and full-time career).

Employer Perspectives

Future research that would be vital for ePortfolios is to obtain information from co-op employers and career employers. Determining the net worth of an ePortfolio from the student's perspective, from our own research and experiences, the data revealed quite interesting results. In order to strengthen the survey additional samples can be taken as well as the administration of interviews, focus groups, and questionnaires with hiring professionals. Given the rapid changes in the work environment and the continued impact of technology in academia, future research is needed from the perspective of the hiring institution. As Strohmeier suggests in his article, "Electronic Portfolios in Recruiting," more empirical evidence-based research is needed from the recruiter's perspective ([11]).

Faculty Mentoring & Buy-In

Future research involving faculty mentoring and buy-in is also important for continued progress in the ePortfolio endeavours at WIT. Our own faculty need to develop an ePortfolio just like WIT students. This accomplishment would not only help faculty understand this process better, but would also give them the ability to help our students more effectively.

Free vs. Fee-Based Web Hosting

The free versus paid sites and the direction of web sites and blogs is another area that will need to be addressed at WIT in the future. For now, we will continue to use WordPress.com but that could change for many reasons. As ePortfolio tools evolve and grow, the skill sets needed to develop an ePortfolio will increase. As IT evolves so will ePortfolio development and usage.

Transition from Educational Career Portfolio to Professional Career Portfolio

A final consideration for future research is the transition from an academic environment to a work environment and the migration of the ePortfolio between these environments.

Conclusion

In conclusion, the student ePortfolio will continue as part of the curriculum at Wentworth Institute of Technology. At least for the short term, WordPress.com will be the site and students will still be required to have the basic components including a student profile, resume, pictures, artifacts, and references.

Student artifacts will be broken down into a cross-section of a student's human capital, including papers, projects, reports, and other academic and/or work-related artifacts; all of which attest to a student's technical, organizational, writing, critical thinking, and self-knowledge skills. The social capital elements of the ePortfolio will also include a cross-section of proficiencies, with an emphasis on social networks, imbedded technology, external hyperlinks, and other measures of social-related skill sets.

Finally, the net worth of student ePortfolios is an evolving concept and requires future research and discussion on ways to capitalize on this useful and important technological tool from a variety of stakeholder perspectives. An emphasis on students is of paramount importance and empowering students as they reflect, select, and present their ePortfolios will continue to be the primary objective of the ePortfolio process.

References

1. Barrett, H. (2011). Blurring the Boundaries: Social Networking and Eportfolios. MacLearning. 1-6.
2. Barrett, H. (2011). Balancing the Two Faces of Eportfolios. British Columbia Ministry of Education, Innovations in Education, 2nd Edition.
3. Barrett, H & N. Garrett. (2009). Online Personal Learning Environments: Structuring Electronic Portfolios for Lifelong and Life Wide Learning. On the Horizon, Vol. 17 No. 2, pp. 142-152.
4. Canali, C. (2010). Characteristics and evolution of content popularity and user relations in social networks. Computers And Communications (ISCC), IEEE Symposium. 750-756.
5. Fiona Fui-Hoon Nah; Hong Sheng; Keng, S. u. (2011). Value-focused thinking and its application in MIS research. Journal Of Database Management, 18(3).
6. Leedham, J. T. (2011). Opportunistic social networks for academia. Mobile And Online Social Networks (MOSN), Workshop. 1-6.
7. LinkedIn.com. (2011). Retrieved December 26, 2011 from http://linkedin.com.

8. McCallum, S. (2009). Social capital and leadership development. Leadership & Organization Development Journal, 30(2).
9. Ritzhaupt, A. (2008). Development of the Electronic Portfolio Student Perspective Instrument: An ePortfolio integration initiative. Journal Of Computing In Higher Education, 19(2).
10. Stainback, K. (2008). Social Contacts and Race/Ethnic Job Matching. Social Forces, 87(2).
11. Strohmeier, S. (2010). Electronic Portfolios in Recruiting? A Conceptual Analysis of Usage. Journal Of Electronic Commerce Research, 11(4).
12. Upadhyaya, B. (2009). Social Overlay: P2P Infrastructure for Social Networks. INC, IMS And IDC, 970-976.
13. Wang, C. (2009). Comprehensive Assessment of Student Collaboration in Electronic Portfolio Construction: An Evaluation Research. Techtrends: Linking Research & Practice To Improve Learning, 53(1), 58-66.
14. WordPress.com. (2011). Retrieved December 26, 2011 from http://wordpress.com/.
15. Yancey, K. (2009). Electronic Portfolios a Decade into the Twenty-first Century: What We Know, What We Need to Know. Peer Review, 11(1), 28-32.
16. Young, K. (2009) Online Social Networking: An Australian Perspective. International Journal Of Emerging Technologies And Society, 7(1).

Assessment

"PIPE – Portfolio International Profile In Engineering" – General And Specific Challenges Of Introducing Eportfolios For Assessment And Accreditation In Didactics-Remote Disciplines

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Introduction

Accreditation and assessment issues have become prominently relevant in German higher education with the Bologna Process starting in 1999.

In the decentralized system of higher education in Germany, the Bologna reforms have been perceived as an attempt to exert central control and as a restriction of the freedom of science and research. The result was a resistance to didactic innovation by many university members. Innovative learning and teaching, and assessment instruments like ePortfolio are therefore relatively new in the German university context. Where they have been introduced, this was mainly promoted by central learning and teaching initiatives, and offered as an addition to regular courses. Such instruments rarely managed to be integrated into mandatory courses. This applies especially to disciplines with no inherent affinity to didactics, such as engineering.

We argue that the potential of ePortfolio as an instrument for assessment and accreditation can only be exploited if it is integrated into the regular courses which are assessed and accredited. In contrast to introducing ePortfolios as an addition to the core curricula in the context of key competencies courses or additional certificates, our ePortfolio "PIPE – Portfolio International Profile in Engineering", within the programme "Business Administration and Engineering / International Management" at the School of Engineering / Pforzheim University, is integrated into regular courses. As a speciality, PIPE runs through the whole study program from the first until the last semester and thus spans over a period of three and a half years. PIPE is at the moment in a one-year pilot phase funded by the German Academic Exchange Service (DAAD) with regular implementation planned for the forthcoming winter semester 2012/13.

The contribution of this paper is doublefold. First, it presents the factors which help to make the ePortfolio introduction successful in engineering as a didactics-remote discipline. Second, it shows which important steps supported course integration and which challenges had to be overcome. Through the ePortfolio PIPE we would like to give our colleagues at Pforzheim University a best practice example how the assessment criteria for learning outcomes for the next cycle of our recently achieved international accreditation can be combined with our teaching routine so that in four years` time, when the accreditation agency starts the next inspection, the continuous assessment of learning outcomes will have already become a part of our teaching culture and doesn`t need too much of an additional effort. We also hope to show that aspects of the ePortfolio can be used for the planned national institutional accreditation of Pforzheim University.

ePortfolio and the Bologna reforms

Bologna in Germany

The Bologna Process officially started in June 1999 when 29 European countries signed the Bologna Declaration, aiming to "establish internationally accepted degrees, improve the quality of courses of study, and enhance employability".[6] The deadline for the reorganisation of university programmes along the Bologna reforms into the system of Bachelor and Master degrees in Germany was the year 2010. The implementation of the Bologna reforms in Germany was accompanied by a lot of criticism and a highly emotional debate both within academic circles and in the public discourse displayed in the media. The reforms have therefore been introduced rather slowly and often against the resistance of university professors. Approaches and tools for didactic innovation, assessment and accreditation such as ePortfolios are still not very wide spread in German universities. In order to make the challenges of the introduction of ePortfolio as an instrument of didactic innovation, assessment and accreditation understandable, and to present strategies how to meet these challenges in the German context, a short overview of the German system of higher education and account of the implementation of the Bologna reforms is necessary.

Germany is politically organized as a confederation consisting of a central federal government and 16 federal states / Länder. The 16 Länder have several legislative and executive competencies which they

[6] German Federal Ministry of Education and Research (BMBF) http://www.bmbf.de/en/3336.php (accessed 28th May 2012)

exercise on their own responsibility under the umbrella of the German constitution. Education is in the responsibility of the federal states. This implies differences in the organization of higher education from Land to Land, with the premise that education opportunities are equal in all Länder as prescribed by German constitution. The signing of the Bologna Declaration and the commitment to the Bologna process therefore involved not only a translation of the requirements to the national context and the implementation supported by a central governmental initiative but also a translation to 16 Länder and the implementation through the responsible bodies there. Some stakeholders in the 16 Länder were sensitive about the Bologna reforms representing a central intervention and interference with the Länders` competencies. This difficulty of translation of the Bologna reforms not only to a central national context but to 16 Länders only partly accounts for the fact that German universities took a relatively long time to reorganize their higher education systems to align them with the Bologna requirements.

The other reason is that the switch from the old German university system of "Diplom" and "Magister" degrees and the old curricula to the new two-cycle degrees with the corresponding curricula involved a very big change in the structures of university studies and therefore took more time than in other countries where the former systems were more similar to the new structures and therefore the change was not as big as in German universities. German Universities of Applied Sciences such as Pforzheim University where PIPE is located did not have the same difficulties with the structural changes as the classical universities because their curricula and study structures were already closer to the new requirements before the reforms. Universities of Applied sciences are aiming at a more practical and application oriented education in comparison with the stronger research-oriented universities.[7] Traditionally the distinction between Universities and Universities of Applied Sciences also is that the professors of the latter are rather viewed as "teaching professors" and the former understand themselves as "researching professors". From that, one could assume that the introduction of an ePortfolio in a University of Applied Sciences is generally easier to implement than in a research-oriented university. But while teaching professors in both Universities and Universities of Applied Sciences in faculties such as education, psychology or social work with an inherent affinity to teaching have a professional understanding of the implications of didactic practice, "teaching professors" in Universities of Applied Sciences in Schools of Engineering in general fulfill their teaching without an awareness of the potential of professional didactic methods. Therefore the importance that is attributed to the introduction of new didactic methods in Schools of Engineering even in Universities of Applied Sciences is in general similarly low as in the didactics-remote faculties in the research-oriented universities. Additionally, many professors in German faculties of engineering who were socialised in the pre-Bologna system still have a negative attitude towards the Bologna reforms and associated didactic innovation because the introduction of the Bachelor and Master degrees implied the abolition of the former degree "Dipl. Ing." – "Diplom-Ingenieur" which had been established as a quality brand of German engineering education and was a guarantee for quality of the graduates on the international employment market for engineers.

Change of Paradigm

When looking at the implications of the switch from a notion of "Education by research" derived from Wilhelm von Humboldt (1776-1835) that prevailed in German universities until the end of the 1990s to Bologna goals such as "Key competencies, applicability, employability" it becomes clear that there were and still are far deeper barriers to overcome than only structural difficulties – incisively put: whoever starts setting up an ePortfolio as a didactic tool and additionally promotes it by emphasizing its potential for assessment and accreditation resumes a position which will encounter resistance by a wide front of preservers of the traditional ideals of German education. In universities, most of the preservers are found among professors who have been teaching and doing research successfully in the pre-Bologna system and find it hard to accept that with the reforms, there is an implicit allegation that their hitherto approach to teaching is not valid anymore. With regard to the *quality* of change in German universities, the reorganization of German higher education along the Bologna reforms has been described as no less than a "change of paradigm"[8] or an "overthrow"[9]. In the media, Bologna adversaries evoked the "End of a form of living" and the "Decline of the German university".[10] The fact that the Bologna reforms could ultimately only be put into practice by the professors themselves, and that therefore also those who resisted the Bologna

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[7] For further information consult Higher Education Compass http://www.hochschulkompass.de/en/higher-education-institutions.html (accessed 7th May 2012).

[8] Nickel (2011), p. 10

[9] Schimank (2009), p. 44

[10] Article from 21th June 2007 http://www.sueddeutsche.de/karriere/bachelor-und-masterstudiengaenge-ende-einer-lebensform-1.553485

process were exactly those who had to implement it was not an ideal condition to put the reforms into practice smoothly and with rapid success. As a duty imposed by the government outside the realm of self-determination of German universities with deadlines relevant for accreditation, the reforms were often only formally implemented by stuffing the old Diploma and Magister contents and approaches into the modular structure of Bachelor and Master.

The traditional German concept of university "Bildung" goes beyond the meaning of "education" with connotations such as "cultivation", "intellectual formation" and "refinement" and in many faculties implied having students work through the complete authoritative canon of literature and methods of the respective discipline without considering the practical application for the students` future professional life. Combining this understanding of "Bildung" with its extensive contents and traditional forms of examination with the modular structure designed for exemplary learning has in many cases led to the paradoxical effect that Bologna has generated unhappy "bulimic" learners rushing from exam to exam and equally unhappy teachers never managing to deeply interest their students in what they consider the essentials of their discipline. This has also happened because even the merely formal transition absorbed the professors` and teachers` full capacities since for a period of several years students from the old system had to be taught and examined in parallel with students from the new system.[11]

Skepticism towards Bologna requirements and how ePortfolio could help

From the perspective of many professors, not only the Bologna opponents, the structural reorganization required such a major effort and consumed their resources that they see no possibility to additionally engage in innovative didactic and assessment approaches. The necessity of accreditation is mostly seen as an additional burden, and the services offered by the new professional class of university quality managers, study programme managers, and faculty managers that evolved with the reforms is frequently perceived as creating new bureaucratic tasks and exerting control rather than supporting and facilitating the transformation of the curricula. Therefore we argue that the implementation of tools for didactic innovation, assessment and accreditation is only effective and sustainable when it is not an additional but an integrated task, and ownership and responsibility is committed from the staff of faculty / study programme managers or central quality and teaching units to the teaching professors themselves so that they can use the tools for their teaching. Only if it becomes their own interest to implement new approaches and tools will they stop considering these as "foreign" interferences.

This explains the context of the ePortfolio "PIPE – Portfolio International Profile in Engineering" and illuminates that its introduction into a regular curriculum in a faculty of engineering in a German University of Applied Sciences is not something very self-evident. The depicted context implies that in the conceptualization and implementation of an ePortfolio the possible difficulties have to be taken into account. The biggest challenge here is to create acceptance for the integration of new approaches in a context where the role of didactics is not automatically recognized and curricular reform is seen as adding to the already immense workload of professors.

The best way to achieve acceptance is to demonstrate how the new tool helps to better manage the workload of tasks which have to be accomplished anyway. Considering the learning outcome assessments and evaluations that professors of Pforzheim University have to conduct regularly in their courses as a requirement of the recently achieved international AACSB accreditation and as a condition for re-accreditation in the future, we have chosen to point out the potential of ePortfolios not only as a teaching and learning tool to pursue the learning outcomes as determined by the AACSB accreditation, but also as an instrument that generates the data needed in the accreditation category of learning and teaching. From our experience in the context of a German university such a best practice demonstration is more durably effective when it comes as an example from professor to professor than when it is offered as a supporting service from a central unit or person to the professors. Our experience[12] has shown that initial support for ePortfolio implementation in university teaching by a unit or person not directly involved in professors` teaching has led to a delegation of responsibility with the consequence of generating rather accompanying artefacts which can be used as a basis for assessment and evaluation of students` additional key competencies but not as an assessment of integrated learning outcomes along the course content of the core curriculum.

AACSB Accreditation at Pforzheim University

In summer 2011 the Business School and the Department of Business Administration and Engineering of the School of Engineering at Pforzheim University achieved AACSB Accreditation, an internationally

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[11] Winter (in Nickel, 2011), p. 22

[12] The authors` experiences with ePortfolios prior to PIPE will be shortly illuminated below.

renowned accreditation for business schools. The AACSB Accreditation is a very significant component of the university's internationalisation strategy.

The strategic framework category "Learning and Teaching" which the Business Unit of Pforzheim University developed to stucture the accreditation process[13] contains learning outcomes to be defined and made transparent in the syllabi of all courses of the accredited Business unit.[14] The Business Unit shares six learning outcomes while the study programme Business Administration and Engineering / International Management in the Faculty of Engineering where the ePortfolio PIPE is located has "Cross-cultural competence" as an additional seventh learning outcome:[15]

Goal at degree programme level	Learning Objective / Outcome
Knowledge in Business and Technology	Students demonstrate key knowledge in: • Technical Basics • Mechanical Engineering • Business Administration • Economics • Mathematics • Quantitative Methods • Computer Science
Use of information technology	• Proficiency in using current computer programs to solve business and technical problems • Ability to use information systems effectively in real world business settings
Critical thinking and analytical competence	• Ability to apply analytical and critical thinking skills to complex problems
Ethical awareness	• Ability to develop business ethics-based strategies and to apply them to typical business decision-making problems
Communication Skills	• Ability to express complex issues in writing • Demonstration of oral communication skills in presentations and lectures
Capacity for teamwork	• Ability to work successfully in a team by performing practical tasks
Cross-cultural competence(specific goal for WI / IM)	• Ability to apply cross-cultural skills in specific situations

A meaningful adaption of one`s teaching practice to the learning outcomes deeply affects course teaching in that the teacher constantly has to check whether the course content and goals of each lesson connect to the learning outcomes. Since the learning outcomes describe competencies the teacher also has to make sure that the applied methods address the different levels of learning which are necessary to achieve the development of competencies – the cognitive, affective and behavioural levels to develop the desired knowledge, skills and abilities. Finally, the assessment or examination should be aligned with the learning outcomes as well. In short, there should be a close fit between course content, teaching method, and

[13] Rau, Karl-Heinz; Legrum-Khaled, Nadja (2012). Building Trust Through International Accreditation. A Case Study. Paper presented at the 2012 Annual Conference of the Society for Advancement of Management, Las Vegas, 30-31th March 2012

[14] This is part of the AACSB standards for business accreditation. See Standard 16 AACSB International (2012) www.aacsb.edu/accreditation/standards-busn-jan2012.pdf (accessed 13th June 2012)

[15] For a more detailed version see homepage Pforzheim University: www.hs-pforzheim.de/en-US/School-of-Engineering/industrialengineering/bachelor/International%20Management/Program%20Goals%20and%20Learning%20Objectives/Seiten/Inhaltseite.aspx (accessed 13th June 2012)

assessment and examination criteria and instruments.[16] In such an ideal case there is high transparency for the learners, which contributes to active participation and motivation to pursue the learning goals. The motivating effects for teachers to teach in such a transparent framework are not to be underestimated. Since the criteria in the category of "Teaching and Learning" of Pforzheim University`s AACSB accreditation is based on the learning outcomes, the required data for evaluation for accreditation purposes can be generated directly from the courses if the above depicted alignment is practised. The implementation of the ePortfolio "PIPE – Portfolio International Profile in Engineering" is an attempt to contribute to such an alignment and to make it clearly visible.

Background of Portfolio-Introduction in Pforzheim

Business Administration and Engineering / International Management

To gain a better understanding of the requirements of PIPE we will explain in detail the development of the study programme which is the framework for the implementation of the ePortfolio. The Bachelor study programme "Business Administration and Engineering / International Management" combines engineering and management with an international perspective. The programme meets industry demands and is highly interdisciplinary and intercultural. It was first introduced in winter semester 2009/10, together with "Business Administration and Engineering / General Management" with its focus on promoting understanding for technical and business correlations on a national level, and "Business Administration and Engineering / Global Process Management" focusing on planning, creating and organizing global processes in companies. This was the latest step of a continuous development starting in 1997 when the study programme Business Administration and Engineering was first introduced as an integrated and tailor-made offer for the training of managers working at the interface between these two areas. Previous forms offered only additional courses in Business Administration at the Business School. In the winter semester 2006/2007 it was converted into a Bachelor degree. Two years later an elective international specialization was introduced as a reaction to labour market demands.

In the first three semesters the students attend seminars which cover basic theories on engineering and business administration. To ensure the students' development in English language two seminars are offered: "Advanced Business English" (2nd semester) and "Advanced English for Engineers" (3rd semester). Before they pursue their internships in the 5th semester (taking this internship abroad is an increasing trend) they get an insight into international business strategies ("International Industrial Engineering 1") and basics of intercultural communication ("Intercultural Engineering 1") in the 4th semester. The students complete their 5th semester with a two-week course on "doing business in various countries" ("International Negotiation Skills and Business Behaviour") where they reflect on their own experiences during their internships and further develop their intercultural competencies based on culture-specific trainings. All courses are taught by intercultural trainers who are from the respective region or have studied and/or lived in this region. In their 6th semester students continue their international and intercultural education in the course "Intercultural Engineering 2". There the focus is on cross-site engineering and interpretative perspectives on culture. In their 7th semester they carry out projects on interculturality and diversity in cross-cultural teams. The above mentioned courses all are held in the English language.

EPortfolio forerunners

The idea for PIPE arose from applying for the DAAD's call for proposals for the introduction of innovative tools to internationalize teaching.[17] The conceptualization and pilot implementation of PIPE is partly based on two examples of international ePortfolios at two German Universities. The Portfolio "International studieren" at the University of Tübingen[18] and "PIKK" ("Portfolio interkulturelle Kommunikation und Kompetenz") at the University of Hildesheim[19]. One of the PIPE team members, a professor at Pforzheim University, had been the responsible project assistant in the Portfolio "International studieren" at Tübingen University. The Portfolio "International studieren" at Tübingen University aimed at using "interculturality at

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[16] The necessity of fit between teaching and assessment approaches has been stressed by Felix Winter`s Article "It has to fit together": Winter, Felix (2006). Es muss zueinander passen: Lernkultur – Leistungsbewertung – Prüfungen. In: Brunner, I.; Häcker, T.; Winter, F. (Hg.). Handbuch Portfolioarbeit. Seelze: Klett, Kallmeyer, S. 212-217.

[17] German Academic Exchange Service (DAAD) www.daad.de/hochschulen/internationalisierung/innovationen-in-der-lehre/17115.de.html (accessed 31st May 2012)

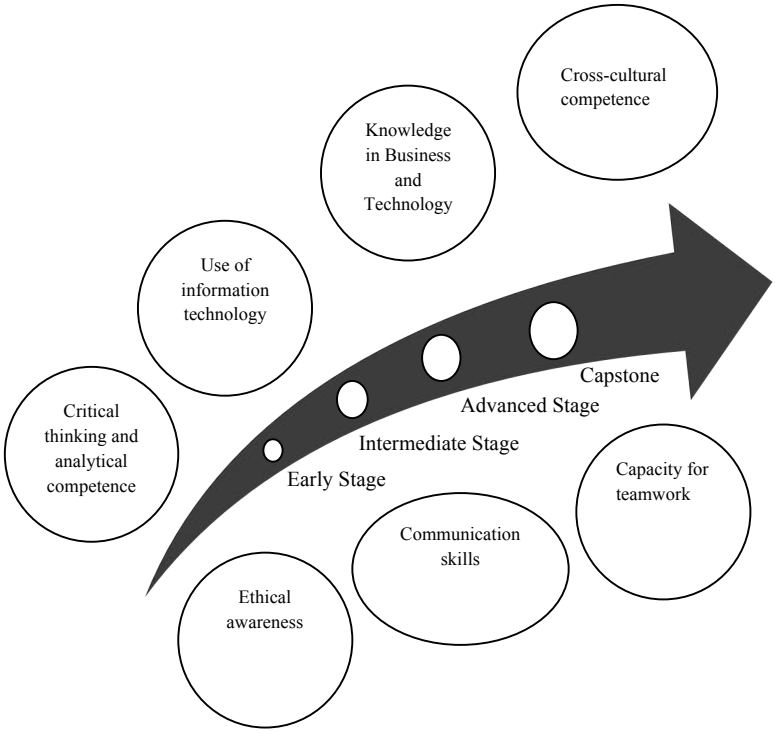
[18] German Academic Exchange Service (DAAD) http://www.daad.de/imperia/md/content/hochschulen/profin/2009_auftaktveranstaltung/profin_brosch__re_online.pdf , p. 34 (accessed 31st May 2012)

[19] See Bosse (2011), p. 395f and Bosse (2010)

home" as a resource for internationalization. "PIKK" at Hildesheim University aims at a systematic reflection and documentation of the students' stay abroad to encourage the development and qualification of intercultural competence. Ideas from these projects and relevant portfolio literature strongly influenced our project.[20] We intentionally decided to create a process portfolio rather than a product portfolio because the focus is on assisting the students in the development and the sharpening of their individual international and intercultural profiles. This goes in line with our teaching approach which goes beyond comparative concepts of culture and a static understanding of intercultural competencies. However the underlying interpretative approach to concepts of culture and our process-oriented understanding of intercultural competencies cannot be illuminated here.

The aims of PIPE at a glance

- Support the students` continuous process of learning and personality development with a special focus on intercultural competencies.
- Support students to develop a distinct professional and international profile and enable them to meaningfully articulate their specific qualifications towards employers.
- Enhance the visibility of the integrated interdisciplinarity, internationality and interculturality to market the study programme and its graduates.
- Support teachers in continuously reflecting and improving their teaching practice regarding the programme goals.
- Make individual learning outcomes and achievement of the programme goals at different stages visible and evaluable and thereby meet reaccreditation requirements.



As the diagram above shows, our aim is to align the programme goals of Business Administration and Engineering/International Management (presented in the circles), the learning outcomes (divided into four different levels) and the structure of our ePortfolio in the eLearning system.

Technical environment

When our PIPE project was just about to start Pforzheim University introduced a new eLearning platform based on Moodle. Originally we had planned to design our ePortfolio on Mahara but then we decided to work on Moodle.[21] Apart from the limitations that we face by using Moodle for the ePortfolio instead of a

[20] A selection of portfolio literature we relied on in the forerunner projects and in the conceptualization and implementation of PIPE is found in the bibliography.

[21] For a comparison between learning management systems and ePortfolio software see: http://stuff.nigel.mcnie.name/talks/mahara-intro-moodle/slide03.html (accessed 13th June 2012).

specific ePortfolio tool, the use of Moodle also has advantages: in the future students will be familiar with the eLearning system and will not have to work themselves into a new system; as key users of the new platform we hope to be able to develop the Moodle functionalities in the course of its implementation at university and PIPE will be perceived as a supportive best practice example so that interest arises; additionally, experience shows that students hardly use the whole range of functionalities a system like Mahara offers. All in all for the beginning Moodle is a useful platform to create a manageable ePortfolio.

PIPE – Steps of implementation

Project start was in October 2011. Since then we have been working together in a team of six people: two professors, who also teach in Business Administration and Engineering/International Management, managing the project, one research assistant that is in charge of the coordination of the project and three student assistants who are in charge of the wording and the interactive implementation of the contents. This is especially important to guarantee a development of the project's contents which is close to the students' needs and interests. The first half of the year consisted in developing an appropriate technical structure and respective contents. Together with the project team, an external expert for eLearning and an employee of the University IT Services we brought together our ideas with the functionalities Moodle offers. At the moment we are further developing our structure in Moodle and the questions for the different stages of the students' education to prepare everything for the official implementation in October 2012. In parallel for the first time we are carrying out a peer tutor programme for the preparation and reflection of the students' stay abroad, which is explained in detail below.

Pilot experiences

Also incorporated into the design are our experiences gained from individual "pilot" projects carried out in several courses:

- 3rd Semester: In the one semester course "Advanced English for Engineers" the students collected weekly worksheets with their research, keywords and vocabulary for different technologies as a semester portfolio.
- 4th Semester: In the course "Intercultural Engineering 1" the students continuously reflect the intercultural concepts and course activities with regular portfolio tasks as a preparation for the following internship period abroad.
- 5th Semester: A learning journal carried out in the course "International Negotiation Skills and Business Behavior" was already used for the assessment of intercultural competence in the context of the AACSB accreditation since it shows the students' progress on a cognitive and emotional level in a period of 1.5 days.
- 6th and 7th Semester: In two other courses ("International Business Operations 1" and "Intercultural Engineering 2") we used portfolios for the students to document and reflect on their (multicultural) teamwork.

Students' feedback indicates initial difficulties with the "new" form of work. There are uncertainties related to the scope and the content of the portfolio. They complain about additional workload for the continuous portfolio tasks in comparison to a "conventional" assignment of 10-15 pages at the end of the semester. However in discussions also opposing views are being expressed: the "pressure" for continuous documentation and reflection of the work and the team process leads to a detailed summary of the group's progress and is nearly finished once the course is over (as opposed to an accumulated task at the end of the semester when the course is assessed by an assignment or a written exam).

Building Networks

To build a network on an international level was also part of our project. We chose two Australian universities (Queensland University of Technology in Brisbane[22] and University of Southern Queensland in Toowoomba[23]), which combine internationalization and the use of ePortfolio on a very high level. Potential for accreditation only became clear during our visit to these universities in February 2012. In this respect we received important impulses from specialists with more experience with assessment and accreditation processes. In 1995 the "Australian Qualifications Framework" was introduced to provide a framework on a

[22] Queensland University of Technology www.studenteportfolio.qut.edu.au/ (accessed 13th June 2012)

[23] University of Southern Queensland http://www.usq.edu.au/learnteach/topics/internat (accessed 13th June 2012)

national level which structures qualifications in post-compulsory education and training.[24] Considering the input we altered our questions focusing more on the seven programme goals. Accordingly we adapted the structure in the Moodle course with questions and tasks regarding the different stages and competencies and in this way created an alignment of program goals, learning outcomes and the structure of the ePortfolio (see diagram above).

Another milestone of the project was the realization of a workshop at Toowoomba University together with the Learning and Teaching Unit about the practical implementation of ePortfolios in different fields of teaching. Another workshop held at Pforzheim University addressed teachers and employees interested in internationalization and didactic innovation from Pforzheim University and other German Universities. The focus of the workshop was to present teaching approaches and examples to address the challenges of internationalization beyond courses in the English language and students' exchange programmes.

Peer tutor programme

As demonstrated in the information about the study programme students have an internship in the 5th semester. Most of them take this internship abroad. Many also add a study semester abroad. PIPE includes peer tutor support and feedback to prepare, accompany and reflect the stay abroad. Five students who spent their internship abroad were selected as tutors and trained by an external expert with regard to advisor skills, giving feedback, their role as tutors and reflecting their own work. In a first kickoff meeting they provided first-hand information on important steps ranging from the written application for their internships to everyday working world to organizing exams at the home university.

Pre-Evaluation of students' comments

Besides our students' assistance we also included students in the development of our ePortfolio in the way that we organized feedback sessions for first to fourth semester students, where they could comment on the structure of the PIPE course in Moodle and the contents. The project was mainly favourably received. Students acknowledge the importance of reflecting their strengths and weaknesses, although they admit that it requires some effort. To increase the motivation students proposed incentives such as some kind of certificate as final product, and the integration in an alumni network and the combination of ePortfolio tasks/questions with topics related to the study program (e.g. career opportunities for future engineers). They suggested an informal setting for the discussion of PIPE tasks. Particularly important for the first semesters is the function of PIPE as an orientation about the course of studies. Feedback regarding the tasks is desired in particular in the higher semesters. This raises the question of the manageability for professors and teaching staff. Our goal is to find a realistic balance between the desirable frequency of feedback and the feasibility from the teaching side. Our suggestion is to design the tasks in a way that feedback can be partly shifted to peers instead of the responsible professors (see below). Regarding the platform for the ePortfolio Moodle is highly accepted and students also appreciate the integration of Moodle into the regular courses. With regard to the contents students especially welcome the training of methodological skills such as working with PowerPoint, Excel etc. and where to find respective training material, which is included into the programme goal "Use of Information Technology". These skills are not usually taught in the regular study programme.

Expected number of participants and Manageability

PIPE is planned to start in October 2012 with the first cohort of Business Administration and Engineering / International Management students. Every semester about 30 students on average start their studies. Initial feedback (see above) indicates that approximately 60 % of students are expected to take part in the PIPE project. With an increasing number of participants each semester the question of how to administer the project becomes relevant. To counter this, the questions and tasks in PIPE are designed in a way that encourages group work and exchange with fellow students in higher semesters. In the first three semesters feedback regarding the contents from lecturers to students occurs only once. In the preparation and the course of the stay abroad (4th and 5th semester) feedback is provided by trained peer tutors. In between students discuss PIPE contents in selected courses, in some courses it will be part of the assessment. An important precondition for this approach on the one hand is having flexible examination regulations that allow the portfolio tasks to be made mandatory. On the other hand the criteria for assessment should be made clear. A final feedback is planned in the form of the students' presentation of their ePortfolio, e.g. in front of students in lower semesters and prospective students.

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[24]Department of Education, Training and Youth Affairs http://www.deewr.gov.au/HigherEducation/Programs/Quality/QualityAssurance/Documents/QAandAccreditation.pdf (accessed 3rd June 2012)

Strategies for acceptance of ePortfolio introduction

As stated above the acceptance of didactic innovation is enhanced when it is perceived not as an additional task but as a tool which helps overcome already existing challenges. The acceptance of PIPE as a learning and teaching instrument is enhanced by its potential as a tool for (re)accreditation. This potential is underlined by the visible alignment of the ePortfolio structure with the course goals and learning outcomes, which has been introduced after the exchange with our Australian colleagues. The fit of PIPE to both the university`s internationalisation strategy and the interdisciplinary character of the study programme is obvious and credible.

Acceptance on the side of students is enhanced by transparency, also achieved through the visible alignment of course objectives and learning outcomes with the Portfolio tasks. Another reason for student acceptance is also that the portfolio tasks have been formulated by our student assistants on the basis of our input so that the wording is at eye-level with the participants. The spread of continuous work over the semester (as usual with portfolio work) instead of a big exam in the end is also appreciated, as demonstrated by the students` feedback on the ePortfolio pilots. The use of Moodle as ePortfolio platform also contributes to the acceptance of both, students and professors / teaching staff since it is appreciated by students and facilitates work for the second group.

A factor for successful course integration of PIPE is that its design and content is rooted in the regular courses of the study programme. Two professors from the faculty of engineering have introduced the ePortfolio from their own initiative so that the instrument is not perceived as an add-on coming from an outside central learning and teaching unit. This supports integration of the instrument into regular courses which is a precondition for its application as an integrated assessment and accreditation tool.

Conclusions

When designing ePortfolios for assessment and accreditation one should be careful that the ePortfolio structure and content fit the strategic aims of both study programme and university visibly. EPortfolio can unfold its best impacts on students` learning and be implemented for the assessment of learning outcomes and accreditation if it is not only offered as an addition by central university facilities but primarily when it is integrated into regular mandatory courses. Learning and teaching units should instigate and support professors who are not by discipline inherently didactically-affined to “do it themselves” rather than create additional central solutions for engineering students. Energies should be invested to convince central decision makers of the multidimensional potential of ePortfolio. The use of the instrument cannot be mainstreamed only through best practice examples bottom-up but also needs top-down initiative and commitment from the level of strategic decision makers. In our case the ePortfolio method as an internationally established learning and teaching tool adds to the diversification and internationalisation of teaching methods which is also among the re-accreditation criteria of AACSB and should therefore be supported by the university management.

The best way to convince people to accept a new method or tool is to ask them which challenges in their daily work they would like to have a solution for and then to show them how the new method or tool can be used to meet this challenge exactly. In our case the international accreditation has brought and re-accreditation will bring a lot of challenges and tasks. We apply the demonstration of the accreditation potential of our ePortfolio to arouse interest in Portfolio work in general. We consider this legitimate instrumental use to achieve our actual aim, which is to establish ePortfolio work at our university to promote an activating and process oriented teaching and learning approach and to contribute to a high teaching quality at our university.

References

1. AACSB International in (2012) *Eligibility Procedures and Accreditation Standards for Business Accreditation*, www.aacsb.edu/accreditation/standards-busn-jan2012.pdf (accessed 13th June 2012)
2. Bosse, Elke in (2011) Qualifizierung für interkulturelle Kommunikation: Trainingskonzeption und – evaluation, München, Iudicium
3. Bosse, Elke in (2010) *Interkulturelle Qualifizierungsangebote für Studierende: mehrstufig, studienbegleitend und nachhaltig*, in Eß, Oliver (Hrsg.): Das Andere lehren. Handbuch zur Lehre Interkultureller Handlungskompetenz, Münster, Waxmann, p. 35-47.
4. Degenhardt, Marion; Karagiannakis, Evangelia in (2008), *Lerntagebuch, Arbeitsjournal und Portfolio. Drei Säulen eines persönlichen Lernprozess-Begleiters*, in Berendt, Brigitte; Voss, Hans-Peter; Wildt, Johannes (ed.): Neues Handbuch Hochschullehre. Lehren und Lernen effizient gestalten. [Teil] C. Lehrmethoden und Lernsituationen. Aktivierende Lehrmethoden. Berlin: Raabe, C 2.13, 42 p.

5. Department of Education, Training and Youth Affairs in (2000) *Quality Assurance and Accreditation in Australian Higher Education: An assessment of Australian and international practice*, http://www.deewr.gov.au/HigherEducation/Programs/Quality/QualityAssurance/Documents/QAandAccreditation.pdf (accessed 3rd June 2012)
6. German Academic Exchange Service (DAAD) in (2011) *Ausschreibung - Innovationen in der Lehre: die internationale Dimension in der Lehre erfolgreich stärken*, www.daad.de/hochschulen/internationalisierung/innovationen-in-der-lehre/17115.de.html (accessed 31st May 2012)
7. German Academic Exchange Service (DAAD) in (2010) *PROFIN Vielfalt fördern – eine Zwischenbilanz*, http://www.daad.de/imperia/md/content/hochschulen/profin/2009_auftaktveranstaltung/profin_brosch__re_online.pdf, p. 34 (accessed 31st May 2012)
8. German Federal Ministry of Education and Research (BMBF) in (2011) *The Bologna Process*, http://www.bmbf.de/en/3336.php (accessed 28th May 2012)
9. Hochschulkompass in *Higher education institutions in Germany – universities, colleges of art and music, universities of applied sciences,* http://www.hochschulkompass.de/en/higher-education-institutions.html (accessed 7th June.2012)
10. Kühl, S. in (2011) *Spezifikationen zum Sudoku-Effekt. Überlegungen zur Komplexitätssteigerung der Bologna-Studiengänge*, Paper für die Tagung „Universität als Organisation“, veranstaltet von der AG Organisationssoziologie der Deutschen Gesellschaft für Soziologie (DGS) in Dortmund am 10./11. Juni 2011
11. McNie, Nigel in *The Mahara ePortfolio System. Introduction, and integration with Moodle*, http://stuff.nigel.mcnie.name/talks/mahara-intro-moodle/slide03.html (accessed 21st June 2012)
12. Nickel, Sigrun in (ed., 2011) Der Bologna-Prozess aus Sicht der Hochschulforschung . Analysen und Impulse für die Praxis, Gütersloh, CHE
13. Pforzheim University in (2011) *BA&E / International Management. Program Goals and Learning Objectives*, www.hs-pforzheim.de/en-US/School-of-Engineering/industrialengineering/bachelor/International%20Management/Program%20Goals%20and%20Learning%20Objectives/Seiten/Inhaltseite.aspx (accessed 13th June 2012)
14. Queensland University of Technology (QUT) in (2012) *QUT Student ePortfolio*, www.studenteportfolio.qut.edu.au (accessed 13th June 2012)
15. Rau, Karl-Heinz; Legrum-Khaled, Nadja in (2012) *Building Trust Through International Accreditation. A Case Study*, Paper presented at the 2012 Annual Conference of the Society for Advancement of Management, Las Vegas, 30-31th March 2012
16. Seibt, Gustav in (2007) *Ende einer Lebensform. Von Humboldt zu Bologna: Der atemberaubende Untergang der deutschen Universität*, http://www.sueddeutsche.de/karriere/bachelor-und-masterstudiengaenge-ende-einer-lebensform-1.553485 (accessed 28th June 2012)
17. Schimank, Uwe in (2010) *Humboldt in Bologna – falscher Mann am falschen Ort?*, in Hochschul-Informations-System (ed.) Perspektive Studienqualität. Themen und Forschungsergebnisse der HIS-Fachtagung , Bielefeld, Bertelsmann, p. 44-61
18. University of Southern Queensland (USQ) in (2011) *Internationalisation*, http://www.usq.edu.au/learnteach/topics/internat (accessed 13th June 2012)
19. Winter, Felix in (2006) *Es muss zueinander passen: Lernkultur – Leistungsbewertung – Prüfungen*, in Brunner, I.; Häcker, T.; Winter, F. (ed.). Handbuch Portfolioarbeit. Seelze: Klett, Kallmeyer, p. 212-217
20. Winter, Martin in (2011) *Die Revolution blieb aus: Überblick über empirische Befunde zur Bologna-Reform in Deutschland*, in Nickel, Sigrun (ed.). Der Bologna-Prozess aus Sicht der Hochschulforschung. Analysen und Impulse für die Praxis. Gütersloh: CHE, p. 20-36
21. Selected Portfolio Literature
22. Baumgartner, Peter, Himpsl, Klaus, Zauchner, Sabine in (2009) *Einsatz von Eportfolios an (österreichischen) Hochschulen: Zusammenfassung*, Teil I des BMWF-Abschlussberichts “Eportfolio an Hochschulen”: GZ 51.700/0064-VII/10/2006. Forschungsbericht, Krems: Department für Interaktive Medien und Bildungstechnologien, Donau Universität Krems
23. Bräuer, Gerd in (2002) *Reformen durch Portfolios?*, http://www.ph-freiburg.de/schreibzentrum/didaktik (accessed 04th March 2012)
24. Bremer, C. in (2012) *eLearning im Bologna-Prozess*, Zeitschrift für e-learning, Lernkultur und Bildungstechnologie, 2/2010, 5. Jg. Studienverlag, p. 11 – 19

25. Brunner, Ilse; Häcker, Thomas; Winter, Felix (Hg.) in (2009), *Handbuch Portfolioarbeit*, 3rd ed., Seelze, Klett, Kallmeyer
26. Egloffstein, M., Baierlein, J., Frötschl, C. in (2012*) ePortfolios zwischen Reflexion und Assessment – Erfahrungen aus der Lehrpersonenbildung*, Medienpädagogik - Zeitschrift für Theorie und Praxis der Medienbildung, Themenheft Nr. 18, Neue Medien und individuelle Leistungsdarstellung – Möglichkeiten und Grenzen von ePortfolios und eAssessments, http://www.medienpaed.com/18/egloffstein1004.pdf (accessed 3st May 2012)
27. Gläser-Zikuda, M. & Hascher, T. (Hg.) in (2007), Lernprozesse dokumentieren, reflektieren und beurteilen. Lerntagebuch und Portfolio in Bildungsforschung und Bildungspraxis, Bad Heilbrunn, Klinkhardt, p. 9-21
28. Meyer, Torsten; Mayrberger, Kerstin; Münte-Goussar, Stephan; Schwalbe, Christina (Hg.) in (2011) *Kontrolle und Selbstkontrolle. Zur Ambivalenz von Eportfolios in Bildungsprozessen*, Wiesbaden, VS Verlag für Sozialwissenschaften
29. Netzwerk Portfolioarbeit in (2007) *Was gehört zu guter Portfolioarbeit? Erziehung und Unterricht,* Jg. 157, H. 5-6, p. 372-381, http://www.portfolio-schule.de/doc/doc_download.cfm?3463BC46B8694277A742EC5CE945B230 (accessed 3st May 2012)
30. Plönges, Sebastian in (2011) *Paradoxien mit Eportfolios. Ein Erfahrungsbericht.* In: Meyer, Torsten; Mayrberger, Kerstin; Münte-Goussar, Stephan; Schwalbe, Christina (Hg.). Kontrolle und Selbstkontrolle. Zur Ambivalenz von Eportfolios in Bildungsprozessen, Wiesbaden, VS Verlag für Sozialwissenschaften, p. 151-153
31. Professional development staff, Learning Connection © University of South Australia. (o.J.) in *Teaching and learning strategies appropriate to the achievement of the graduate quality on international perspectives*, http://w3.unisa.edu.au/academicdevelopment/interculturality/default.asp (accessed 6th June 2012)

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Tracking Progress in Construction of Subject Knowledge and Epistemological Beliefs using a Patchwork Text Assessment

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Abstract

Large end-of-course assignments are meant to show the leaner's final state of the knowledge of a subject or a given topic (the product). However, they say very little about the state of her knowledge at the start of the course or indeed the learning processes. Previous experiences in a final year course on Critical Social Psychology that used traditional assessment methods revealed considerable variability in terms of quality of the work. Weaker learners struggled, produced pieces of poor quality or, in the worse cases, resorted to plagiarism. A Patchwork Text Assessment (PTA) in the form of a blog was introduced as part of an action research project with the aim of making explicit prior knowledge and the learning process. The change resulted in very high submission rates, no plagiarism and an improvement in grades, compared to previous year. Interviews with 11 students provided useful insights into their experiences. Grounded theory was used to analyse 16 PTAs coding for knowledge claims and epistemological comments. Ongoing analyses identified changes in subject knowledge as well as epistemological shifts.

Keywords: patchwork text assessments, blogs, construction of knowledge, epistemologies

Background

Until the academic year 2008-9 we had run a Level 6 (Year 3) unit on 'Critical Social Psychology' (as part of an undergraduate programme in psychology) using traditional teaching methods (lectures and seminars). The assessment methods had also been traditional: The first assessment was a position paper and the second one was an essay. In our experience, the stronger students engaged with the literature and excelled, but the weaker students struggled with the readings, wrote very poor assignments and sometimes resorted to plagiarism. Attendance was also poor among the latter group and there were a large number of non-submissions of the assignments.

In 2009-10 the team introduced elements of **experiential learning** (allow the learner to choose a topic of interest, and write the first assessment based on her prior knowledge and personal experience of the topic) and **inquiry-based learning** (generate questions to guide individual inquiry) to support the learning. This change in the pedagogy had important effects, as can be seen in figure 1. There was an increase in the means for the first assessment, from 8.8 (SD=3.3) to 10.4 (SD=2.2), and the overall grade, from 8.3 (SD=4.0) to 9.6 (SD=2.4), but the grades of the second assessment dropped from 9.9 (SD=3.3) to 7.9 (SD=3.6).

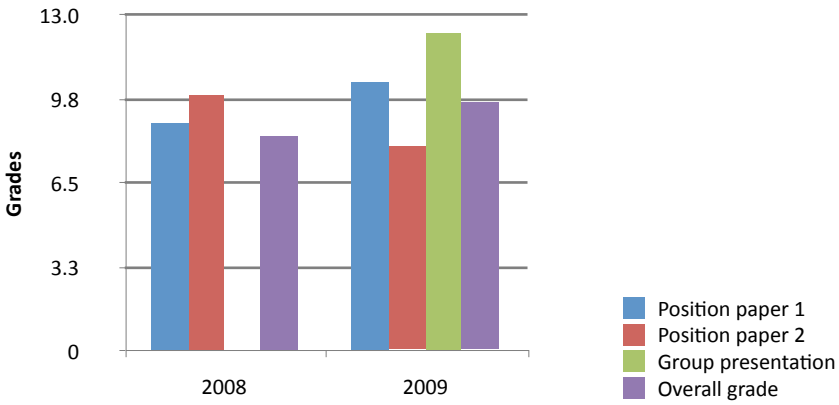


Figure 1. Mean grades for the different assignments in the academic years 2008-9 and 2009-10.

This figure illustrates the impact of the pedagogic changes in the course introduced in 2009-10. A new assessment in the form of a group presentation was introduced in 2009-10. N for 2008=43, N for 2009=32.

Therefore, although we had succeeded in encouraging the students to draw on their previous knowledge and their personal experience of the topic of their choice, they did not seem to be able to explore this topic using disciplinary knowledge (first from mainstream social psychology and then from the perspective of

critical social psychology) as much as we expected. We began to wonder how we could observe the individual and social learning processes and support these more effectively.

In 2010-11 a JISC-funded project allowed us to introduce a Patchwork Text Assessment for assessment 2 and evaluate its impact using an action research approach (Lewin, 1946, Kemmis, 2003).

Aims

1. To make explicit *learning processes*, not only previous and final states of knowledge.

2. Capture *shifts in thinking* (transformations) in ***subject knowledge*** an *epistemological shifts*.

The literature

Most of the teaching strategies and assessments currently in use in higher education typically concentrate on the achievement, by learners, of intended learning outcomes, i.e. the final state of their knowledge and skills, but little is known of the learners' prior knowledge at the start of a course. Neither tutors nor learners attempt to build on prior knowledge. However, many authors (e.g. Resnick, 1983; Glaserfeld, 1984; Schwartz, Sears & Chang, 2007) have argued that learning is strongly influenced by prior knowledge.

Additionally, research on adults' beliefs about knowledge ('personal epistemologies) has resulted in several models (Perry, 1990, King & Kitchener, 2002, Baxter Magolda, 2004) which propose that our ideas of what counts as knowledge, how knowledge is produced and the role of authority, develop over time. Although the stages differ somewhat between these models, they describe a developmental progression from 'absolutist' to 'relativist' approaches to knowledge. At the lower end of the spectrum, the learner considers that knowledge either corresponds to the real world (true) or not (false) and teachers know all the answers. Later the learner realises that the reliability of knowledge depends on evidence and argumentation. At a later stage, the learner considers the importance of theoretical perspectives and realises that different descriptions of the world can be true depending on the perspective upon which they are based. The learner will have to make a choice and be prepared to defend it. Such commitment may be provisional and limited to context. These systems of beliefs may determine the quality and type of learning that a student can carry out. However, like prior knowledge, beliefs about knowledge are not normally taken into account by tutors.

On addition of these two issues, it is apparent that, especially in Higher Education, the ways in which the learner goes about his or her business of learning and constructing knowledge is very much a private affair. Two exceptions to the rule are *formative feedback* and *continuous assessments*. Both are attempts by the tutor to support the learning process. While the former consists of providing feedback on coursework without giving it a mark that impacts on the overall grade, the latter will have an effect on the grades. However, both provide measurements of the degree to which the learner is meeting the learning outcomes and allow learner and tutor to formulate corrective measures. However, this is somewhat different from a record of the learning process, in the sense of the workings that show how someone has arrived at the solution of a maths exercise, or a travel log that details the initial position at the beginning, the stages of the voyage and the final destination. In the majority of cases, however, the emphasis of assessment in higher education is on a final product that displays the final state of the learner's knowledge. Traditionally, this takes the form of an exam, a final report (e.g. dissertation) or an essay. For many students, writing an essay involves a mysterious art which they cannot aspire to master, despite their strenuous efforts to follow (often unwritten) rules and the voluminous guidelines and marking criteria made available by the tutors. Many students emulate set examples or even worse, copy from sources, often engaging in blatant plagiarism. This is because they have no sense of ownership of a process which is totally determined externally. It is in the context of a distinction between 'surface and deep learning' that *Patchwork Text Assessments* (PTA) have been proposed (Winter, 2003). They involve writing small pieces, each on a particular issue or question, over a period of time. These pieces are often shared with peers and tutors and feedback is used to improve. The final component of the assessment tends to be a conclusion or final commentary that makes explicit the connections or summarises the process. As the pieces (and the feedback) are always available to the learner to read she will be able to consider her understanding from different angles and reformulate it. This seems to be a more useful way of supporting and making explicit the learning process as construction of knowledge.

Intervention

In 2010-11 the students were required to produce the second assessment as a PTA in the form of a blog (using PebblePad), as a pilot. This was part of a JISC-funded project running in four other universities. The students had to write four short pieces during the course (patches), and a final conclusion at the end. The first patch summarised in 400 words the students' prior knowledge and experience of a topic of their choice; the following two (each of 400 words) drew on two short phases of inquiry on the topic (from the perspective of mainstream social psychology and the perspective of critical social psychology); the fourth

one was a critical review of an article they presented as part of a seminar (800 words). A fifth piece (500 words) was a 'final commentary' where the students reflected on the progress achieved in their construction of knowledge. Although, the whole PTA was 2,500 words long, like a traditional essay, it was written in short instalments directly related to particular stages of the process of inquiry on a topic of their choice.

Although all the students enrolled on the course were exposed to the same learning experiences (lectures and seminars) and had to complete the assessments, including the PTA, consent forms were used to ask for permission to collect and analyse the assignments. Of the 24 students initially registered, 21 completed the course and of these, 19 agreed to have their PTAs included in the analysis. 11 agreed to be interviewed.

Impact

The introduction of the PTA in 2010-11can is said to have produced some very encouraging results: very high submission rates, higher average grades (compared to previous years) and no cases of plagiarism. As can be seen in figure 2, there were improvements in the mean grade for the second assessment which was the position paper 2 produced through the PTA approach, compared to 2009-10: from 7.9 (sd=3.6) to 11.6 (sd=3.0). However, there were also improvements for the other two assessments. It is useful to consider the results of the following year (2011-12) as this throws a more realistic light on the numbers: the mean grade was 10.4, slightly lower than in 2010-11, but still higher than before the introduction of the PTA.

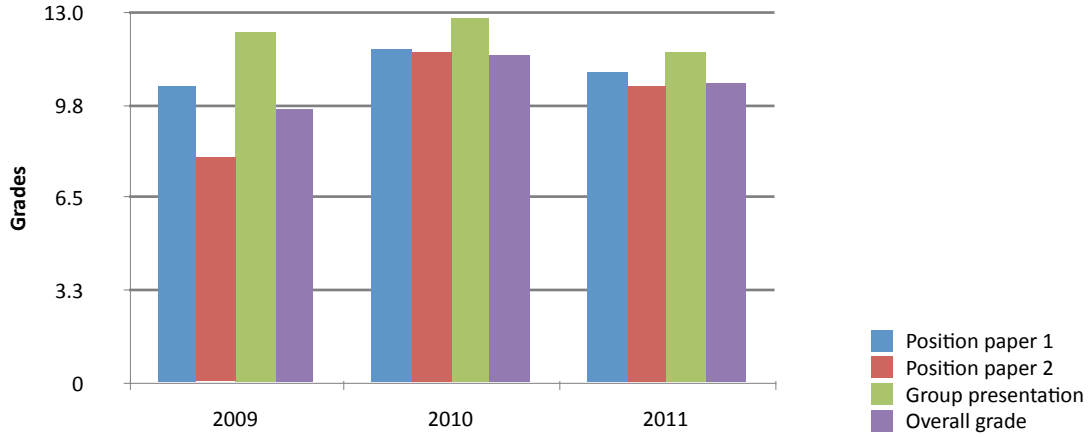


Figure 2. Mean grades for the four assignments for 2010-11, when the PTA was implemented, as well as the previous year and the year after. N for 2009-10 was 32, for 2010-11 was 24 and for 2011-12 was 52.

However, a word of caution must be introduced regarding the many confounding variables that make comparisons between different groups over time unreliable. The groups are themselves different as well as the delivery and other factors. This was why inferential statistics were not used to estimate the significance of differences in the students' grades.

In-depth analysis of data

Of the 19 students who signed consent forms, 11 agreed to be interviewed. They were interviewed on the phone by one of the lecturers after the course had finished and the grades had been handed in. This was so the students would feel that their views would have no bearing on their grades. Interviews were recorded and analysed qualitatively. Some of the positive features highlighted by the students included permanent online access for students and tutors, instant access to grades and feedback (within 3 weeks of submission), a recognition that the assignment supported their learning, and that the final product was a fair representation of their final state of their knowledge, as well as the learning process. All, with one exception, had enjoyed working on the assessment. Some of the challenges experienced revolved around the use of technology, difficulties adhering to the word count and initial confusion and anxiety generated by the new type of assessment.

However, this presentation concentrates on the analyses of the PTAs with the aim of illustrating changes in subject knowledge and also some shifts in epistemological beliefs.

The main challenge we faced was devising a way to represent knowledge (in each patch) and knowledge construction (across the PTA). We drew on argumentation analysis (Toulim, 1958, Liakopoulos, 2000) which takes the claim as the unit of analysis (see left side of figure 3) and identifies the *ground* upon which it is based, as well as the *warrant* or reason why the ground is valid, which may themselves need a *backing*, and in some cases *rebuttals* (exceptions or limits to the validity of the claim). However, after attempting to code the statements contained in a sample of patches, we found ourselves agreeing with the literature that in practice it is difficult to differentiate between these elements of an argument. We opted for a simpler

approach (see right side of figure 3) where (main claims) were identified as well as any other supportive claims and examples. At a later stage, more general types of claims could be identified.

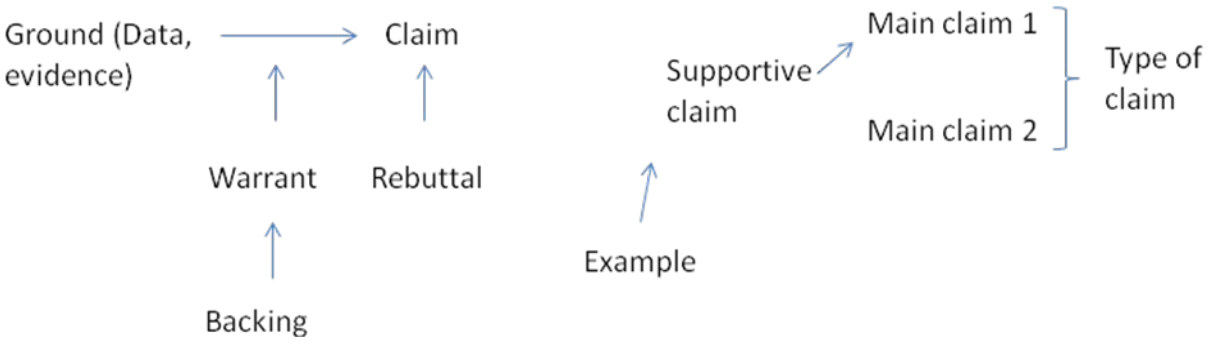


Figure 3. Components of an argument according to argumentation analysis (left) and a simpler coding scheme (right).

Grounded theory (Glaser & Strauss, 1967) was used to code the claims and build a model from the data. We used ATLAS.ti, a piece of software suitable for this type of analysis. As an example, we take one participant's PTA on the topic of personhood, understood by the students in terms of self and identity. As can be seen in patch 1, included in appendix 1, the student focused initially on personality and made three main claims. The first one was that personality is not a set of fixed traits or types, supported by a number of supportive claims and examples: that personality is fluid (supportive claim), since personality is expressed in social contexts (supportive claim) and it develops through life (supportive claim). An example of how personality is expressed in social context is the birth of a child. A reason why personality develops through life is that we change through knowledge that we gain through social experience (supportive claim). This can be seen in one's own changes (example). The second main claim is that no two individuals have the same personality. The third claim is that questionnaires do not measure personality very successfully. However, there were a number of statements that are not claims, but comments on the participant's knowledge, such as the ones made at the start of the patch: after I wrote the first assignment, I realised there was a gap in my explanations of the personality. We called such statements epistemological comments or 'epi-comments'. As can be seen in figure 4, of a total of 64 statements 20 were epi-comments.

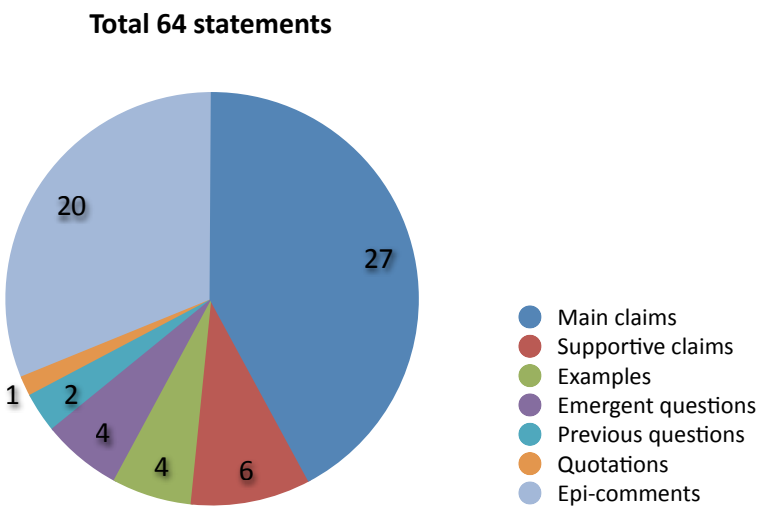


Figure 4. Overview of the statements made in the PTA (example).

The (main) claims were grouped into the following types of claims:

1. Claims about the phenomenon (5),
2. Claims about the relationship between the phenomenon and another phenomenon (3).
3. Claims about measurement of the phenomenon (3)
4. Claims about the phenomenon from a given theoretical perspective (12).
5. Claims about the perspective (4).

The diagram in appendix 2 is an attempt to represent the overall process of construction of subject knowledge illustrated in the PTA used as an example, in terms of the above types of claims. It shows that,

at least in this PTA, there seems to be a progression in the student's thinking who starts trying to define the phenomenon (personality) and discusses ways in which it has been measured (patch 1), expands her views as a result of the first group inquiry (patch 2), then considers the phenomenon from the point of view of several theoretical perspectives (psychoanalysis, social learning theory, social psychology) in patch 4 and finally, evaluates the perspectives (final commentary). This suggests important epistemological shifts from claims of what the phenomenon is (or is not) and its origins, (i.e. where concern is on the truth), to a position where understanding of the phenomenon is dependent on the method and theoretical perspective used, and finally an interest in the perspectives themselves.

A closer look at the epi-comments shows that the participant made a broad range of such comments (see table 1).

	Patches				**Total**
Epi-comments	1	2	4	FC	
Reference to PP1	1	0	0	1	2
Reference to Critical Review	0	0	0	1	1
State of one's knowledge before	1	1	0	0	2
State of one's knowledge after	0	1	0	2	3
Source of an example	1	0	0	1	2
Analogical nature of claim	1	0	0	0	1
Proof of claim	1	0	0	0	1
Reference to Group Inquiry 1	0	1	0	0	1
Reference to others' views	0	1	0	0	1
Reference to next stage	1	0	0	0	1
Reference to a theory	0	0	3	0	3
Agreement with perspective	0	0	0	1	0
Interest in theory	0	0	0	1	1
Interest in method	0	0	0	1	1
Total	6	4	3	7	20

Table 1. Frequencies of epi-comments contained in the PTA used as example.

It is possible to raise some intriguing questions about a learner's learning process. For example, why did this participant not make any references to theories in patch 2? Or, why were there no references to the second group inquiry or questions in this participant's patch 4? When the analyses are finished, it should be possible to identify some patterns in the distribution of the different types of epi-comments across the PTAs.

Conclusions

The aim of the paper was to describe an intervention where a Patchwork Text Assessment was introduced in a level 3 unit of an undergraduate course in Psychology and to discuss its impact as well its potential to make explicit the learning process. The latter was understood as a process of construction of subject knowledge and epistemological shifts. The pedagogy of the unit, based in experiential learning and inquiry-based leaning, and the PTA had an impact on attainment, as suggested by the trends in terms of grades. The interviews with a sample of students indicated that their experiences were generally positive (they prefer it to the old style of assessments), and they agreed that PTAs represent both the learning process and the product.

The in-depth analysis of the PTAs is, at this stage, work in progress and therefore, the following are tentative and partial conclusions. First of all, it seems that the PTAs make it possible to evidence the learning process (construction of knowledge) from start to finish. Although the students may not address the required questions in a given patch, it is possible that they might do it later. Secondly, it is possible that students may not have sufficient clarity about the two main approaches discussed in the unit (mainstream and critical social psychology), but they are constructing knowledge. This become apparent in the example presented. It is, therefore, possible to describe some shifts in subject knowledge and also epistemological progress, but these are sometimes difficult to separate. For instance, we have doubts about whether claims about a perspective or theory should be considered subject knowledge or are epistemological comments in themselves.

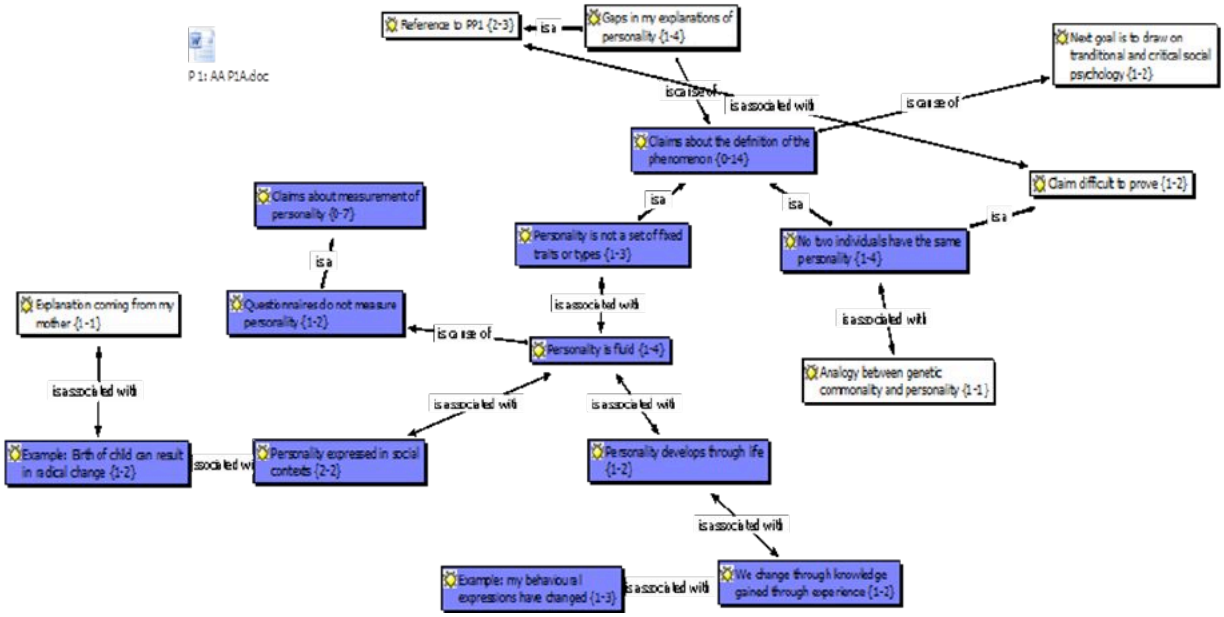
There will still be changes to the method as the coding progresses. It is expected that at a later stage it will be possible to generate a model that represents more general patterns which can be compared with the stages and shifts proposed by the models of personal epistemology (Perry, 1990, King & Kitchener, 2002, Baxter Magolda, 2004). However, such comparisons would be premature at this point.

The PTA was implemented for a second time in the unit in the academic year 2011-12 with positive results. Drawing on the experience of the first year, marking grids were improved. Student's evaluations directly referred to this assignment: "[P]atch assignment was good as we may look at the topic with different perspectives", "[G]reat idea regarding position paper 2 (writing patches regularly)", "I like the way the assignment has been divided into small patches. This makes things much easier and less stressful". There is, of course, room for improvement as another student's comment suggests: "Having more clear-cut guidelines inside the tutorials for the blog would be beneficial for those who are unsure".

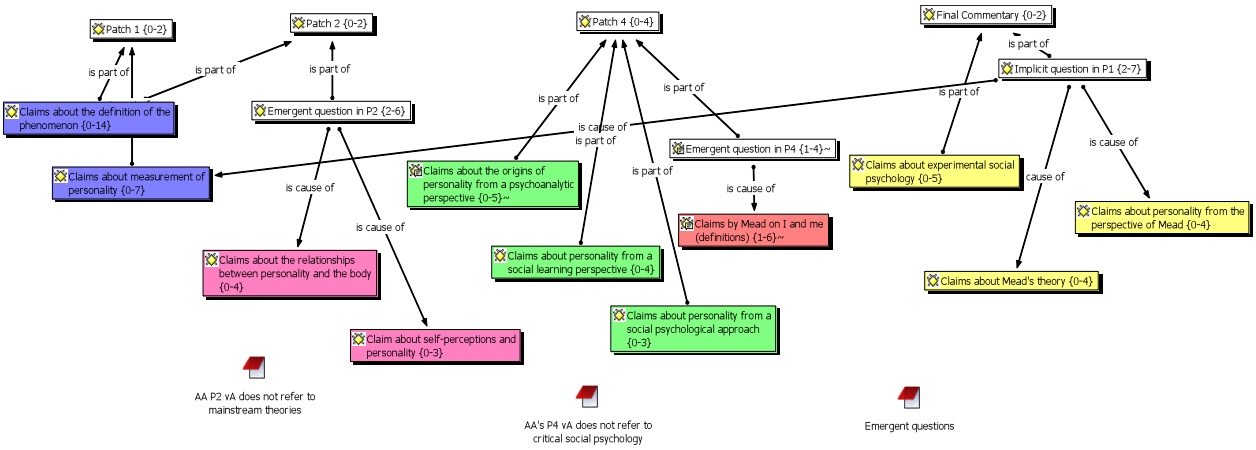
References

1. Baxter Magolda, M.B. (2004). Evolution of a constructivist conceptualisation of epistemological reflection. *Educational Psychologist, 39*(1), 31-42.
2. Glaserfeld, E.V. (1984). An introduction to radical constructivism. In P. Watzlawick (Ed.), *The invented reality* (pp. 17-40). New York: W.W. Norton.
3. Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Chicago: Aldine.
4. Kemmis, S. (2003). Action research. In M. Hammersley (Ed.), *Educational research: Current issues* (pp. 177-190). London: Paul Chapman & Open University.
5. Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 34-46.
6. Liakopoulos, M. (2000). Argumentation analysis. In M.W. Bauer and G. Gaskell. *Qualitative researching with text, image and sound: a practical handbook for social research* (pp. 152-171). London: Sage.
7. King, P.M. & Kitchener, K.S. (2002). The reflective judgment model: tewnty years of research on epistemic cognition. In B. K. Hofer and P. R. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing. Mawah, N.J.:* Lawrence Erlbaum.
8. Perry, W.G. (1990). *Forms of intellectual and ethical development during the college years.* San Francisco: Jossey-Bass. (Originally published in 1970. New York: Holt, Rinehart & Winston.)
9. Resnick, L.B. (1983). Mathematics and science learning: A new conception. *Science*, 220, 477-478.
10. Schwartz, D.L., D, Sears, & J. Chang (2007). Reconsidering prior knowledge. In M.C. Lovett & P. Shah (Ed.) *Thinking with data* (p. 319-344). Mahwah, N.J.: Lawrence Earlbaum.
11. Toulim, S.E. (1958). *The uses of argumentation*. Cambridge: Cambridge University Press.
12. Winter, R. (2003). Contextualising the patchwork text: Addressing problems of assessment in higher education. Innovation *in Education and Teaching International 40*(2), 112-121.

Appendix 1: Coding patch 1 (example)



Appendix 2: Overall process of contruction of knowledge (only claims)



VAB: an ePortfolio Used to Record and Assess Competences of Adult Students

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Introduction

According to several descriptions of a portfolio as an organised collection of materials that presents and verifies skills and knowledge acquired through experience (Batson, 2002; Lambert & Corrin, 2007) it is of particular relevance to validating nonformal and informal learning because it allows the individual to contribute actively to the collection of evidence and also offers a mix of approaches strengthening the overall validity of the process. An eportfolio additionally offers increased capacity to accumulate data that can provide the audience with greater insights into the achievements and successes of the learner.

The eportfolio we present in this paper is the outcome of the VAB (VAluing experience Beyond university) project[25]. The VAB project aimed at proposing an eportfolio as a pedagogical tool that would allow University teachers to take into account any competences acquired via non-formal/formal learning outside university, in order to assess their students. The VAB platform and the eportfolio developed in the project enable teachers to value the personal, social and professional experience of their students acquired beyond the University in order to enhance their professional integration.

This paper presents the VAB web based ePortfolio platform and its usage. Definitions of ePortfolio are briefly given and a description of the VAB ePortfolio and its facilities are presenting including basic elements of its structure and an example of its usage. The main outcomes of the evaluation procedure following a pilot use of the ePortfolio (pilot phase) as well as topics for future consideration that arose during the project are discussed.

ePortfolios

A portfolio may be defined as a purposeful collection of student work that tells the story of a student's effort, progress and/or achievement in one or more areas (Arter & Spandel, 1992; MacIsaac & Jackson, 1994). According to this portfolios involve students in their learning (as a tool for reflection); allow students to increase their ability to self-assess; teach students to make choices; encourage students to better understand themselves and focus on their strengths; allow students to reflect on their procedures, strategies, and accomplishments so that they can improve and correct them and ultimately succeed; promote feedback during the learning process, shows student progress because they track performance over time; and are used to assess competencies developed by students (Wad, Abrami & Sclater, 2005).

Nowadays, digital or electronic portfolios (eportfolios) offer additional advantages as they provide an effective means for cataloguing and organizing learning materials, better illustrating the process of learner development; students can easily integrate multimedia materials, allowing them to use a variety of tools to demonstrate and develop understanding; students can develop their Information and Communication Technology (ICT) skills through the creation of multimedia work and use of the tool. Digital portfolios provide remote access to work for students to complete homework or when otherwise learning at a distance from school and remote access to student work for teachers for review and assessment purposes.

To effectively use portfolios for assessment, a learning organization needs to establish a culture of evidence. Evidence in an electronic portfolio is not only the artifacts that a learner places there; to be considered evidence of learning, the artifacts need to be accompanied by the learner's rationale, or their argument as to why these artifacts constitute evidence of achieving specific goals, outcomes or standards. Furthermore, just because a learner makes the claim that their artifacts are evidence of achievement, the evidence needs to be validated by a trained evaluator, using a well-developed rubric with identifiable and specific criteria.

Numerous analysts and researchers have outlined the potentials and researched the impacts of ePortfolios, all finding that they have immensely improved organization and learning processes, at levels ranging from simple personal use through higher educational institutions (Wad, Abrami & Sclater, 2005). Additionally,

[25] Project Reference: 2009-1-fr1-leo05-07330, http://www.vab-univ.eu/

internship interviewers or potential employers might can see an online resume that includes views of a student's actual work, that student may be more likely to obtain the position and ePortfolios can facilitate this" Batson (2002).

VAB ePortfolio Platform

The VAB project concentrated on the innovative approach of the VAEB project[26] (Valuing non-formal and informal learning on the basis of voluntary experience) and tried to extend it to other types of non-formal and informal learning (*personal, social and professional experiences*).

Informal learning is resulting from daily activities related to work, family or leisure. It is not organised or structured in terms of objectives, time or learning support. Informal learning is mostly unintentional from the learner's perspective.

Non-formal learning is embedded in planned activities not always explicitly designated as learning (in terms of learning objectives, learning time or learning support), but which contain an important learning element. Nonformal learning is intentional from the learner's point of view.

Nowadays efforts are overpowered by researchers in Europe to describe what students in general and in particular, "*know, understand and/or are able to demonstrate*" at the end of a (*formal, informal or not formal*) learning process especially the concepts of ***knowledge***, ***skill***, ***responsibility*** and ***autonomy*** (***competencies***) on which are based the descriptors of the ***European Qualification Framework for Lifelong Learning*** (***EQF LL***) and for ***Higher Education*** (***EQF HE***).

The VAB project (VAluing experience Beyond the University) is a Transfer of Innovation supported within the Leonardo da Vinci programme, funded by the European Commission under the Lifelong Learning (LLL) program. It consisted of Universities and experts in lifelong learning in 5 European countries: France (University of Evry val d' Essonne, leader of the project and Iriv conseil, coordinator), Austria (die Berater), Greece (Hellenic Open University), Eire (University of Limerick) and Slovenia (University of Ljubljana). Hellenic Open University was responsible for the development of the project's eportfolio.

The common aim of the two projects was to value skills and competences neglected by the labour market while it has become crucial for the employability to meet the current needs of the employers.

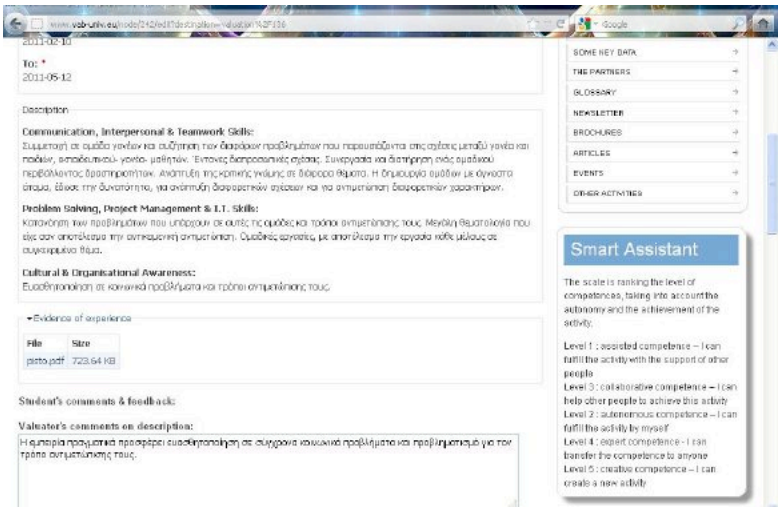

figure 1: A screenshot of VAB ePortfolio student's environment with the Smart Assistant on the right

A great effort was put for the ePortfolio developed to be a modular, easy to use, ergonomic and attractive environment. In this direction an Administrator environment, a Professors/Teachers environment and a Students environment as well as a Smart assistant module were developed.

The basic responsibilities and tasks for VAB administrators are to:

a. Register a new professor or student to the system

b. Assign students to professors

[26] http://www.eeuropeassociations.net/eeuropeassociations.gb.htm.

Professors/Teachers after registration and receiving their usernames and passwords via email (automated) they are able to:

a. Log in http://www.vab-univ.eu/ (eportfolio portal)

b. View the assigned student's portfolio and study its content (the students' submitted experiences).

c. Certify, Validate, or Reject the experience of their students. Professors/Teachers are responsible to offer guidance to their students, to extract the students' skills and competences from their description through experiences of informal and non-formal education, to assess them and to make further suggestions to the students in order to improve their competences. In the case of rejection students have to resubmit their experience after making proper changes according to their professor's suggestions and comments.

d. Review the corrected experiences and re-assess them

Students after their registration receive their usernames and passwords via email (automated). Once a student is assigned to a professor, he/she has to submit his/her experiences for evaluation. They are able to:

1. Use the username and password to log in to the link: http://www.vab-univ.eu/ (visit the tab "eportfolio" and then "my eportfolio"). He/she adds a new experience
2. Create the new experience by filling a form having certain fields (title, category of the experience, duration of the experience, description of the skills required for this, uploading a file with a certification for the experience acquired)
3. Submit the experience for evaluation
4. Improve the experience according to their teachers' comments and resubmit the experience if the first evaluation is asking to do so
5. Receive (print) a certification of validated skills and competences that are related to the specific experience

Both Students and Teachers while working with the eportfolio can receive help by the *smart assistant* (on the right side of the screen) as well as by the drop-down menus which appear in almost each field of the form, consisting of lists with skills and competences as well as helpful questions.

Students may describe their experiences/activities in one of the following domains:

- Sport, culture and art activities
- Involvement in association and active citizenship
- Professional activities
- Transnational /mobility activities

They may describe skills and competences they have acquired by filling in certain fields of the eportfolio, concerning:

- Communication, Interpersonal & Teamwork Skills,
- Problem Solving, Project Management & I.T. Skills
- Cultural & Organizational Awareness

Moreover, they have to provide evidence of their participation in the activity they describe (a certificate, a recommendation letter, etc).

Professors/Teachers have the ability to study their student's recorded experience, to assess and comment it, to indicate certain competences gained from the experience and judge a level of achievement for each competence.

Professors/Teachers may associate with student's experience competences such as:

- *Instrumental competences* (Analysis and synthesis, Planning and time management, General knowledge in a field of study, professional, cultural, artistic... domains, Oral and written communication in the native language, Oral and written communication in a foreign language, Elementary computing, Information management (ability to retrieve and analyse information from different sources), Problem solving, Decision-making)

- *Interpersonal competences* (Critical and self-critical, Acting or working in a teamwork, Interpersonal relations, Leadership, Acting or working in an interdisciplinary team, Communication with non-experts in different domains, Appreciation of diversity, Acting or working in an international context, Ethical commitment)
- *Systemic competences* (Grounding in basic knowledge of a domain, profession... in practice, New ideas production (Innovation, creativity), Learning, Adaptation to new situations, Leadership, Ability to work in an international context, Understanding of cultures and customs of other countries, as well as multi & cross cultural interactions, Autonomously acting or working, Project design and management, Quality, Willing to succeed)

A 5-levels scale is used to rank the level of competences, taking into account the autonomy and the achievement of the activity.

- Level 1 : *assisted competence* – I can fulfill the activity with the support of other people
- Level 2 : *autonomous competence* – I can fulfill the activity by myself
- Level 3 : *collaborative competence* – I can help other people to achieve this activity
- Level 4 : *expert competence* - I can transfer the competence to anyone
- Level 5 : *creative competence* – I can create a new activity

Students and Professors/Teachers are offered a set of e-training modules as well as the smart assistant to assist them on the use of the eportfolio tool. Additionally, most of the Professors/Teachers participated in the VAB project attented an on-line seminar on the use of eportfolio, on the mapping of gained skills and competences to their students' activities.

VAB Web Portfolio Specifications

VAB Web Portfolio and ***Smart Assistant*** are built as Drupal 6 modules. Drupal is an open source modular Content Management System written in PHP programming language. Drupal uses the MySQL data base system for data persistence. The Drupal Core libraries and modules provide basic functionality including System bootstrapping, Database abstraction layer, Caching, Access control, HTML Form system and API, File management API, E-mail system and API, Menu system and API, Path system and API, Theming system and API, Localization and translations system and API, User and session system and API, Node system and API, Logging system and API, Taxonomy system and API, Actions and Triggers system and API, and JavaScript/AJAX API.

Drupal functionality is extended through contributed modules and themes. Modules implement new functionality and plug it into the Drupal system. Modules can access the database through the database abstraction layer, enforce access control and define user permissions, alter the behavior and appearance of Drupal core components and content, and interact with other modules. Modules interact with Drupal core and with each other using special functions called hooks. To extend Drupal, a module needs to implement a hook. When Drupal wishes to allow intervention from modules, it determines which modules implement a hook and calls that hook in all enabled modules that implement it. Drupal themes use the phpTemplate theming engine and CSS to control the appearance of the web application. In Figure 2 the Drupal architecture is presented.

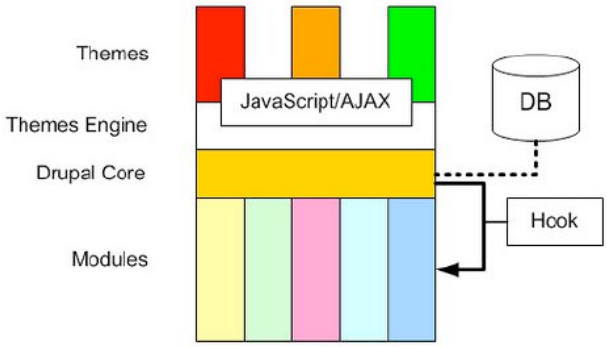

Figure 2: The Drupal architecture

In this frame two Drupal modules were implemented, the ***VAB ePortfolio module*** and the ***VAB Smart Assistant module***.

The ***VAB ePortfolio module*** materializes the functionality of VAB ePortfolio. In VAB ePortfolio module the student and teacher user roles and access rights, as well as the vab_experience node type for representing the experiences of the students are defined. The VAB ePortfolio module implements the management of student's portfolio with overview, creation, editing and submission of experiences for evaluation, as well as student experiences' valuation and validation by teachers.

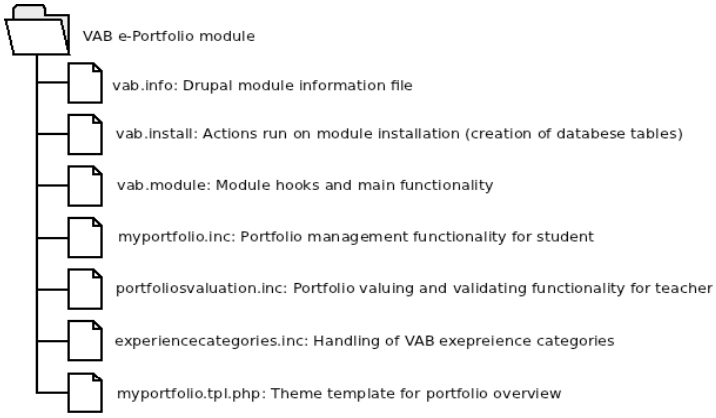

figure 3: VAB ePortfolio module architecture

It also implements administrative functionalities such as registration of users and student to teacher assignment. Furthermore, the VAB ePortfolio module extends Drupal user profile module by defining VAB specific profile attributes for students and teachers. It also uses the Drupal actions and triggers system for sending automatic email notifications to users.

The ***VAB Smart Assistant module*** materializes the Smart Assistant functionality and is dependent on the VAB ePortfolio module. The VAB Smart Assistant module uses dynamic HTML and client side JavaScript scripting for providing useful live information and guidance to the user as he/she edits or validates a portfolio. The Jquery javascript library is used for providing interactive change of the content displayed by the smart assistant, based on the user's actions.

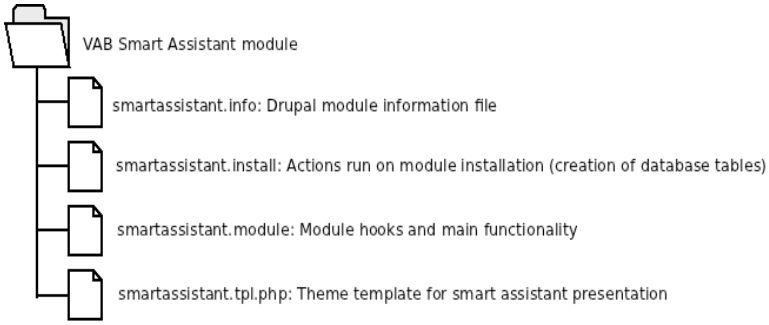

figure 4: VAB Smart Assistant module architecture

Usage example

Let suppose that student X recorded his experience coming from his involvement in a water polo team. He entered the Vab eportfolio student's environment, recorded the time period of his involvement, selected the *Sport, culture and art activities* experience category, put a characteristic for the experience title and described analytically his role and his activities in the frame of the specific experience. According to his opinion he gained *communication, interpersonal and teamwork skills* and he wrote down his arguments to support this opinion guided by the smart assistant.

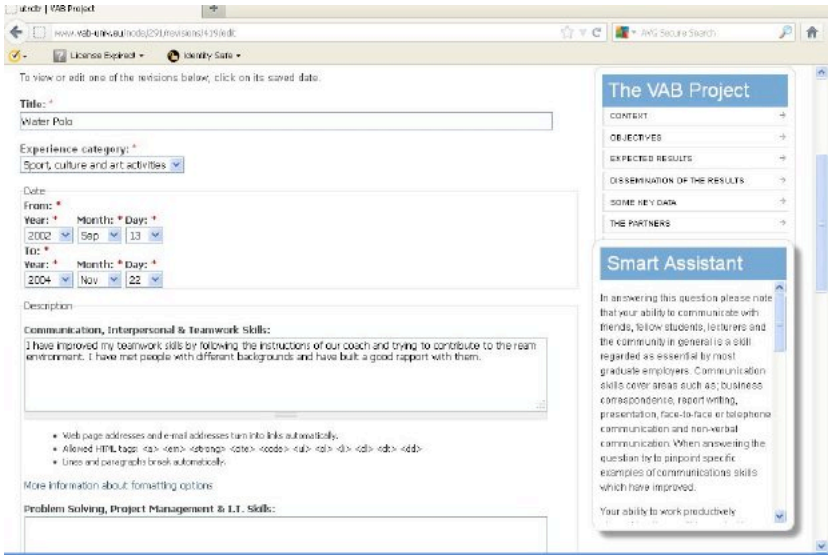

figure 5: A screenshot of the Student's experience recording

He also attached a certification

to confirm his active participation in the water polo team.

The assigned Teacher on the other hand, entered the Vab eportfolio Teacher's environment, studied his student's recorded experience, assessed it and corresponded certain competences to his student's activities as well as the level of their achievement.

More specifically, according to his assessment, the teacher judge that his student gained competences for *Decision making* at *Level 2 – autonomous competence*, *Acting or working in a teamwork* at *Level 1- Assisted Competence*, *Interpersonal relations* at *Level 1-Assisted Competence* and *Acting or working in a teamwork* at *Level 1 Assisted Competence* as well.

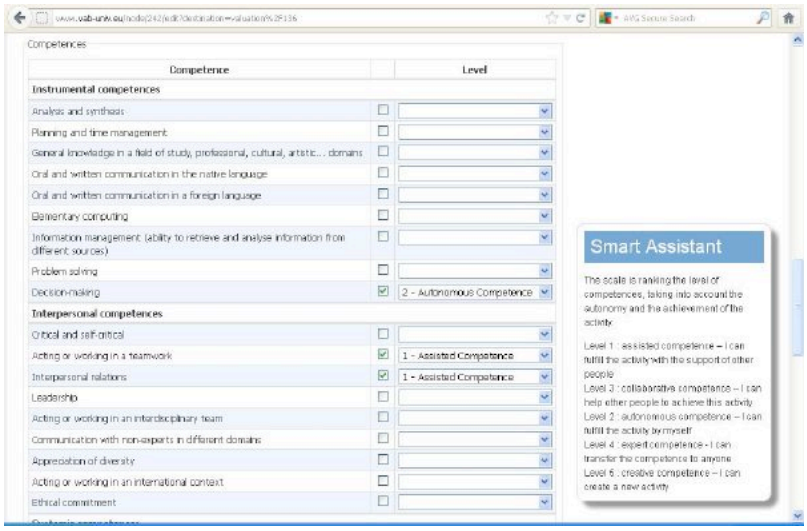

figure 6: A screenshot of the Student's evaluation procedure by the Professor

Pilot use and Evaluation Issues Discussion

A pilot use (experimentation phase) of the VAB eportfolio and its evaluation took place from September 2011 to December 2011. During the experimentation phase teachers and students from the participant countries used the VAB eportfolio. In Greece thirty (30) students filled in their eportfolio and fifty nine (59) experiences/activities were recorded (ranging between 1-3 activities per student). Sixteen (16) Professors/ Teachers assessed their students' activities.

The procedures and the tools used for the evaluation included semi conducted oral interviews with teachers and students before and after their experimentation with the eportfolio and written on-line questionnaires for teachers and students after the use of the eportfolio. Questions included in this tools concern the familiarization with the practice of recognising informal and non-formal learning, the easy of use and the friendly environment of the Vab eportfolio, the role of competences gained from informal and non formal learning in academic life and employment.

Three workshops were also organized in Patras, in Athens and in Thessaloniki. In all the workshops Managers, Senior Employees of Public Authorities, Representatives from public and private Educational Authorities, University Professors, Career Advisors, Adult Education and Training Organizations and Non-profit Organizations participated. During the workshops, all the procedures of the VAB project as well as the results of the project were presented. A deep discussion on the theme of the project took place by collecting and exchanging ideas, opinions, thoughts and questions coming from all the participants' views. The main topics of discussion focuses on: a. Exploitation of non-formal skills in Employment and Career, b. The role of the University in evaluation and certification of informal and non formal skills/competencies through the use of a digital portfolio (eportfolio), c. The usefulness and exploitation of ePortfolios like the Vab one.

According to the Professors'/Teachers' answers to the interview questions (before and after the experiment) as well as to the questions of the on-lime questionnaire, the VAB eportfolio was easy to handle technically the tool in order to assess students' skills based on students' descriptions, but almost all of them faced contextual difficulties to assess students' skills according to one of the five 'levels' (1-assisted Competence, 2-Autonomus Competence, 3-Collaborative Competence, 4-Expert Competence, 5-Creative Competence) for each acquired skill.

Their proposals to overcome this difficulty are:

Students should describe in more detail what exactly his/her role was in the activity, what activities they carried out, what the result of his/her effort was. A certificate is not enough for evidence. More qualitative data are needed. An interview with the student could offer useful information to the teacher to assess

student's competences. More explanation is needed in order for the five Competence levels to be used suitably. A more detailed introductory text should be included in the project portal. A more analytical documentation is also needed. The e-training modules focused on providing technical aid to the users, while they (Professors and students) needed help on the concept and the meaning of evaluating competences gained from volunteering, informal and non-formal education activities. Some analytical and practical examples for both the Professors and the students should be included. The examples could explain in a practical way how to describe the acquired skills for the students and how to assess by the teachers.

The majority of the Professors/Teachers stated that tools like the Vab project eportfolio could be used in evaluating procedures of non-formal skills. They should suggest the usage of such tools to their colleagues. Additionally, they proposed the following:

More than one teacher should assess the competences deriving from one student's experience in order for the evaluation to be fair, accurate and valid. Every teacher can assess in an accurate and valid way only a small number of his students' competences. During the evaluation procedure it is important for the teacher to have personal communication with the students under evaluation, to discuss with them and form a personal opinion for him/her. A valid evaluation is not possible to be done based only on paper evidence. Professors/Teachers should be educated (trained) in evaluating competences. A More detailed categorization of the competences might be helpful. A categorization of competences according to the employment needs is necessary.

A portfolio like the VAB project one could be introduced in the academic system but it might be difficult for the Greek academic system and the Greek community to accept it since it stands out of the culture of most members of this community. Awarding Credits to non-formal skills may not be the best solution. An official report describing the students' assessed skills or a recommendation letter describing student's activities and competences, could accompany his/her degree. The concept of valuing informal and non-formal learning is important. Civic engagement should be recognised in some way because involved students may develop a wide range of skills and competences that they could not develop through their studies. During civic activities they behave as actors in the real world in an effort to support other people trying to have an impact in their community. Civic engagement might also be a part of students' academic life. Employers should accept official reports coming from the university and concerning students' non-formal skills.

According to the Students' answers to the interviews' questions (before and after the experimentation) as well as to the questions of the on-lime questionnaire the ePortfolio environment is easy to use and the Smart assistant module very helpful. They managed to describe skills based on their experience but they asked for some education/training on the topic. They suggest a short seminar explaining the basics and the procedure for describing skills and competences gained from informal and non-formal education. Practical examples of describing competences acquired from volunteering activities would also be helpful. The university academics could suggest the tool to other young people if there were offered credits for non-formal skills.

According to the discussions during the three workshops, among Professors, Teachers, Career Advisors, researchers, representatives from public authorities and public or private institutes, it can be concluded that:

The added value of non-formal skills has been recognized in practice and has been considered essential, especially in vocational guidance procedures. However, there are some 'red lines' on what 'should' and what 'can' be assessed. Key problems in the whole procedure are 'how' non-formal skills can be measured, in 'what context', 'what methods' and 'what tools' are needed, in order for the ''measurements' to be valid and reliable.

The necessity of the evaluation of non-formal skills is recognized by the society nowadays. Non-formal skills are horizontal skills, useful to any profession and as important as life skills (communication, problem solving, teamwork, creativity, initiative, etc.). They can offer a "competitive advantage in the labor market" as they have been gained in practice by individuals, they constitute important evidence of participation in non-formal activities and can make the difference in employment and society in general.

Today there is a tendency for employers to prefer employees having well developed soft skills (such as communication, organization, teamwork, etc.) since there are many people seeking for a job with a variety of qualifications. Therefore, a method is needed of discrimination and selection of appropriate employees among many having similar qualifications (hard skills).

Certification of non-formal skills should be distinguished in two types of certification: a) Certification of skills, b) Certification of the certification process.

The issue of granting credits to non-formal skills is the basis of an intense debate. Young persons should be governed by an internal motivation for their participation in activities of informal and non formal education. Credits should not be a motive for them order to be engaged in such activities.

The eportfolio developed during the VAB project was assessed as a useful tool and can be used:

- For the evaluation of the skills gained by students during their work placement
- For keeping record of students' abilities that is kept Structures of Employment and Carrier in Universities
- For the assessment of workshops, theses, dissertations, laboratory courses and projects during students' studies at any level
- For the Personal Development Program in the frame of which, students participate in discussion groups on various topics such as networking, self-evaluation, job search techniques etc. The VAB tool could be used to track the evaluation of the above activities.
- To replace the first interview between an employer and the prospective employee: the employer initially studies the portfolio of the candidate and during the interview explores in detail positive or negative points identified in it.
- As an extended recommendation letter or an official degree supplement provided by the University.

Finally, as noted by all the participants in the pilot phase, the use of the portfolio was an interesting learning experience for both sides (teachers and students) that could change the way of communicating.

Conclusions and future enhancements

Overall, the design and development of the VAB ePortfolio platform was considered to be a useful experience by the participants (researchers, students and University professors). Nevertheless, a few reservations were expressed regarding, among others, (a) the universal applicability of the approach, (b) the need to customize the list of knowledge, skills and competences per subject, (c) the role of University professors as evaluators or coaches, and (d) the validity of the assessment with respect to the topic of studies.

VAB future enhancements include functionalities that allow students to export their valued resume in xml format and contact teachers and other students through live chat. Smart Assistant module will be enhanced with richer context – aware information and more interactive behavior. In the near future would also plan to implement VAB portfolio as a plugin for Mahara open source eportfolio and social networking system. .

Acknowledgment

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References

1. Cedefop, 2009. *European guidelines for validating non-formal and informal learning*, Office for Official Publications of the European Union, Luxembourg
2. Lambert, SR and Corrin, LE, (2007). Moving towards a university-wide implementation of an ePortfolio tool, *Australian Journal of Educational Technology,* vol. 23, 1-16.
3. Leonardo da Vinci, supported by the European Commission, 2003-2006, www.eEuropeassociations.net
4. *Community-University Collaborations: Exploring Models, Sharing Good Practice, Workshop – Valuing experience beyond the university,* Grey College, Durham University, 9th and 10th September, 2010
5. Anne Wad, Philip C. Abrami, Jennifer Sclater (2005). An Electronic Portfolio to Support Learning.
6. *Canadian Journal of Learning and Technology,* Volume 31(3) Fall / automne
7. Arter, J.A. & Spandel, V. (1992). Using portfolios of student work in instruction & assessment. *Educational Measurement: Issues & Practice, 11*(1), 36–44.
8. MacIsaac, D., & Jackson, L. (1994). Assessment processes and outcomes: Portfolio construction. *New Directions for Adult and Continuing Education . 62* , 63–72.
9. Barrett, H.C. (2004, April). Differentiating electronic portfolios and online assessment management systems. Paper presented at the *annual meeting of the American Educational Research Association*: San Diego, CA.

10. Batson T. (2002). The Electronic Portfolio Boom:What's it All About? *Syllabus*, vol. 16, no. 5, pp.1-5.
11. Available at: http://www.syllabus.com/article.asp?id=6984
12. http://drupal.org
13. http://jquery.com
14. http://mahara.org
15. https://wiki.mahara.org/index.php/Plugins/Artefact/Europass

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Competence Based Assessment Considerations within ePortfolio System

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Introduction

Usually ePortfolios connote with digital environment where people and/or organisations can display their achievements: both individual and collective ones. Nowadays employees are often asked to use ePortfolios to provide evidences of their continuous professional development and growth. More and more educational organisations all over the world break fresh ground and implement ePortfolio solutions into institutions' curriculum. ePortfolio systems play significant role to motivate learners in order to improve their competencies. Everybody awake the fact that ePortfolio is not just a signboard which could be used to show others somebody's achievements. It might be used for both students and teachers: for students – to study, improve learning outcomes, assist fellow-students, make peer and self-assessments; for teachers – to tutor learners and monitor their progress, make assessment of study process and provide necessary steps to improve curriculum. Valuation of prior learning and obtained skills becomes more important in finding of the proper learning path for learners. Lifelong learning challenges demand actualising these desires.

At the moment, aspiration for knowledge to meet labour market requirements and responsibility to acquire necessary competences mostly falls upon learners or depends on course attraction, keenness of teaching staff, as well as new motivating educational methods. Based on Dr. H.Barett's research [1] we can observe that there is a lack of systems which ensure users' competence based assessment. To say more, there are even less systems which give learner's real appropriate learning path suggestions and constructive solutions. Student's learning path depends on learning goals [2], i.e. competencies which are planned to achieve, and it is linked to the expected learning outcome. Each of us has our own set of competencies where almost each competence might be represented as a cluster of other competencies with their particular number of knowledge, skills and proficiency, making person's competence profile. Based on this, we can consider that learners' competences enhancement and further development might be facilitated by assessing their current level of competencies at each phase of learning, activating their groupwork and critical thinking, and offering them study materials which are still missed. Competence assessment initiatives always ought to be tailored with competence development activities [3]. Internal and external competence assessments made on regular basis [4], both tutor-, self- and peer-assessments, should be recognised as competence development in itself [5].

This paper is devoted to the challenge of the origination of new tools and methods to enhance competence development, and creation of a new ePortfolio system which supports that. It addresses the problem of assessing learners' competence levels and giving appropriate suggestions and probable solutions based on these assessments, as well as seeking perspective ways to make ePortfolio systems more flexible and intelligent, which would result in creation, development and implementation of new interactive ePortfolio system.

Experimental ePortfolio system design

Experimental ePortfolio algorithmic model in brief

To achieve the goals of advanced and motivating learning environment, which promotes competence development, experimental ePortfolio algorithmic model was created. This model along with external study portal information system (IS) 'ORTUS' has ensured students' competence development assessment process along the study course.

Figure 1 shows simplified scheme of the experimental ePortfolio system's algoritmic model. An extra external assessment processes (the right side of the Fig.1) are added to this figure just to emphasize the importance of a likely full spectrum of assessment types which may vary in different learning environments and which have crucial significance in competence development.

Students can upload the accomplished homeworks onto Riga Technical University's educational portal 'ORTUS'. Then with an ePortfolio system administrator's assistance, the course tutor sends these works to the ePortfolio system. ePortfolio groups are formed based on a sequence of submitted homeworks.

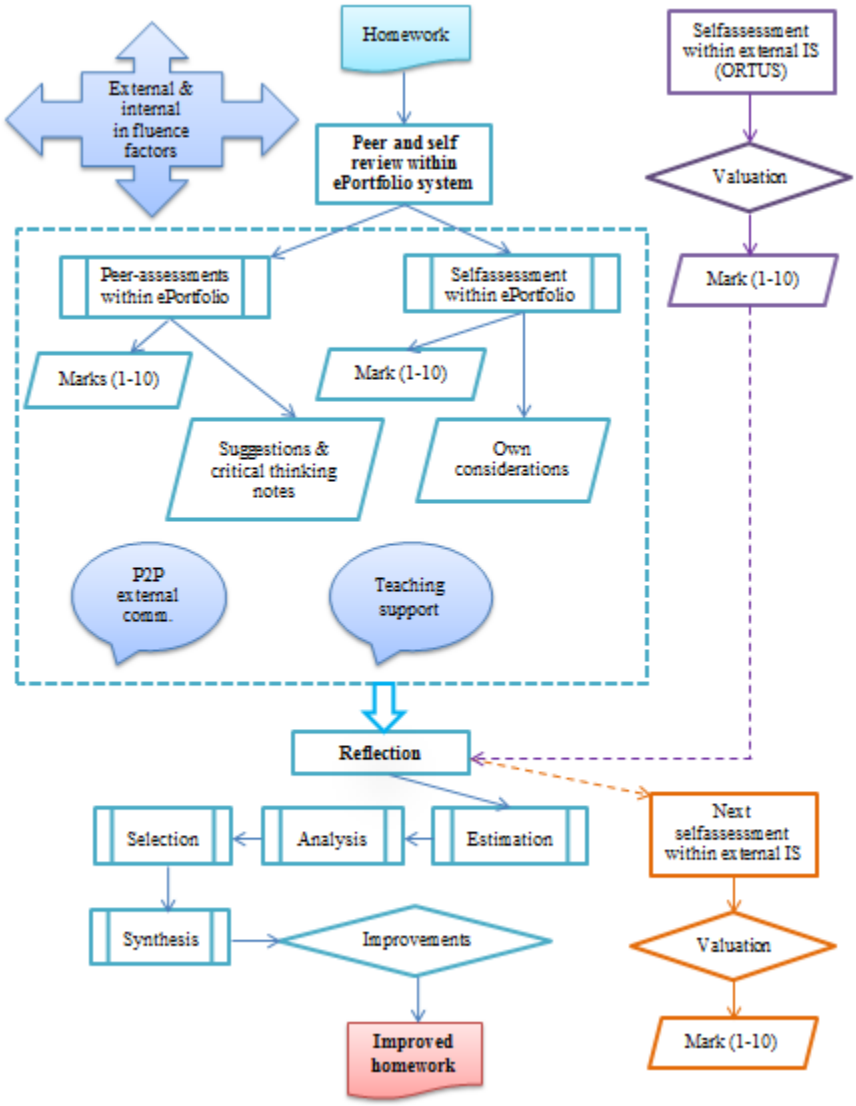

Fig.1. Simplified scheme of the experimental ePortfolio system's algoritmic model

Students should assess their group members' accomplishments and make self-assessment. Students have a possibility to see group member names against their achieved assessment results: marks, critical thinking notes and constructive suggestions. In this case, to verify details, students also can establish external mutual and/or e-communication contacts. Teaching staff supportis also appreciated and might be used to render good offices to students.

Bearing in mind that „the real value of an ePortfolio is in the reflection" [6], the reflection is one of the key processes also here. Student is kindly asked to observe and collect group members feedback, listen in tutor's recommendations, estimate the data and put them against own calculations, analyze information, select appropriate conclusions, add something well-formed or synthesize dandy things. As a result, a number of improved homeworks ought to be increased.

Technical description

ePortfolio system is created within an open source integrated development environment 'Netbeans'. The fundamental principle of the three-pronged architecture MVC ('Model View Controller') is applied. At the lower level (prong) of the system the object-oriented data model 'Hibernate' is utilized. At the system's controller and view levels the Java 'JSF libraries' are used.

Experimental ePortfolio system is hosted on the application server 'Glassfish 3.1'. Received data are collected, saved and maintained in the 'MySQL 5.5.16' data base. Java 'Development Kit 1.6.0_24' is used.

Five data tables, classification tables and statistical tables are created within the data base. Students' homeworks data, i.e. work author's name, peers' / group members' or assessors' names, assessments, marks and assessment remarks, e.g. feedback, critical thinking notes or encouragement, are saved, collected, picked and read in the data tables. Appropriate assessment criteria for each of five group works

are placed in the classification tables. Users' data, their login details, authentication information, such as beginning time of the authentication and its end, are placed in the statistical tables.

Figure 2 displays created links and dependances of the experimental ePortfolio system's Web pages. The further learner goes (from the right side of the figure to the left) the more elaborate a net of links and dependances becomes.

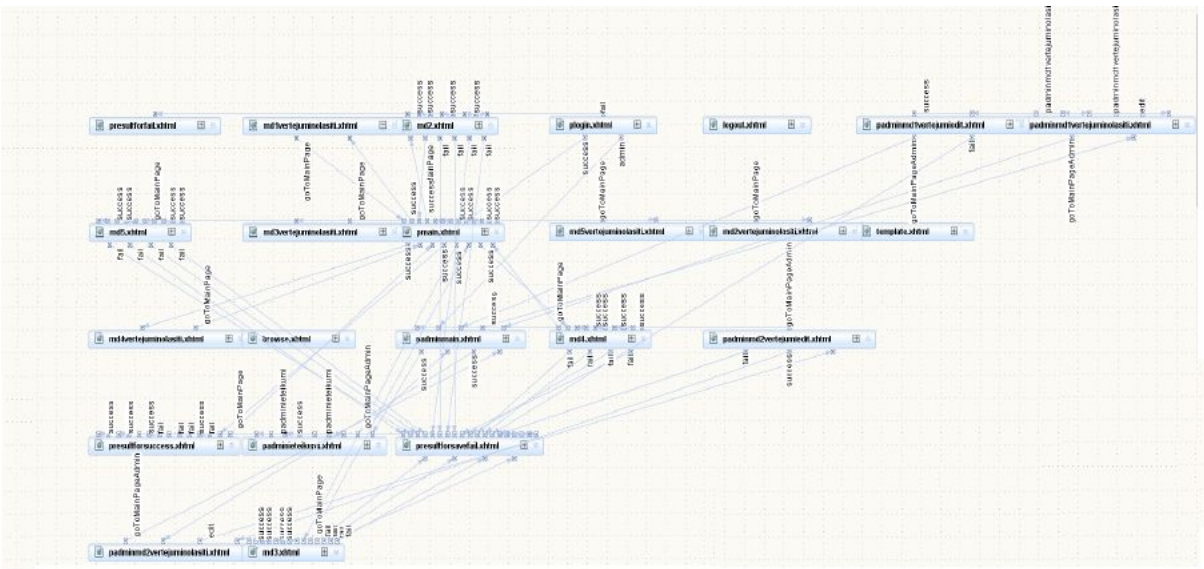

Fig.2. Links and dependances of the ePortfolio system's Web pages

Object-oriented data level enables application software to process data in data base by using 'Hibernate' libraries. Business functions, which process data arrays, are placed at the controller level. Functions, which reproduce processed data arrays in established format, are defined at the view level.

Students' and administrator's windows within ePortfolio system

There are two types of windows made available for activities within ePortfolio system. One is devised for students' work and the other – for adminitrator's or tutors' (if any) needs.

In both windows an activization of actions starts from an authentication and authorization. In the user's (student's) profile (Fig.3) the user is asked to enter his/her login identification and password. For this purpose authentication and authorization part of the 'MySQL 5.5.16' data base is exploited, and an authority is assigned to the user accordingly users' group. Similar login page opens also for adminitrator and tutors.

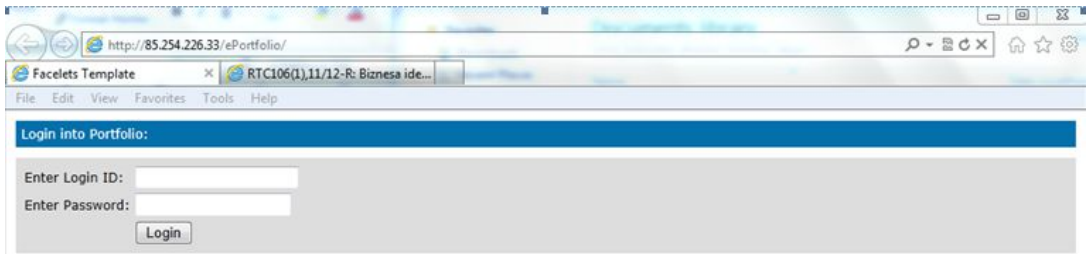

Fig. 3. ePortfolio user's login page

At the moment, user cannot change his/her identification data and issued password. The reason for doing this, as experimental ePortfolio system was developed step by step along the whole course and course modules and extra options sometimes were created on the fly, was to guarantee a quick access to available data and a rapid response on the possible usability problems. Besides, to make the system better and more efficient we occasionally had to care about necessary updates and bug fixes.

After login ePortfolio user's main page with personal desktop opens (Fig.4). It contains homeworks and assessments with feedback and suggestions given to the user by peers – particular group members.

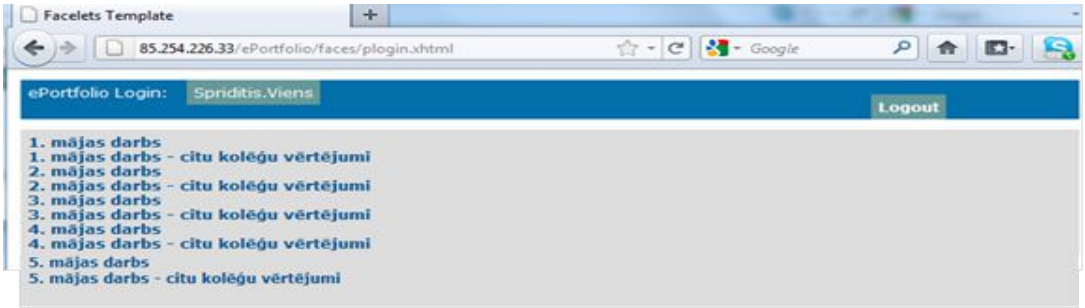

Fig.4. User's personal desktop with tasks and feedback

By clicking on appropriate homework task (for instance, in Fig.4 – links: „1. majas darbs", „2. majas darbs", etc.), user's workpage opens (Fig.5). Here the student can download and save three his/her group member homeworks, read them, assess, mark corresponding competence level, and write critical thinking notes to assist others in further improvement of their works. After completion of group members assessment (classing by points, filling-in assessment forms, and saving), filling fields are not shown anymore.

There is an obligation to assess not only group members, but also to make self-assessment: assess own level of competences and describe personal considerations regarding achieved results. Obtained data could be contrasted and compared against self-assessments and test results made outside ePortfolio system (within external Riga Technical University's study portal 'ORTUS'), and internal peer assessments within particular ePortfolio group.

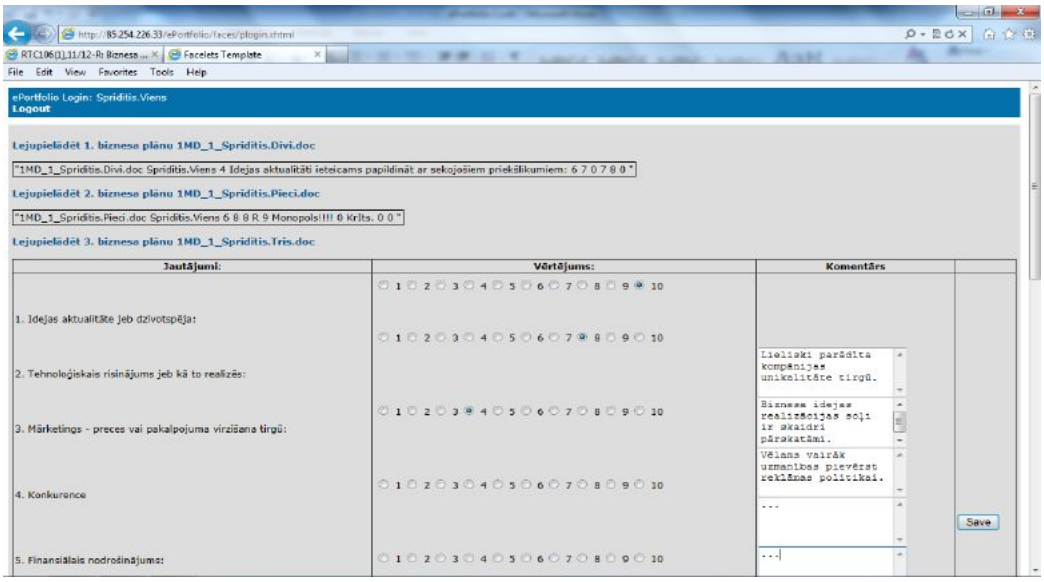

Fig.5. Student's workpage

By clicking on appropriate peer assessment link (for instance, in Fig.4 – alternate links: „1. majas darbs – citu kolegu vertejumi", „2. majas darbs – citu kolegu vertejumi", etc.), peer assessment and feedback summary in user's page opens (Fig.6). Here are not only group members' remarks, but also user's own assessment scores and notes. Analysis of all these data is incredibly useful for the learner to resolve a problem, get in touch with group members, other course students and tutors, more precisely assess own level of competencies, improve accomplished poor or even failed works, and develop required competences.

ePortfolio Login: Ksenija.Jakuseno Uz galveno lapu Logout

Biznesa idejas autors:	Biznesa idejas vērtētājs:	Jautājums:	Jautājuma vērtējums:	Jautājuma komentārs:
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	1. Idejas aktualitāte jeb dzīvotspēja:	8	Nav slikta ideja, bet ja es to pareizi saprotu, tad, manuprāt, GPS, kas tagad pieejams arī mob. tel., sniedz līdzīgas iespējas, tapēc iespējams ne visiem būtu nepieciešams dators.
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	2. Tehnoloģiskais risinājums jeb kā to realizēs:	9	ir ok
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	3. Mārketings - preces vai pakalpojuma virzīšana tirgū:	7	derētu precizēt reklamēšanas veidu(piem., ja internetā, tad kādās tieši saitēs utml.)
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	4. Konkurence	9	ir ok
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	5. Finansiālais nodrošinājums:	10	ir ok
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	6. Uzņēmuma spēja realizēt ideju:	10	ir ok
2MD_17_Ksenija.Jakuseno.docx	Arnolds.Baranovs	7. Iespējamie riski:	9	iespējams nemaz nebūtu tik daudz to cilvēku, kas gribētu vēl speciālu datoru cejošanai(idejas realizēšanas izmaksas var sanākt lielākas nekā ienākumi), jo cik noprotu viņiem būtu jāmaksā vairāk sakarā ar to, ka ir uzstādīti datori vigu sēdvietās.
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	1. Idejas aktualitāte jeb dzīvotspēja:	10	Ideja ir dzīvotspeejiga :)
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	2. Tehnoloģiskais risinājums jeb kā to realizēs:	9	vareetu papildinaat ka vajag diezdgan daudz arii datoru
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	3. Mārketings - preces vai pakalpojuma virzīšana tirgū:	5	vareetu papildinaat
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	4. Konkurence	9	Pieknitu ka ljoti maza konkurence, bet ja runaat tieshi par Latviju? vai ir taadi autobusi?
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	5. Finansiālais nodrošinājums:	9	
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	6. Uzņēmuma spēja realizēt ideju:	9	
2MD_17_Ksenija.Jakuseno.docx	Natalija.Stube	7. Iespējamie riski:	8	Varbuut ari lielaaka cena, izmantojot shoos datoorus
2MD_17_Ksenija.Jakuseno.docx	Julija.Putrina	1. Idejas aktualitāte jeb dzīvotspēja:	10	Loti laba ideja
2MD_17_Ksenija.Jakuseno.docx	Julija.Putrina	2. Tehnoloģiskais risinājums jeb kā to realizēs:	8	Nav teikts kas bus vajadzīgs ,lai izveidotu tadu autobusu.
2MD_17_Ksenija.Jakuseno.docx	Julija.Putrina	3. Mārketings - preces vai pakalpojuma virzīšana tirgū:	9	Sapratu ideju. Bet varbuut to var reklameet internetaa,radio un vel citas SMI?
2MD_17_Ksenija.Jakuseno.docx	Julija.Putrina	4. Konkurence	9	Tadi autobusi neeksistee.Bet eksistee vilcieni ar wifi.
2MD_17_Ksenija.Jakuseno.docx	Julija.Putrina	5. Finansiālais nodrošinājums:	10	Varbut var piesaistīt kaadus investorus?
2MD_17_Ksenija.Jakuseno.docx	Julija.Putrina	6. Uzņēmuma spēja realizēt ideju:	9	Bet ka to realizees? Ko jaizdara pirmkaart? otrkaart?

Fig.6. Peer assessment and feedback summary

Administrator's and tutors' login windows, as said before, are similar to the users' ones. However, after authentication and authorization windows with a link for tutors' guidance input opens (Fig.7).

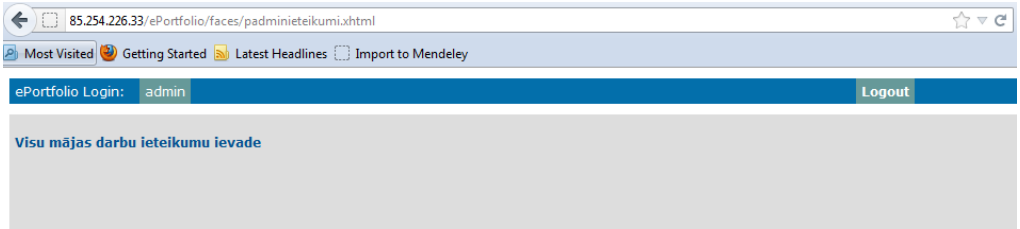

Fig.7. Administrator's and tutor's desktop with a link for guidance input

By clicking on the guidance input link, the tutor's guidance input page opens (Fig.8). The tutor has possibility to write corresponding notes and suggestions related to specified work or question, and leave links to external educational materials.

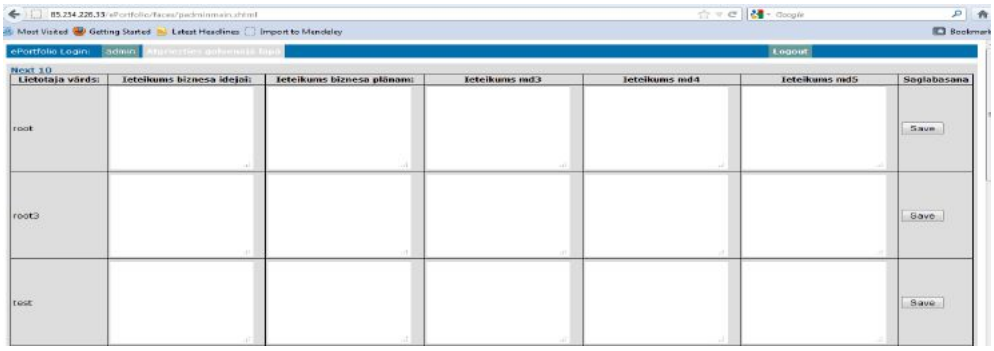

Fig.8. Tutor's guidance providing page

Testing of ePortfolio experimental prototype in Living Lab

Taking into account that Living Labs are intended to involve users in the innovation process, knowledge sharing, exploration, experimentation, assessment, co-creation [7], and development of improved products, after creation of the first experimental algorithmic ePortfolio model the prototype of such system was introduced and conducted for „Business Planning for Open Markets" (BPOM) blended e-learning course bachelor study programme students by the Distance Education Study Centre (DESC), Riga Technical University (RTU), in the autumn semester of study year 2011/2012.

Besides, there was a necessity to analize also students' competence development and change dynamics. To ensure competence development process recording, existing RTU student's educational web portal, named ORTUS, which is built on the open source Moodle software, was used and eight self-assessment survey lists were created [8].

254 first year bachelor study programme students were enrolled to BPOM course. 197 of them completed

initial self-assessment outside ePortfolio system (i.e. it was done within study portal 'ORTUS'), 159 learners submitted the eighth, final self-assessment questionnaire form. 173 students passed an examination at the end of course. From all enrolled students 56 learners took part in all groupwork activities within ePortfolio system, i.e. all five times; 16 students also were very active – they participated in four groupwork activities; 19 students were rather moderate – three groupwork activities; 27 students were less active – two activities; 39 students were inactive – only one groupwork was done; and 97 did not participated in any of ePortfolio groupwork activities.

After course initial stage of four weeks when students were asked to make their first self-assessments and take the first test, teaching staff introduced ePortfolio experimental prototype which were built specially for the BPOM e-learning course. The link to particular group to work on the first group task within ePortfolio system was opened (Fig. 9). The groups of four students each for the first (of totally five) group work were formed in line with a sequence of submitted accomplished homeworks No.1. The same procedure applied to the group formation for the second group work. Further composition of group members did not change until the end of the course. The purpose do that was our cosideration that assignments for groupworks No. 2-5 were tightly tangled, the third homework was built on the second homework conditions and results, the fourth homework – on the third, and the fifth – on the fourth one. Thus, from our point of view students were able to give a good account of themselves, become more familiar with with group members scope and their work direction, provide information on suggesting better improvements for their group members' works, and increase a dynamics of competence development. Here we can draw paralells with project teams building when project members are asked to contribute their proposals regarding project tasks.

Though, analising students activities within ePortfolio system we have considered that due to rather high drop-out percentage from the course several groups lost from one to two group members during ePortfolio groupwork activities from the second to fifth assignment. A few of groups lost even three participants. Accordingly, our competence development motivation tool was unable to offer a knee to only the one student in respective group. To avoid this in future it would be preferable to form students groups for each next groupwork anew. On the other hand, the loss of group members imitates joint project challenges and real-work conditions when a project partners are working on the certain collaborative tasks and have to make appropriate contribution to workpackages. The project must go on even in case when some of project partners, who have contributed before, leave the project.

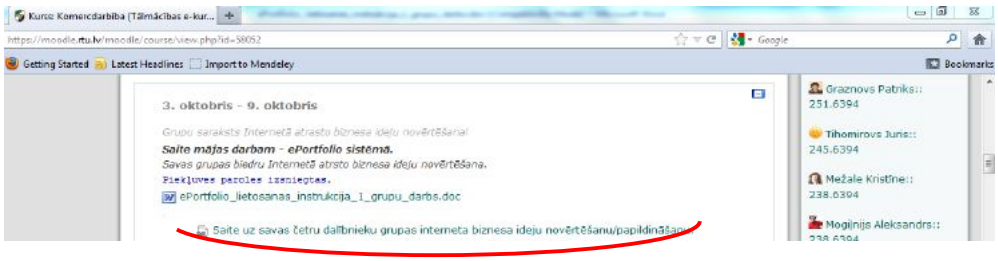

Fig.9. Link to the ePortfolio system

Students performed their groupwork assignments according abovementioned notes given in previous chapter Students' and administrator's windows within ePortfolio system". Figures 3 – 8 illustrate that.

Students were asked to complete given tasks, upload their accomplished homeworks on the university's study portal 'ORTUS', login onto their ePortfolio group, make self-assessment of own work and competence levels, assess group members work, analyze, give them appropriate suggestions, and for their part acquaint themselves with group participants feedback, estimate, analyze and select constructive ideas, think about possibilities to improve own work, and update initial drafts if possible.

Two ways of login onto ePortfolio system were offered: one – through study portal 'ORTUS' and another one – by typing ePortfolio URL (http://85.254.226.33/ePortfolio/) in a Web browser's toolbar. The second option was proposed to allow users of getting directly into ePortfolio system.

The data of students activities within ePortfolio system were recorded, collected in the 'MySQL 5.5.16' data base, processed, and sent to the tutor's dashboard (Fig. 10) through established links. This 'Excel' view dashboard was developed to observe and analize learners activities and achievements in both RTU DESC experimental ePortfolio and university's 'ORTUS' information systems. It might be used also to take immediate actions influencing groupwork activities and competence development process.

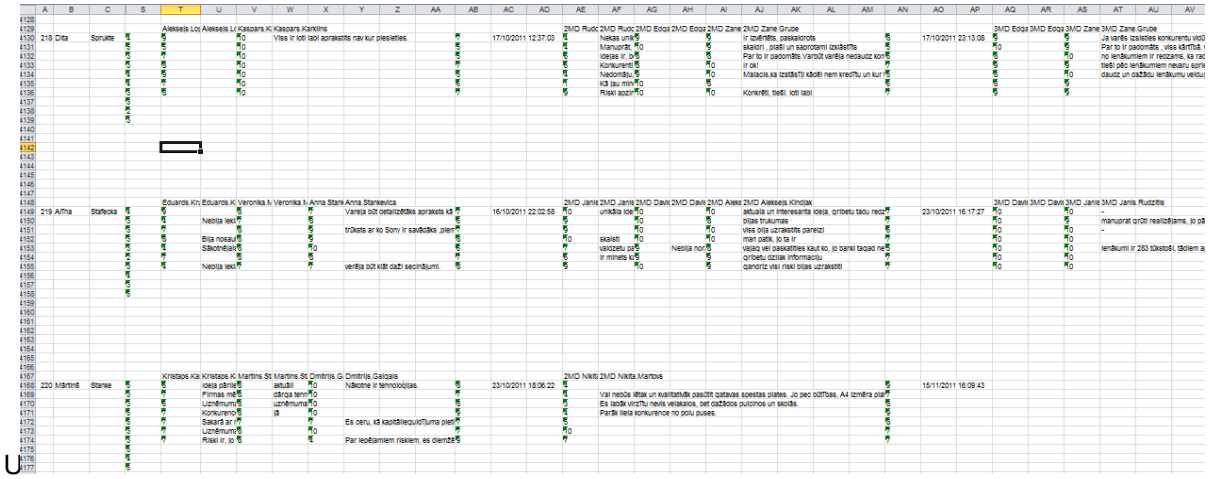

Fig.10. Tutor's dashboard

In earlier studies where competence development was examined against respondents initial self-assessments, we have not found a correlation between self-assessments and test results, i.e. test results do not depend on self-assessments [8]. Especially it applies on a comparison of the first test and initial self-assessment ratio. Further analysis displayed another singularity, namely – those students who assessed themselves in initial self-assessment the worst, the same students assessed themselves at the final self-assessment stage again the worst; while the most self-assured students remains the same both at initial and final self-assessment stages. Figure 11 shows these characteristics and waves through an importance of activities and hardworking within ePortfolio system which enables students soaring and giving the good accounts of them, in particular assisting students with low level of confidence achieving their aim. Moreover, higher level of group work activity in and even responsibility let learners to dash and catch up the smartest students.

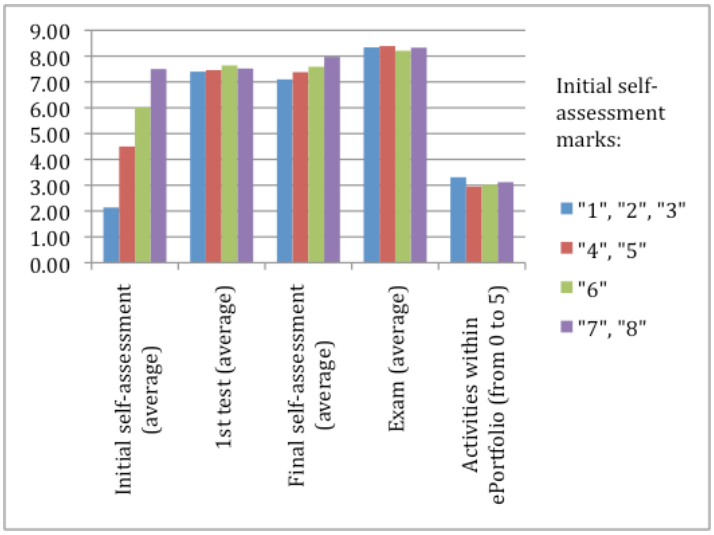

Fig.11. Correlations depending on initial self-assesments

Interesting results were observed in discovering coherence between students activities within ePortfolio system and achieved results, competence developments. Thus we have found that there is no correlation between initial self-assessments and exam results.

Final self-assessments correlate with exam results and groupwork activities within ePortfolio. This applies also on the number of login files to ePortfolio system (for instance, left and right parts in Fig.12, as well Fig. 13). It could be said that final self-assessments indicate and characterize students competence development quite accurately. These relations can be seen best in the right depiction of the Figure 12. There students were sorted out over terms of their activity within ePortfolio as follows:

- Active users – those who have participated in 4 or 5 group works;
- Moderate users – those who have participated in 2 or 3 group works; and
- Inactive users – those who have not participated in any of group work or take part in one activity only.

- Figure 13 and the left depiction of the Figure 12 separate students according to a number of accomplished group works within ePortfolio (e.g., 5 group works – the most active users, 4 – active, 3 – moderate, 2 – less active, 1 – inactive, and 0 – the most inactive).

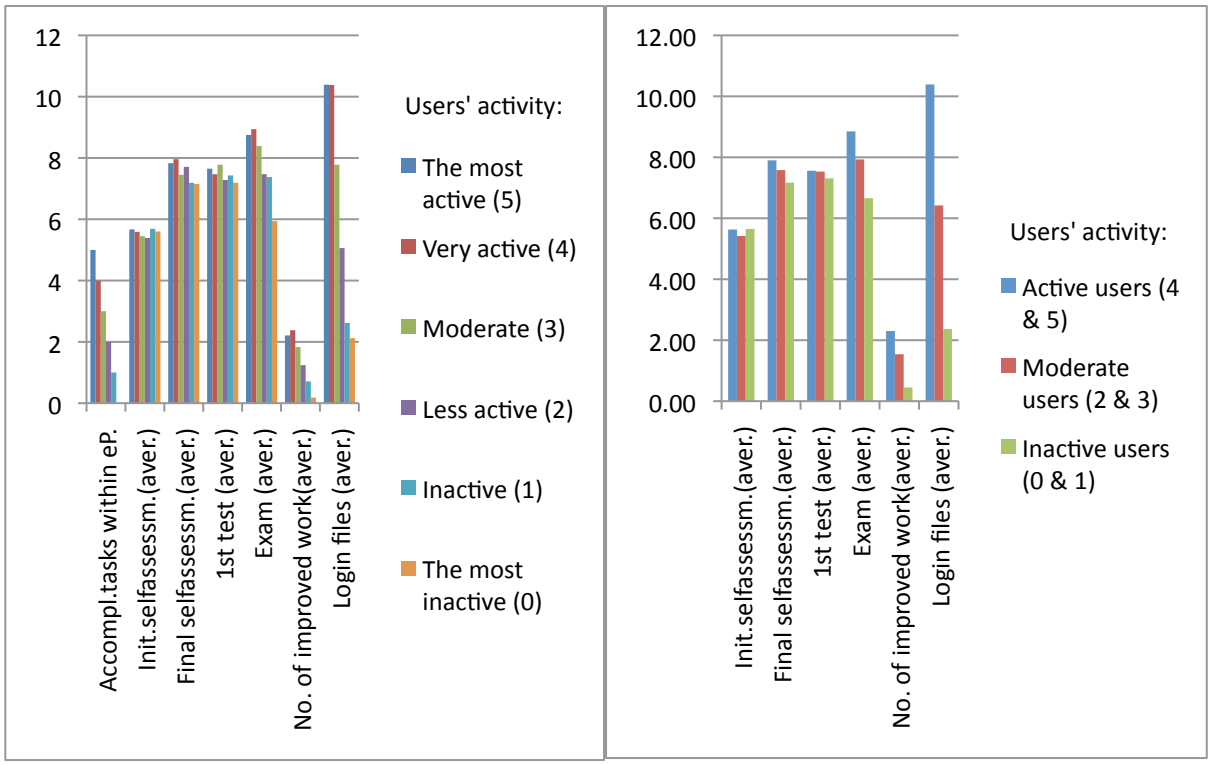

Fig.12. Average competence development correlations with ePortfolio activities

We have also found that the number of improved homework has direct correlation with the number of ePortfolio login files. More active students much more take part in offered group work activities. It could be established a fact that users' reflection on critical thinking notes and constructive suggestions leads to a creativity, synthesis and competence development. As a result, the number of corrected, slightly improved or cruissal processed product depends on users activity level within ePortfolio system.

During the BPOM course in the Fall, 2011, totally we have received 312 improved works. This number shows that:

- the second homework was improved 78 times;
- the third homework was improved 66 times;
- the fourth homework was improved 65 times; and
- the fifth homework was improved 103 times.

There was no obligation to make any homework improvements after first group work activity.

Analyzing statistics of improved works we were surprised of the fact, that there were several improved works developed by students, who did not take part in any of ePortfolio group work activities (for instance, the second set of columns from the right in Figure 13). It might be explained by their interest („what's going on") in ePortfolio working processes. Their accomplished draft homeworks were placed onto ePortfolio system in one of system's groups. Despite their indisposition towards group-working, few of these students took a look into appropriate group members feedback, as we can see at the last column of the Figure 13 („Login files (on average)"), went over, selected ways for necessary corrections, and made improvements in the final version of the homework.

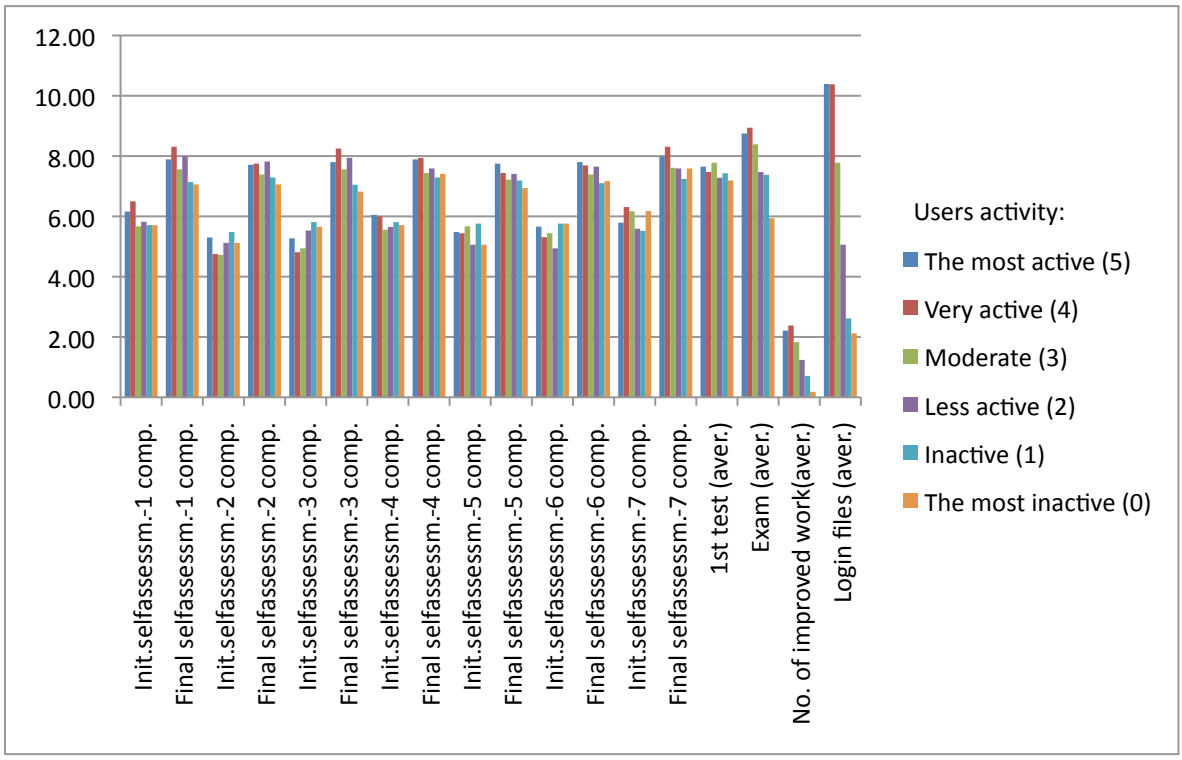

Fig.13. BPOM seven competences development correlations with ePortfolio activities

At the first experimental stage the option of delivering learning suggestions were enabled for tutors' usage close to the end of the course. In addition to that we had lack of available instructors to be involved in groupwork activities. Thereby this option was not exploited so powerful as we planned. In next prototype testing stages we expect this tool will work better.

Conclusions

Summary

To facilitate competence development the new experimental ePortfolio system algoritmic model was developed and prototype, which supports Latvian language, was tested in Living Lab. Developed system prototype differs from traditional ePortfolio systems by motivating approach in acquiring of competences, involvement in group-working, increasing responsibility both for own and peer achievements, and comparison of scores, study results, assessments and competence development levels along the whole course study period in two educational systems: university's study portal 'ORTUS' and ePortfolio ones. Offered ePortfolio algorithmic model ensures collecting the data (marks and recommendations) from all assessments and opening them up for the appropriate ePortfolio group members; consequently, students have an excellent possibility to improve their work and develop required competences.

There are some considerations to improve this system's efficiency:

- Necessity to automate students homeworks sending to the ePortfolio system.
- Necessity to automate working group formation based on the „first come, first served" basis.
- ePortfolio group formation ought to be organized for each groupwork anew.

Conclusions

There is the correlation between students' activities in ePortfolio system, on one hand, and their test marks, exam results, and achieved competencies, on the other hand. New system encouraged students to think critically; ePortfolio students' groups with high activity achieved better outcomes rather than inactive ones.

The system made it possible to break the neck of the most complicated course themes, as well as make improvements of students' exercise works. Reflection on feedback is of the last importance in the improvement of the learning outcomes.

Final self-assessments correlate with exam results, groupwork activities and the number of login files to ePortfolio system. Final self-assessments can indicate students competence development.

Further work

To solve the problem of creating the ePortfolio expert system emulating the decision-making ability of a human expert [9], which would be equipped with recommendations or suggestions generation tool, the DESC RTU are going to develop new algorithmic model and launch the second prototype of interactive ePortfolio system in further study years. Figure 14 provides a small insight into the model which RTU DESC is working on. It might be said that next generations of ePortfolio systems will not be able to imagine without artificial intelligence traits [10].

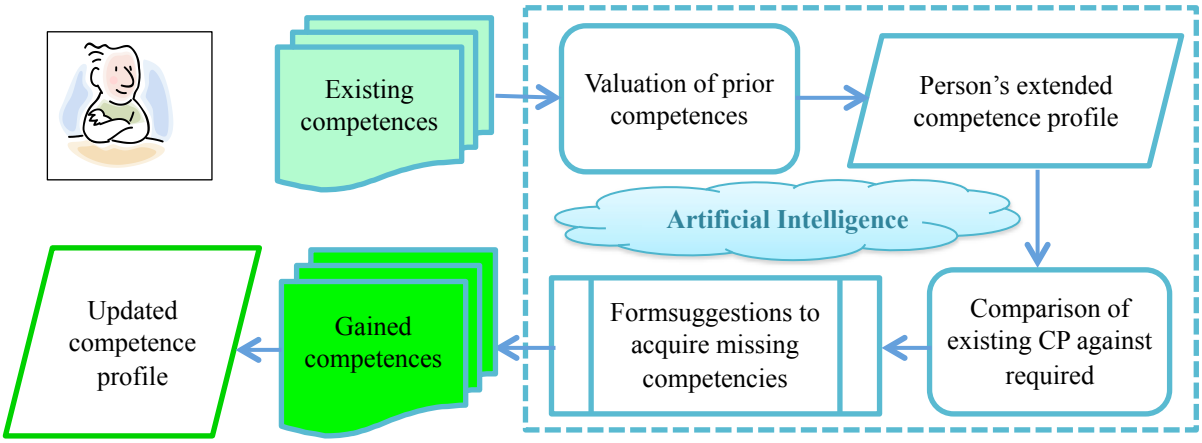

Fig.14. Further prospective ePortfolio system rough model

References

1. Barrett H. C. (2008). *Categories of ePortfolio Tools*. http://electronicportfolios.org/categories.html

2. Schoonenboom, J., Tattersall, C., Miao, Y., Stefanov, K., Aleksieva-Petrova, A. (2007). A four-stage model for lifelong competence development. In D. Griffiths, R. Koper, O. Liber (Eds.). Proceedings of the 2nd TENCompetence Open Workshop 'Service Oriented Approaches and Lifelong Competence Development Infrastructures', pp. 131-136. – Manchester, UK, January, 11-12, 2007. ISBN: 0-907311-22-9.

3. Baartman L. K. J., Bastiaens T. J., Kirschner P. A. & Vleuten C. P. M. v. d. (2006). *The wheel of competency assessment : Presenting quality criteria for competency assessment programs*. Studies in educational evaluation, 32(2), 153 - 170.

4. Gorbunovs A. (2010). Actuality of Interactive Eportfolio Systems. Proceedings of the International Conference on e-Learning and the Knowledge Society - e-Learning'10, Latvia, Riga, 26.-27 August, 2010. – pp.148-153, ISBN 978-9984-30-181-5. http://stpk.cs.rtu.lv/educationconference/read_write/file/Proceedings_content.pdf

5. The University of Exeter (2011). *Peer and Self Assessment in Student Work*. Retrieved from: http://as.exeter.ac.uk/support/admin/staff/qualityassuranceandmonitoring/tqamanual/

6. Barrett H. C. (2009). *Balancing the Two Faces of ePortfolios*. Retrieved from: http://electronicportfolios.org/balance/balance.pdf

7. Pallot M. (2009). *Engaging Users into Research and Innovation: The Living Lab Approach as a User Centred Open Innovation Ecosystem.* Webergence Blog. Retrieved from: http://www.cwe-projects.eu/pub/bscw.cgi/1760838?id=715404_1760838

8. Gorbunovs A., Kapenieks A. (2012). *Competences Development Process Recording for Multi-Competence e-Course.* Society, Integration, Education / Proceedings of the International Scientifical Conference / Volume I: School Pedagogy, Higher Educational Institutions Pedagogy, Lifelong Learning, pp. 261-272. – Rezekne, Latvia, May 25th-26th, 2012. ISSN: 1691-5887.

9. Jackson P. (1998). *Introduction To Expert Systems.* 3rd ed., p. 2, Addison Wesley. ISBN 978-0-201-87686-4.

10. Gorbunovs A. (2011). *Prospective Propulsions to Embed Artificial Intelligence into the Eportfolio Systems* // Ubiquitous Computing and Communication Journal. Vol.: Book:: Advances in Information Technology "from Artificial Intelligence to Virtual Reality", Ch.3, pp 44-59, UbiCC Publishers.

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ePortfolios and Assessment: Design for an Authentic Program Evaluation

Judith Simons, Gold Marygrove College Detroit, Michigan

Introduction

The accreditation process at Marygrove College in Detroit, Michigan has gone through many permutations, from total paper and pencil records keeping to one that is now totally electronic. The Higher Learning Commission, the association that accredits universities and colleges in the United States, has established specific criteria for each program assessment. Marygrove is in the process of preparing for an HLC on-campus visit. The accreditation team visits every ten years. If there are no major issues, accreditation is granted. If there are elements that need tweaking, a two year for five year review is required.

It is my responsibility to prepare an electronic program assessment in preparation for the HLC visit. As a long tenured faculty member in the Computer Information Systems department it is imperative that the program assessment be authentic, exhibit the integrity of intellectual property and be user friendly.

Usability of the ePortfolio is paramount as it will be looked at by faculty, administrators, students, and the external accreditation team. The interface must be user friendly, easy to navigate and customize, in addition to being aesthetically pleasing. With those considerations in mind, it appears as if the course management tool used on campus would be prudent. Marygrove College uses Blackboard.

Blackboard has ePortfolio modules that can be incorporated with the software in place at the College. The advantages are that it is a College supported system, familiar to faculty and students, and the integrity of intellectual property and academic authentic is ensured.

Purchasing ePortfolio software was not an option. Sixty percent of Marygrove College faculty is hesitant in the use of Blackboard. In many instances it is not used to its full capacity. With that in mind, it was best to stay with software that is in place at the College. Hopefully, in time, faculty who are reticent in using Blackboard will become familiar with the available modules.

Preliminary Model

The following worksheet was developed for the program assessment process in 2008-2009. This model was useful in organizing the assessment process. The detail required to answer each question helped faculty focus on the nuts and bolts of the academic program.

Assessment Components	Questions to be Answered
Component 1. Identifying Missions Each academic program determines which aspects of the College mission relate to the department's programs or operations.	What is the mission of the program?
Component 2. Stating Goals Each academic program develops a goal statement that stems from those parts of the College mission it had determined are most relevant to it.	What are the goals of the program in relation to students learning and teaching effectiveness?
Component 3. Identify Program Learning Outcomes Each program will identify the student-learning outcomes it intends to achieve. Each program may establish benchmarks for students learning outcomes.	1. What should students be able to know, think and do upon completion of the program? 2. What are the benchmarks for the student learning outcomes? (At what point in the program should students achieve the learning outcomes? 3. Do the learning outcomes support the states goals of the program? 4. Do the learning outcomes align with the professional standards and external accrediting bodies? 5. Are the outcomes stated in measurable terms?

Assessment Components	Questions to be Answered
Component 4. Identify Methods of Assessment and Criteria for Success Each program develops measures to assess learning outcomes and establishes criterion for successful completion of each learning outcome.	1. What methods or instruments are used to measure achievement of the learning outcomes? 2. What is the criterion for successful completion of outcome? Criteria for success can be stated in qualitative and quantitative measures.
Component 5. Collecting Assessment Data Each Program gathers and documents results of assessment.	1. What is the process for conducting assessment and collecting data? 2. When and how often will the assessment take place? 3. Who will collect the data?
Component 6. Analyzing Assessment Data Each department prepares a summary analysis of the data as it relates to the achievement of the learning outcome.	1. What is the process for analyzing data? 2. When will faculty meet to discuss and analyze assessment results? 3. What does the data indicate about achievement of learning outcome?
Component 7. Documenting and Reporting Assessment Findings Each program makes certain that the assessment findings are systematically documented. At the end of each academic year, the program submits a copy of the annual assessment report to the department chair for inclusion in the Department Annual Report and to the Assessment Committee.	1. What is the process for reporting and disseminating assessment findings? 2. Who is responsible for the annual assessment report? 3. Where are the documents and reports houses and in what formats?
Component 8. Applying Assessment Findings Each program has a mechanism in place to apply assessment findings for the improvement of teaching, learning, and program development.	1. What is the process for applying assessment findings for the improvement of teaching and learning? 2. Who reviews the findings and makes recommendations? 3. What changes have been made as a result of this assessment? 4. Who is responsible for implementing the changes? 5. How are those changes documented? 6. What is the proposed timeline for implementing changes?

Academic Program Assessment Process Worksheet 2008-2009.

Working Model

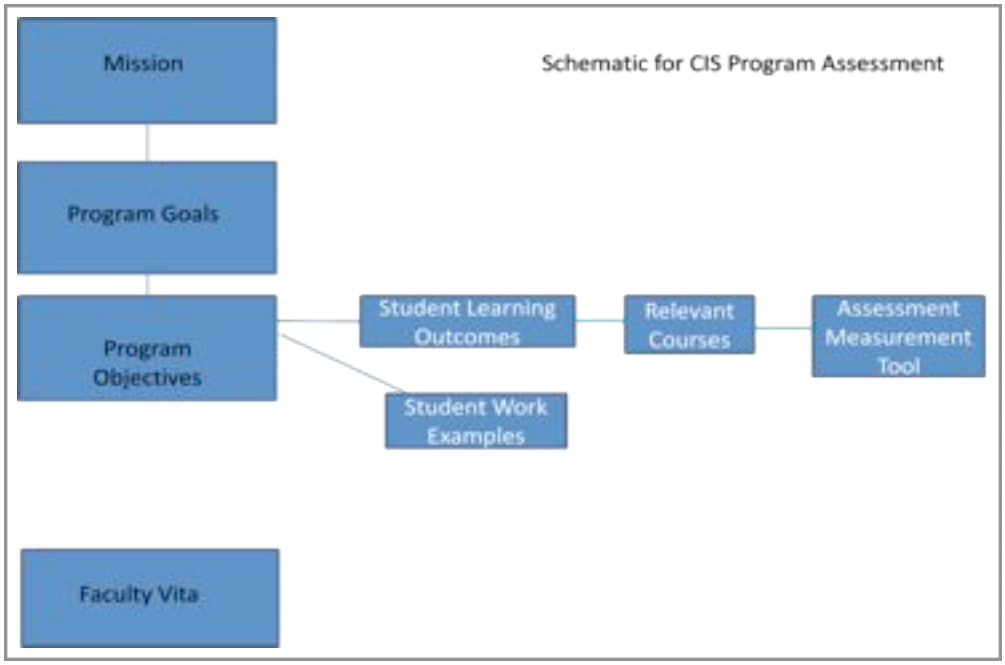
As faculty progressed with the assessment process a new assessment model was developed in 2011. This model has four assessment components and a total of 13 questions to answer.

Assessment Components	Questions to be Answered
Component 1. Learning Outcomes Each program will identify the student-learning outcomes it intends to achieve and then choose which ones it intends to measure.	1. What should students be able to know, do and apply upon completion of the program? 2. How do the learning outcomes align with the college and department mission? 3. How to the learning outcomes align with professional standards and external accrediting bodies? 4. Are the outcomes stated in measurable terms?

Assessment Components	Questions to be Answered
Component 2. Measures Each program develops measures to assess learning outcomes and establishes criteria for successful completion of each learning outcome.	1. What aspects of your program will be assessed this year? 2. What methods or instruments are used to measure achievement of the learning outcomes? 3. What are the criteria for successful completion of outcome?
Component 3. Analysis, Reflection and Action Plan The faculty for each program gather and discuss the data they have about students learning and decide on one or more action items to improve student learning. Each program documents the assessment findings and action plans and submits a copy to the department chair and to the Assessment Committee.	1. What is the process for conducting assessment and collecting data? 2. What is the process for analyzing data? 3. What does the data indicate about achievement of learning outcomes? 4. Based on the assessment findings, what actions will be implemented to improve student learnings? 5. Based on the assessment findings, what improvements can be made to the assessment process?
Component 4. Documenting and Reporting Each department convenes a forum where the faculty from their programs present a summary of the reflections and action plans. The department discusses opportunities for curricular changes and considers their implications for resource allocation. The Chair will include the reflection summaries and action plans in the Department Annual Report.	What implications does your action plan have for policy or resource allocation?

Blackboard Schematic

The Blackboard schematic's design has features that may be applied to all College departments. Walvoord (2010) suggests the assessment must include 1) Goals. What do we want students to be able to do when they complete our courses of study? 2) Information. How well are students achieving these goals, and what factors influence their learning? 3) Action. How can we use information to improve student learning



Schematic for CIS Program Assessment

Reflection

Eportfolios allow one to graphically reflect and assess a program. It serves to empower instructors and administrators to make intentional decisions as they work. Reflective practice can also lead to monitoring and adjusting work in progress (Montgomery & Wiley, 2008). Feedback is a powerful

tool that should be used at each stage of ePortfolio development. It is imperative that instructors' know if

they have met program goals and objectives. If not, adjustments should be made to adhere to the agreed upon standards.

Conclusion

The needs assessment, design and development of ePortfolios to be used for program assessment is an overwhelming challenge. The process becomes easier to manage if one uses modules each step of the way. Following the working model (above) helped keep the project on course.

The Blackboard version of this ePortfolio model will go online Fall 2012. At that time it will be a Beta version, to be modified as needed. Once all the muddy areas are adjusted and corrections made, it can be transported to other departments at Marygrove College.

Academic program assessment process. (2008-2009). Detroit, MI: Marygrove College. Walvoord, B.E. (2012). *Assessment clear and simple.* San Francisco, CA: Jossey-Bass.

Collecting, Selecting and Reflecting – Supporting Student Judgements in the Portfolio Process?

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Abstract

ePortfolios allow students to demonstrate competencies and reflect upon experiences, documenting academic preparation and career readiness. Creating ePortfolios is said to enable students to enhance their learning by giving them a better understanding of their skills and attributes, as well as where and how they need to improve to meet academic and career goals (Yancey, 1999). The collection involves student participation in selecting contents; the criteria for selection; the criteria for judging merit, and evidence of their self-reflection (Barret, 2000). Yorke (2008) discusses that this approach poses questions about how students judge their achievements and requires the student to make a case that they merit the award or job in question. This presumes an ability to make sound judgements about their work in relation to criteria and expected standards.

One of the core purposes of higher education is to develop the capacity for students to make judgements about their own work (Boud and Falchikov, 2007). If a graduate is not able to do this adequately they will be ill equipped for most professional or even non-professional roles. The development of the capacity to make self-judgements about performance tends to be an assumed outcome of higher education. That is, it is taken to be part of any course without the need for specific engagement in self-assessment; however this is rarely evident in curricula through learning activities or assessment processes (O'Donovan, Price & Rust, 2008). Research on student self-assessment has suggested that explicit opportunities need to be included for the skill of self-assessing to be developed (eg. Boud, 1995). Building the capacity to make judgements needs to be an overt part of any curriculum and one that needs to be fostered (Boud and Falchikov, 2007). A skill that the authors propose is vital to optimise the educational benefits and validity of ePortfolios.

This paper introduces web-based marking system, REVIEWTM, which facilitates the development of self-assessment in learning processes, by engaging academics and students in a deeper understanding of assessment criteria in relation to graduate attributes, and providing a mechanism to guide students through making judgements about their work using these criteria. It should be noted that REVIEWTM is not an ePortfolio but a marking tool used by academics to deliver feedback on assessment tasks. Students make judgements on their performance in relation to the assessment criteria for each of the criteria using a sliding grading scale. Academics mark assessments directly online using REVIEWTM's data sliders in a similar fashion to the student self-assessment process. After entering their assessments, the academics are able to see how students self-assessed their work. Where there is a large variation between a student's self-assessment and the academics' grading, the academics are able to use this difference between the student's assessment and their own as a guide for feedback. Students are then able to view the academics' gradings for each criterion and overall, as well as the written feedback for the assessment task together with a display of their progress in attribute categories that each criterion is coded to. Thereby REVIEWTM facilitates their reflection about the academics' assessment of their work in comparison to their own self-assessment.

Boud, Brew, Lawson & Thompson (2010) found that when students were introduced to self-assessing using REVIEWTM, initially students tended to overestimate in criteria-based judgements about their own work. However over time, students' judgements did converge with those of tutors when given further self-assessment opportunities, which indicates that students improved their understanding of the standards applied by the academics as a result of the self-assessment and feedback system.

The authors propose that in order to support students in their ePortfolio collections, selections and reflections it is vital to develop their ability to judge their own work against criteria and standards as part of the normal assessment process in their courses of study.

Keywords: Self-assessment; Judgement of criteria and standards.

Background

What is an ePortfolio?

ePortfolios can be a collection of artefacts to provide evidence of ability, a series of reflections on experiences or a combination of both. The literature contains many definitions of ePortfolios and categorisations of how they can be used (Butler, 2006). This example captures the essential features:

> 'A digital collection of authentic and diverse evidence drawn from a larger archive that represents what a person has learned over time, on which a person has reflected, designed for presentation to one or more audiences for a particular rhetorical purpose'. (NLII, 2003).

How does an ePortfolio foster learning?

The institutional application of ePortfolios could include a teacher-initiated assessment requirement within a single course. For example, a teacher might adapt an existing assessment activity, such as a group project, to provide an opportunity for students to reflect on their participation within a group as a way of contributing to the development of their teamwork skills. A student could use an ePortfolio to showcase their contribution to the team, and to describe what they have learnt about teamwork during the project. The teacher's framing of the assessment activity will largely determine what latitude, if any, the student has in personalising their ePortfolio component.

ePortfolios can provide an approach that:

- encourages students to reflect on and recognise their own progress and achievement, thus increasing their confidence;
- promotes and supports informed student self-assessment, peer assessment and dialogue, about learning and achievement between students, tutors/lecturers, and potential employers;
- enables planned learning pathways and evidence of achievement;
- promotes good practice in teaching, learning and assessment;
- enhances education providers' quality assurance and improvement practices.
- develops students' critical self-evaluation skills

According to Housego and Parker (2009) the format of ePortfolios also allows for academics to promote learning through:

- Structured Criteria Assessments: outlining the criteria for assessment tasks, prompting for each of these criteria to provide a description of the expected standards for the criteria, for example a description of what work would "exceed expectations" or "meet expectations".
- Provision of Student Feedback: assessments are marked using the criteria developed for each task. Teaching staff have the opportunity to add further feedback for each criteria but when no additional feedback is given the student will still have access the description of the performance level they have achieved and this description will outline areas that they need to develop as well as elements that they were competent in.
- Evidence for program accreditation: this requires the development across a degree program of evidence by the course team engaged in its delivery, that teaching and learning practices are achieving the outcomes described when the program was accredited.

The onus of collecting, selecting and reflecting is left largely to the students themselves and requires them to weave a story rather than just list subjects completed and marks obtained. Students need to gain confidence in engaging with criteria-based assessment of their own performance for a broad range of future requirements in both education and industry. For example students collating an ePortfolio presentation targeting employment will need to vary this in both content and 'look and feel' from company to company according to the companies selection criteria. Opportunities for self-assessment against criteria are difficult to administer in an educational context but the authors' previous research has found this to have a significant impact on the student's recognition of the quality of their own work.

Self-Assessment

What is Self-Assessment?

Self-assessment is increasingly used in higher education as a strategy for both student learning and assessment. According to Boud (1995), all assessment including self-assessment comprises two main elements: making decisions about the standards of performance expected and then making judgments about the quality of the performance in relation to these standards. When self-assessment is introduced, it should ideally involve students in both of these aspects. Andrade and Du (2007) provide a helpful definition of self-assessment that focuses on the formative learning that it can promote:

> *'Self-assessment is a process of formative assessment during which students reflect on and evaluate the quality of their work and their learning, judge the degree to which they reflect explicitly stated goals or criteria, identify strengths and weaknesses in their work, and revise accordingly' (2007, p.160).*

How does Self-Assessment foster learning?

Self-assessment begins to shift the culture from a prevalent one in which students undertake assessment tasks solely in the spirit of pleasing the lecturer (Boud, 1995). Focus shifts away from satisfying the lecturer and more towards the quality of the learning. Boud (1995), writing about the origins of his long interest in self-assessment, invokes a picture of the way in which so many student assessment endeavours are misdirected, when he comments there was “a slow dawning that it was not others I should be satisfying in my learning endeavours, but myself” (p. 3). Self-assessment with its emphasis on student responsibility and making judgments is “a necessary skill for lifelong learning” (Boud, 1995, p.11).

This paper describes one way of developing judgment-making through students’ self-assessment of their performance with respect to each criterion for each assessment task throughout an undergraduate degree program. It proposes that opportunities for self-assessment over time helps students develop the capacity to make better judgements about their work and describes a tool that can provide developmental charts of attribute development useful as verified evidence in an ePortfolio context.

Making judgments about the progress of one’s own learning is integral to the learning process.

- Teaching strategies that encouraging self-evaluation build on a natural tendency for students’ interest in the progress of their own learning.
- Further learning is much more possible after the recognition of what needs to be learned.
- If a student can identify his/her learning progress, this may motivate further learning.
- Self-evaluation strategies encourage students’ reflection on their own learning.
- Student self-assessment can promote learner responsibility and independence.
- Student self-assessment tasks encourage student ownership of the learning.
- Student self-assessment tasks shift the focus from something imposed by someone else to a potential partnership.
- Student self-assessment emphasizes the formative aspects of assessment.
- Student self-assessment encourages a focus on reflective process as a learning activity.
- Student self-assessment can accommodate diversity of learners" readiness, experience and backgrounds.
- Student self-assessment practices align well with the shift in the higher education literature from a focus on teacher performance to an emphasis on student learning.

There have been many studies of student self-assessment over the years and considerable advocacy for the effectiveness of practices in which students review their own work (eg. Dochy et al 1999). It has been well argued that students need to develop the capacity to make judgements about their own work if they are to be effective learners both in their present courses and following graduation.

The development of the ability to make judgements about their own work needs multiple opportunities over time. We suggest that learners’ judgements need to be calibrated against the judgements of others who have a more sophisticated understanding of the type of work being assessed in order to promote the skill and for students to become aware that their judgments have improved. Through such a process of scaffolding, students can move progressively towards the kinds of quasi-independent judgements about self-performance needed for effective lifelong learning (Boud and Falchikov 2007).

Arranging opportunities for self-assessment and motivating students to do it on an ongoing basis is problematic for a number of reasons. For example, if students are obliged to self-assess or penalised for not doing so there is an increased likelihood of surface approaches related to extrinsic motivation; if the collection and collation of data and delivery of feedback is onerous for staff or students it is unlikely to be sustained over time, and if the assessment criteria are not clear or explicit students are likely to disengage from the process. However, if the assessment can be done online with an easy to use visual interface that saves time, and gives progressive feedback that can be tracked over semesters and across subject boundaries, then there is a possibility for self-assessment to become a regular feature of the assessment landscape. This problem led to the design and development of the REVIEW™ criteria-based assessment system at UTS together with a process that linked assessment criteria with graduate attribute categories and learning goals.

Enabling Self Asessment - REVIEWTM

What is REVIEWTM?

REVIEWTM is a UTS developed system for criterion based online feedback that has been designed to facilitate marking and provide feedback to students that is focused around descriptive assessment criteria.

It facilitates students' self-assessment of their submission against criteria, which can then be viewed and compared with the marker's assessment for each criterion. This assists their understanding of those criteria with the aim of improving their performance for the next assessment. REVIEWTM

How does REVIEWTM promote accurate judgement of criteria and standards and so foster learning?

Students can view rich descriptive criteria for tasks before they hand in assignments and engage in iterative self-assessment up until the feedback from tutors is published. This allows an important process in which clarification of the criteria due to student comments and feedback occurs prior to the actual submission deadline.

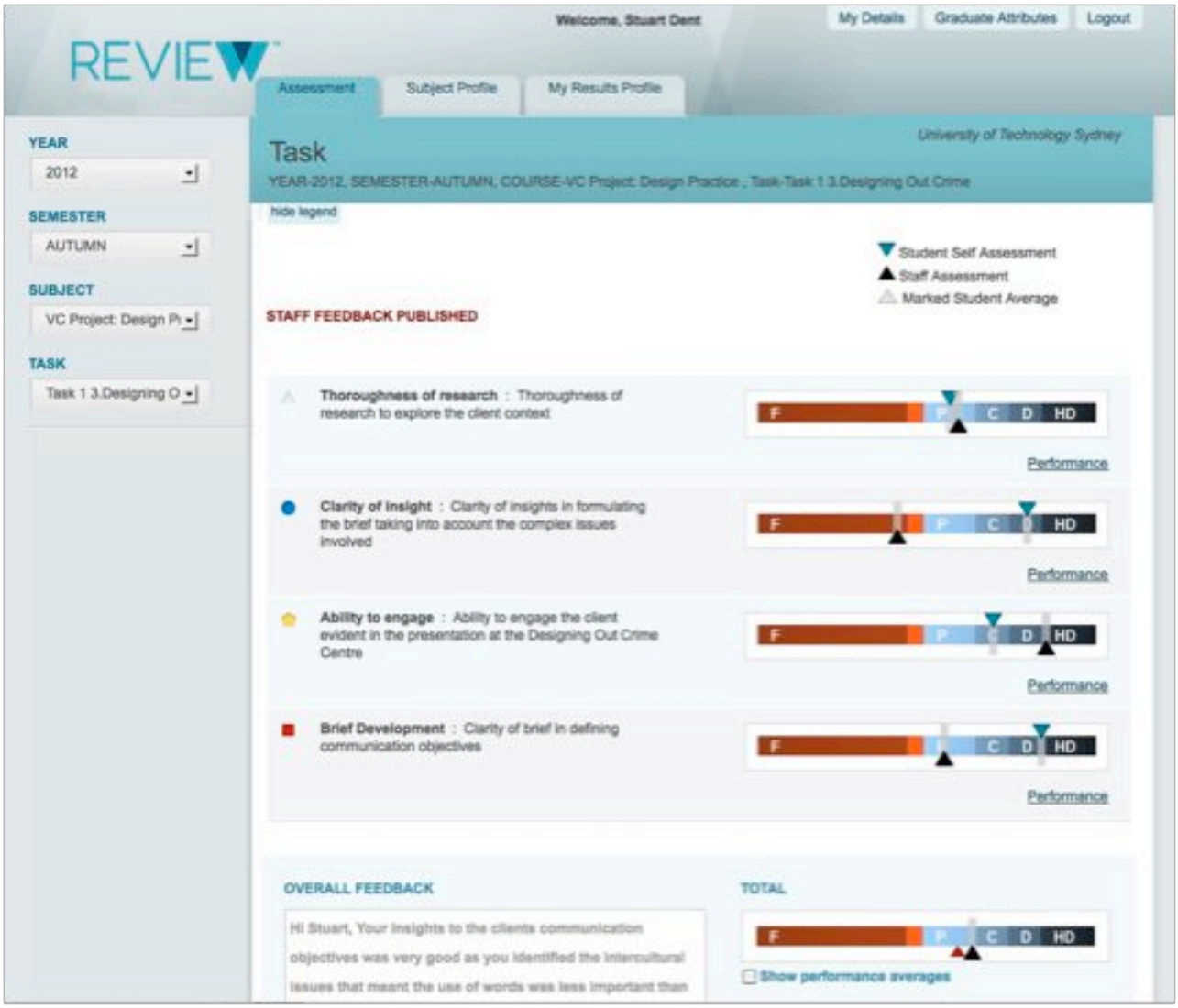

Figure 1 – Student feedback screen showing Tutors assessment (below the grading slider) in comparison with student self-assessment (above the grading slider) with attribute coded assessment criteria.

REVIEWTM allows students to:

- be involved in the refinement of assessment criteria on which their work is assessed
- self-assess their work according to descriptive criteria that identify the subtle and specific aspects of their work being assessed by tutors
- compare their self-assessment of each criterion with the assessment of the tutor/lecturer
- receive feedback on their work (desktop or mobile) with comments against each criterion where appropriate that can be exported as pdf or excel files.
- monitor their ongoing development of graduate attributes throughout their course of study with exportable graphs for inclusion in ePortfolios.

Reasons teachers use REVIEWTM include:

- To encourage Students to focus on criteria-based feedback rather than the mark

- Online access and record for everyone (students, all tutors, coordinator)
- Coordinate large teaching teams – facilitates an assessment 'community'
- Moderate/ benchmark marking across teaching team
- Development of students' self-evaluation and assessment awareness & skills
- Export assurance of learning reports and output pdf's of marking sheets and results

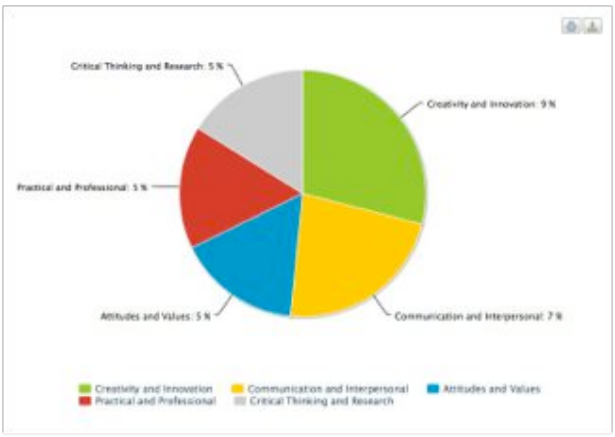

Figure 2 – Pie chart subject profile showing categories of attributes assessed in a subject through colour-coded criteria

Figure 3 – Student Results profile screen showing criteria assessment results for a subject in terms of attribute categories being developed

Whilst REVIEW™ is not an ePortfolio system its embedding of student self-assessment and graduate attributes in the day-to-day assessment framework provides a great deal of valid data and supportive evidence for students developing their ePortfolios.

Conclusion

The authors propose that in order to support students in their ePortfolio collections, selections and reflections it is vital to develop their ability to judge their own work against criteria and standards as part of the normal assessment process in their courses of study. However, encouraging a deep engagement is the key to genuine ePortfolio adoption and large complex online systems with poor interfaces are unlikely to be effective. There are many subtle dynamics involved in encouraging both students and staff to engage with such teaching and learning initiatives and the ease of use / availability / stability of online systems is always an issue. The evidence to date is that assessment is the fulcrum of engagement for both staff and students and the refinement of descriptive assessment criteria the main vehicle for improving students' judgements of their own work. REVIEW™ focuses on a visual and interactive approach to assessment that saves time and has documented evidence of improving student judgement through non-obligatory student self-assessment over time.

References

1. Andrade, H. & Du, Y. (2007). Student responses to criteria-referenced self-Assessment. Assessment and Evaluation in Higher Education, 32 (2), 159-181
2. Barrett, H. C. (2000), Create Your Own Electronic Portfolio Using Off-the-Shelf Software to Showcase Your Own or Student Work, Published in Learning & Leading with Technology, April, 2000
3. Boud, D. (1995) Enhancing Learning through Self Assessment. London, Routledge.
4. Boud, D. & Falchikov, N. (2007). Developing assessment for informing judgement. In Boud, D. & Falchikov, N. (Eds.) (2007). Rethinking Assessment for Higher Education: Learning for the Longer Term. London: Routledge, 181-197.
5. Boud, D., Brew, A., Lawson, R., & Thompson, D. (2010). Does students' practice in grade prediction calibrate their judgement? ISSOTL, Liverpool, United Kingdom.
6. Housego, S., & Parker, N. (2009). Positioning ePortfolios in an integrated curriculum [Electronic Version]. Education + Training, 51, 408-42.
7. O'Donovan, B., Price, M. & Rust, C. (2008) 'Developing student understanding of assessment standards: a nested hierarchy of approaches', Teaching in Higher Education, 13 (2), 205-217
8. Yancey, K. B. (2009). Electronic portfolios a decade into the twenty-first century: What we know, what we need to know. Peer Review: Emerging trends and key debates in undergraduate education, 11(1),

28-32.

9. Yorke, M. (2008). Grading student achievement: Signals and shortcomings. Abingdon, UK: Routledge Falmer.

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Assessing Existing Skills and Knowledge through ePortfolios

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Key words: eportfolios, recognition of prior learning, RPL, mobile learning, lifelong learning

Abstract

People go through life continuously gaining new skills and knowledge, often through their lifewide and workplace experiences. However, when they arrive as a student at a formal learning institutions they are often treated as 'empty vessels', not having their prior skills and experiences taken into consideration or offered credit towards their formal qualification.

In 2006, the Council of Australian Governments (COAG) recognised that there were many benefits to recognising existing skills, especially in existing workers, "so that wherever possible their training time is reduced" (Committee of Australian Governments, 2006, p. 4). In order to support this the Australian Commonwealth Government provided funding to the State and Territory Governments to enable the implementation of a variety of strategies to increase the number of recognition of prior learning (RPL) assessments across the Australian Vocational Education and Training (VET) sector.

Curyer et al (2007) recognised that eportfolios provide an effective way to support individuals manage their lifelong learning records. Perry (2009) recognised that eportfolios provide an effective means of supporting the evidence gathering process for recognition of existing skills/knowledge for RPL assessment. Mobile devices such as smart pens, flip video cameras, point of view glasses/devices and mobile/smart phones, have also been touted as offering improved ways of gathering evidence for the RPL process (Miller, 2011). However, to date there are very few examples in the Australian VET sector where eportfolios are being successfully used to support RPL assessments.

This paper will present the emerging issues which appear to be preventing the wider adoption of eportfolios for RPL assessment, including the 'clunkiness' of existing eportfolio systems; the low digital literacy skills of assessors and learners to effectively capture and manage digital evidence and information; the limited view of assessment and the lack of support for lifelong learning; and the short term vision for allowing learners access to their eportfolios beyond their formal learning experience so learners cannot see the purpose of putting in the effort to establishing an eportfolio for their RPL assessment. Other barriers such as the limited time made available to undertake the RPL process and assessor's confidence in using technology or a holistic approach to RPL will also be argued.

A possible model for using eportfolios to support the RPL will be presented which would encourage the reuse and repurposing of RPL evidence for gaining employment/promotion and/or entry into higher education etc through a proactive approach to supporting lifelong learning and the collection of evidence which supports this process.

Introduction

As individuals, we go through life learning and developing new skills and knowledge through our lifelong, lifewide and workplace experiences. When required to provide evidence of these skills and this knowledge we have to 'reactively' collect and generate this information from our past as we have not been gathering it along the way. Adult educational institutions also often treat their students as 'empty vessels', not recognising how their prior skills and experiences could influence their next stage of their formal learning journey.

The Australian Government (Committee of Australian Governments, 2006) recognised that the ever-changing landscape of the world of work meant that there were key economic and personal benefits for recognising existing skills and knowledge in formal vocational education and training (VET). This was especially true for existing workers moving from declining labour markets such as manufacturing to expanding areas such as the resources and mining industry. In order to support this, funding was provided to the Australian State and Territory Governments to work with vocational VET organisations "so that wherever possible their training time is reduced" (Committee of Australian Governments, 2006, p. 4) through recognition of prior learning (RPL) assessments.

Research undertaken by Curyer et al (2007) identified eportfolios as a way of providing individuals to manage their own lifelong learning records. Additional research by Perry (2009) identified eportfolios as an effective ways of supporting the RPL evidence gathering process. Around the same time, a variety of mobile devices were being investigated as a means for gathering evidence for the RPL process (Miller,

2011). However, in 2012 very few sustainable models of using eportfolios to support the RPL process were able to be identified.

This paper will present the emerging issues which may be inhibiting the wider adoption of eportfolios for RPL assessment. A model for using eportfolios for RPL assessment will also be presented as a possible approach which would see eportfolios gain more traction in the Australian RPL area.

Current situation

Although eportfolios have been recognised as enabling individuals to manage their own information (Curyer et al, 2007) and an effective way of helping learners gather their evidence for the RPL process (Perry, 2009), very few examples of the long term use of eportfolios in RPL assessments can be found in the Australian VET sector.

Following research undertaken by the Australian Flexible Learning Framework (2008-2011), a number of key factors have been identified as to why this may be the case.

- *The 'clunkiness' of existing eportfolio systems* – to date, dedicated eportfolios systems do not offer users the same experience that they are offered when using current social media tools such as Facebook or YouTube. Eportfolio users are required to undertake 2-4 steps before they have a useable product. Compare this to simply taking a photo with a mobile phone and easily uploading it into Facebook or Flickr, the user experience of an eportfolio system seems "clucky".
- *The limited view of assessment and the lack of support* – trials to date around the use of eportfolios for RPL have really seen the role of the eportfolio system as a new assessment dropbox, whereby the individual simply uploads their evidence against a set of criteria. After the RPL process, the learner never returns to the eportfolio as they have not been supported to understand the benefits of the eportfolio beyond the RPL process for supporting gap training or other possible uses (eg job/ course applications etc).
- *The short term vision for learner access to their eportfolios* – most institutions are only offering their learners the use of their eportfolio while they remain their student, meaning that learners cannot see the purpose of putting in the effort to establish an eportfolio for their RPL assessment if they cannot use it beyond the assessment process to apply for jobs or course entry.
- *The low digital literacy skills of assessors and learners* – there is the potential to use mobile devices (eg smart pens, flip video camera, point of view (POV) devices and mobile phones) to effectively capture and manage digital evidence and information for the RPL process. However, educators and learners still lack the digital literacies and confidence to manage their digital files, including not knowing how to:
    - find a file once they have created and saved it
    - compress, edit or resize files
    - determine the most appropriate file format to use
- *And other barriers* - such as the limited time made available to undertake the RPL process, assessor's confidence in using technology or being able to offer a holistic approach to RPL are also seen as hindering the use of eportfolios in the RPL process.

One possible way of using an eportfolio in the RPL process

Research undertaken by McKenna & Mitchell (2006) into effective methods of RPL assessment in the Australian VET sector produced the 'RPL Done Well in VET' model based on five stages which is 'learner-centred':

1. An initial 'facilitated' self-assessment to identify whether an individual had the required skills/ knowledge to partake in the RPL process
2. The gathering and generation of evidence to prove that the individual had the required skills/ knowledge to gain RPL
3. The mapping of the evidence to the criteria for the unit(s) of competency for which the individual was applying for RPL
4. A process to determine whether the evidence was verifiable and valid
5. The issuing of a qualification or offering of gap training to address areas where an individual could not gain RPL

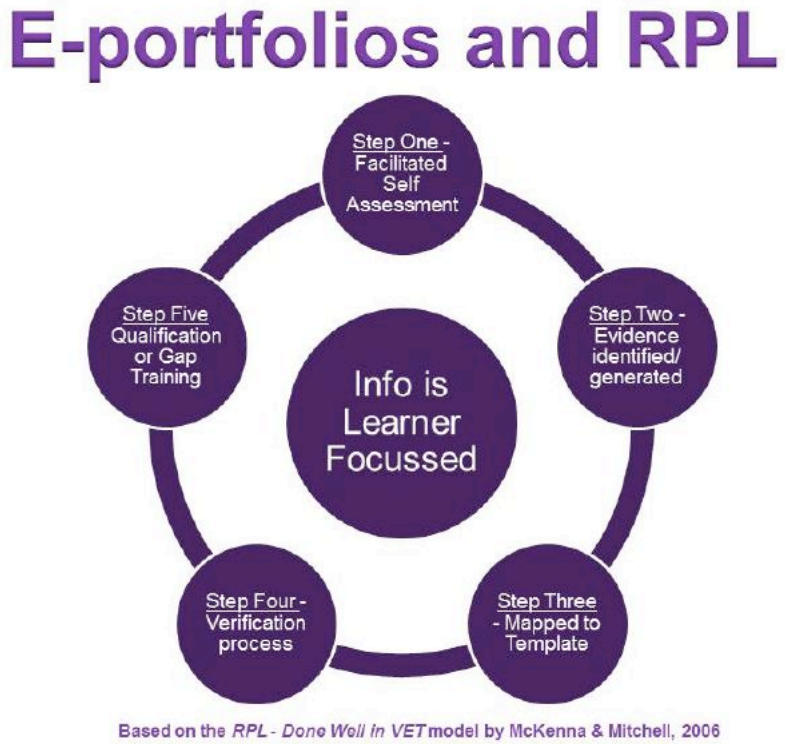

Figure 1: a visual representation of the RPL – Done Well in VET Model (McKenna & Mitchell, 2006)

The following demonstrates how an eportfolio can be used to support this process:

- *Being learner or candidate-centred* – use of templates, exemplars and examples which allows the candidate or 'learner' to get a picture of the evidence sources required and the best way to present this information helps the candidate get started. As most eportfolio systems allow pages to be easily copied or duplicated, the sharing of templates, exemplars and examples is a relatively simple process. Using templates will also provide the assessor with a consistent presentation of a collection of evidence with which to make their judgement.
- *Facilitated self-assessment* – the use of technology in RPL assessment has made capturing evidence easier and faster. The ease with which conversations can be recorded using smart pens and MP3 audio recorders can be very appealing. Asking candidates to write an autobiography through a blog or to tell their story through the creation of a digital story may allow an alternative. Couple this with the in-built resume templates within most eportfolio systems and the candidate has the start of an effective overall picture of their skills/knowledge to commence the RPL process.
- *Evidence identified/gathered* – this part of the process involves two types of evidence:
    - *Existing evidence* - such as third party reports, HR records, work examples, project reports/ outputs, scanned certificates or the collation of existing online presences eg blogs/wikis/ social media etc, all of which can be uploaded or aggregated into an eportfolio.
    - *Generating evidence* – by capturing information which is not currently available by other means, and using things like:
        - point of View (POV) glasses, flip video cameras, digital stories, digital images and/ or smart pens/mp3 audio recordings for capturing 'live' or practical evidence such as cutting someone's hair or building a house etc.
        - blogs for recording underpinning knowledge and/or reflections
        - and where necessary, the uploading of challenge tests/assignments where other evidence cannot be collected or generated

  Hence, an eportfolio is a seemingly natural place to aggregate or house all of these digital objects.
- *Mapped to criteria* - the assessor needs to be assured that there is sufficient evidence to meet all of the criteria for each unit. As an eportfolio can be regularly checked by an assessor (with the candidate's permission of course) they can better offer regular feedback and mentoring. This ease of sharing the ongoing development of a portfolio of evidence means that the candidate can also

seek peer or employer input, or 'share and compare' with other candidates who may be going through the RPL process at the same time.

- *Verification process* – the candidate's evidence also needs to be verified and different eportfolio technology offers different ways of supporting this process eg:
    - VUMI eportfolio system allows for the third party 'verifier' of evidence to be verified by sending an email from within the eportfolio system regarding a candidate's evidence.
    - Mahara and PebblePad both offer assessors the ability to 'control' the RPL assessment process through the use of Control Groups or Gateways respectively. Both of these systems allow third parties to comment on information within the eportfolio systems, allowing artefacts and evidence to be validated.
    - Curtin University's iPortfolio has peer reviews embedded as part of the eportfolio process which allows for third party validation of the candidate's eportfolio.
    - Later versions of Mahara and Moodle (Mahoodle) allow for the exchange of information between both systems enabling the 'validation' of the evidence by the assessor from Moodle into Mahara or visa versa.
- *Qualification or gap training* – once the RPL process has been completed, the eportfolio environment offers a range of ways for supporting the candidate's information, eg:
    - Supporting the electronic recordkeeping of the outcome of the RPL process (eg competent or not yet competent) by exporting the RPL evidence from Mahara to Moodle after which the results in Moodle's Grade Book can be electronically exported to a Student Management Records System.
    - Issuing of digitally signed student records documents either using secure PDF or systems like Digitary, allowing the candidate to upload a digital record of their RPL results and/or parchment.
    - If the candidate is not successful in gaining a whole qualification, the eportfolio can be used to develop and support a Personal Learning Plan for any gap training required
    - As a collected of very powerful and useful information about the candidate, the eportfolio also offers the individual an e-Resume/CV which they can use to gain employment, a promotion or entry into another qualification etc.

A visual representation of this process can be found in the ePIC 2012 presentation slides: http://www.slideshare.net/vanguardvisions/assessing-existing-skills-and-knowledge-through-eportfolios

Conclusions

A possible model for using eportfolios to support the RPL has been presented based on a key RPL initiative which represents effective RPL practice called "RPL Done Well in VET" (McKenna & Mitchell, 2006). However, very few sustainable models can be found in the Australian VET sector.

Emerging uses of ePortfolios in the Australian VET sector for workplace learning and assessment and continuous professional development (CPD) demonstrate that eportfolios could allow the reuse and repurpose of RPL evidence for gaining employment/promotion, entry into higher education etc. However, a proactive approach to supporting lifelong learning and ongoing the collection of evidence is required if eportfolios are going to be used more widely with the RPL process. To support this, candidates and assessors will need eportfolio systems continuously improved for better user experience; be provided with a means to develop and improve their e-literacy skills so they can better manage their digital information; and the time and resources to develop and maintain their eportfolio as part of the RPL process, then be given access to their eportfolio beyond the RPL process.

References

1. Australian Flexible Learning Framework (2008-2011), Eportfolios, http://flexiblelearning.net.au/content/our_work/eportfolio_resources.htm
2. Committee of Australian Governments. (2006). Addressing skills shortages through a national approach to apprenticeships, training and skills recognition – Action Plan. Retrieved from http://www.coag.gov.au/coag_meeting_outcomes/2006-02-10/docs/attachment_f_skill.rtf.
3. Curyer, S., Leeson, J., Mason, J., & Williams, A.,. (2007). Developing ePortfolios for VET: Policty issues and interoperability: Australian Flexible Learning Framework.

4. McKenna, S., & Mitchell, J., . (2006). RPL - Done Well in VET: Reframing the Future.
5. Miller, A. (2011). Using ePortfolios and mobile devices for RPL and workplace assessment. Retrieved from http://ePortfoliosblog.flexiblelearning.net.au/?p=102
6. Perry, W. (2009). Eportfolios for RPL Assessment, : Australian Flexible Learning Framework,

How Can we Assess, Visualize and Scaffold Informal Language Learning?

A case of informal English learning among Japanese college students

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Introduction

This study is aimed at exploring ways to build a bridge between the “visualizing” and “scaffolding” of informal language learning by using ePortfolio. This study is focused on the English learning behaviour of a group of Japanese college students. There are two research questions in this study. First, how can we assess and visualize the students’ behaviour in informal language learning? Second, how can we scaffold the students’ informal language learning? To answer these questions, pre-research was conducted. On the basis of the research findings, a model is proposed for visualizing informal language learning by analyzing the relationship of between learning behaviour and language proficiency levels between proficient and novice students. A scaffolding method is also proposed for fostering learner autonomy through the sharing of informal language learning behaviour among students with different levels of language proficiency. In this study, it is suggested that ePortfolio be used not as an individual learning record but as a visualization of learning behaviour so that it can be a trigger for fostering informal English learning.

Dilemma of English Learning in the Japanese Social Context

There has been a dilemma between the English competence required to be active in global society and the average Japanese English competence. In Japan, English is a part of the national curriculum from the elementary to high school levels for about 8 years; however, the Japanese have been criticized for their lack of pragmatic communicative skills in English in many international settings (MEXT 2003). When comparing national average scores for the Test of English as a Foreign Language (TOEFL), the Japanese are the worst among the 28 Asian countries (Educational Testing Service, 2007). The reason is that Japanese people have difficulty in acquiring pragmatic English because of the following reasons. First, there is great difference in the grammatical structure between English and Japanese. Second, Japan is a society in which English is a foreign language (EFL: non-English-speaking region). Hence, Japanese people in general do not need to use English in daily life, excluding in specific international business settings or intercultural encounters. Third, classroom English instruction, traditionally, has been focused on translation and reading instead of on oral communication. Last, English lessons are short in time in the national curricula (Sato 2002, MEXT 2002, Saegusa 2000). Therefore, improving English learning has been a significant concern for educators and policy makers who aim to foster Japanese people who can utilize English to communicate effectively with people from other countries.

Self-Regulated Learning for Informal English Learning

To acquire pragmatic English competence in Japan, people need to learn English not only in schools but also outside classrooms. In other words, not only formal English learning but also informal learning is an important factor for mastering English in the EFL context. In this study, informal English learning is discussed from the point of view of self-regulated learning (SRL). Pintrich & DeGroot (1990) and Schunk & Zimmerman (1998) reported that SRL has three learning stages. “Self-regulated learning includes students' metacognitive strategies for planning, monitoring (doing), and modifying their cognition (Pintrich & DeGroot 1990: 33).” For example, capable self-regulated learners who persist at a difficult task or prevent distracters (i.e., watching TV, noisy classmates) maintain their cognitive engagement in the task, enabling them to perform better. Motoki (2006) discussed SRL in the language learning context, and she reported that proficient students have higher metacognitive strategies than do novice students. JACET (2005) also indicated that language proficiency levels affect metacognitive strategies (SRL), and students who have higher metacognitive strategies are good autonomous language learners in both formal and informal English learning settings.

Research Design

This study is aimed at visualizing informal English learning behaviour, focusing on the second learning stage “doing” based on the SRL. ePortfolio is an effective tool for recording language learning behaviour. In previous studies, the records of learning behaviour in ePortfolios tended to be stored and used for individual reflection. However, in this study, visualizing language learning behaviour on the basis of groups is proposed. The informal English learning behaviour of 383 Japanese college students was collected to clarify the research question “What is the relation between informal English language behaviour and

language proficiency level?" The data of this behaviour were analyzed and categorized by applying the modified grounded theory approach (Kinoshita 2003). The proficiency level of English was applied to the scale of TOEIC test (Test of English for International Communication). TOEIC was conceived in Japan and created by the Educational Testing Service (ETS), and it has been adopted not only throughout Japan but also around the world as the global standard for English communication skill assessment. The test is administered in some 120 countries around the world. In this research, informal English learning is visualized on the basis of two factors: learning behaviour and language proficiency level (TOEIC score).

Visualization of Informal English Learning

The research reveals the relationship between the college students' informal English learning and the English proficiency levels. The findings of this study indicated that the proficient students or those who get higher than the average score for TOEIC tended to choose interactive English learning (i.e., communicating with native English speakers, attending English conversation school) in informal learning settings. These students were also likely to select authentic English learning materials such as English newspapers and original English movies. In contrast, novice students or those who got lower than the average score for TOEIC tended to choose less interactive English learning (i.e. translating English textbooks, learning basic English grammar and vocabulary). These students were also likely to select remedial learning materials such as those used for reviewing high school English. In this research, a model of the relationship between the informal English learning behaviour and the English proficiency levels is visualized and developed (Figure 1).

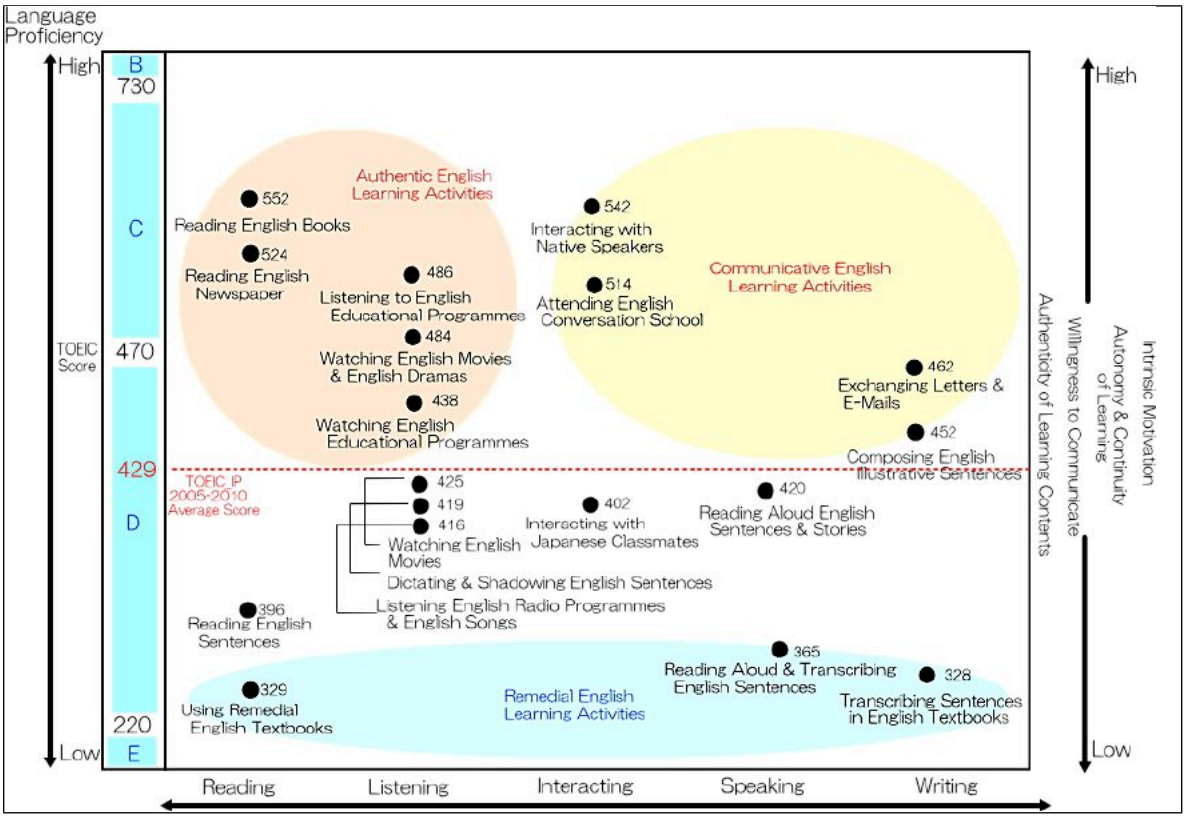

Figure 1: Visualization of Informal English Learning of Japanese College Students

Scaffolding of Informal English Learning Based on the Visualization of Learning Behaviour

In this study, the idea that novice and proficient students share information about learning behaviour is proposed, like as is shown in Figure 1. One of the best benefits of visualizing and sharing learning behaviour is for the novice students who are struggle with selecting and planning effective learning content and strategies. It is believed that these students can reflect on their own learning behaviour by knowing about the different learning behaviour of students at higher proficiency levels. This would be a trigger for planning for and challenging the next stage of English learning. This visualization is also beneficial for the proficient students. These students can compare learning behaviour among the same or similar proficient students. This would be a stimulus for motivating them for better learning. They can compare the learning behaviour and reflect on their own learning content and strategies.

In this study is a proposal for the development of a function for ePortfolio that enables a person to "visualize" and "share" the informal language learning behaviour and process among ePortfolio users. It is expected that future studies will be able to answer the question "How can the novice and proficient students interact with each other and learn new language learning strategies together by using ePortfolio?" In this study, ways are explored for using ePortfolio as "collaborative learning" rather than as an "individual learning record" in informal language learning settings.

References

1. Little, D. (2005). The Common European Framework and the European Language Portfolio: involving learners their judgments in the assessment process. *Language Testing* 22, 3, 321-336.
2. Lenz, P. (2004). The European Language Portfolio. Insights from the Common European Framework. Oxford: Oxford University Press.
3. MEXT (2003). *Action Plan to Cultivate "Japanese with English Abilities."* Retrieved from http://www.mext.go.jp/english/topics/03072801.htm on June 4, 2010.
4. Mineishi M. (2001). *A Study about Portfolio as the Educational Tool for University English Education*. Hiroshima: Kesuisha Press.
5. Motoki, Y. (2006). Second Language Learning and Learning Strategies. J*ournal of Graduate school of Nihon University*. 7,689-700.
6. JACET (2005). *Language Learning and Learning Strategy*. Tokyo; Liber Press.
7. Pintrich, R. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance*, Journal of Educational Psychology, 82*, 33-40.
8. Saegusa Y. (2000). *TOEIC Test Guidance.* Retrieved from http://www.nullarbor.co.jp/guidance/toeic_g02.html on 4 2010.
9. Sato, Y. (2002). Review of Japanese History about Foreign Language Education and Teaching: Reconsideration of Japanese English Learning and Educational Goals. Bulletin of Gifu Women's College, 31, 43-52.
10. Simpson., B. L. (2003). *Using the ELP with adult refugees learning the language of the host community*. In *The European Language Portfolio in use: nine examples* (Little. D. Eds.). Retrieved from http://www.coe.int/T/DG4/Portfolio/documents/ELP%20in%20use%2031%20January%2003.pdf.Retrieved on June 4 2010.
11. Schunk, D. H., and Zimmerman, B. J. Trans. Tsukano, S. (2007). "Self-regulated learning: from teaching to self-reflective practice." Kyoto: Kitaohji Press.

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ePorfolio Implementations

An Integrated ePortfolio Plan for a Large Research University

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Abstract

Institutions of higher education face the need to document student achievement of program and institutional learning outcomes (Nusche 2008). Student ePortfolios have been identified as a good tool for assessing student learning (Wade, Abrami et al. 2005; Wilhelm, Puckett et al. 2006; Erisman 2009). ePortfolios provide a view of student progress over time; allow students to reflect on their learning and thus develop important metacognitive and self-regulation skills; and serve as a culminating assessment of student achievement for program evaluation (Wade, Abrami et al. 2005; Ingle 2012). Consequently, ePortfolios, in combination with other assessment methods, may provide a more comprehensive assessment of student learning.

An integrated ePortfolio tool being designed and developed at Brigham Young University (BYU) will greatly facilitate assessment of student learning in courses and programs, as well as our university objectives. BYU serves over 30,000 students across 12 colleges and over 50 departments offering over 400 degree-granting programs. Key components of the developing plan include:

- All applicants to BYU will be required to submit a portfolio of their best academic work, leadership, achievements and life goals. They may choose to begin a university-hosted ePortfolio years before their application date. University departments looking for gifted/talented applicants in their discipline can search portfolios at any time (with the applicant's permission). The ePortfolio tool will also facilitate applicants' ability to contact each other, blog, socialize, share insights/advice, and view each other's ePortfolio materials.
- After applicants are admitted, some university core and general education courses and majors will require the use of the ePortfolio as a portal for submitting peer-reviewed work, displaying assignments and developing a resume. The ePortfolio will also allow each artifact to be tagged and be viewable by different groups – friends, family, instructors, classmates, others within their major (at BYU and elsewhere), potential employers, or no one. Visitors may leave comments or reviews of items, but the student has ownership and the option to delete.
- The ePortfolio is integrated, sharing data via web services with the university admissions data base and the university learning management system (*BYU Learning Suite*). The BYU ePortfolio will be one of nine tabbed components in the *BYU Learning Suite* that also include: *Home, Content, Exams, Syllabus, Digital Dialog, Grades,* and *Schedule*. Data entered *once* in any component of the suite can be shared as needed with other components. Storing draft papers, getting peer reviews, revising and submitting assignments can be done from this tool.
- Students will be asked to record reflections on their own learning and development. Some university courses already require a "learning journal." The ePortfolio tool will facilitate such journals and blogs and allow students to determine viewership of each entry or thread. These student reflections, combined with a multi-year sequence of learning artifacts and standardized test scores, may be the *best direct evidence of learning*. These data would be of vital importance for external assessors, faculty, parents, administration, and the students themselves concerning what they have learned and where and how they learned it. We anticipate that a good sampling of students would choose to share these reflections with some of these stakeholders. These student reflections would make valuable supplements to program exit interviews.
- Although the ePortfolio is primarily intended as a student-centric, student-controlled tool, the artifacts and learning reflections that students share with their programs and the university will be evaluated with the resulting data rolled-up to determine how well the university is accomplishing its mission-related objectives. This process will work best with carefully scored assignments (using well-designed rubrics) over a multi-year period in university core courses. Both the assessments and a sampling of artifacts will be stored by the university outside of the student portfolios. The *BYU Learning Suite* already has a highly-integrated *Learning Outcomes* website with published outcomes for every course and program. Storing assessments and artifacts from ePortfolios is the next logical step in our overall university assessment plan.
- Our ePortfolio plan currently calls for students to keep their portfolios and university-templated resumes for at least three years post-graduation. During that time, we will encourage graduates to

move memory-intensive materials to storage elsewhere, but allow them to link the items back to a university-designed template (with the university seal), verifying their BYU affiliation. Longer-term sponsorship and hosting of their portfolios is being considered. Allowing graduates to have the ability to continue to add materials and reflections to their portfolios would help the university evaluate one of our stated core themes – "lifelong learning and service."

Although the plan outlined above is largely still in the planning and construction phase, it is underway. Some BYU departments and colleges on campus currently utilize ePortfolios in some of their assessments. The ideas above represent the good work of many people, including the *BYU Center for Teaching and Learning*, students, and faculty. The determination and funding to complete this plan may soon be realized.

References

1. Erisman, W. (2009). Measuring Student Learning as an Indicator of Institutional Effectiveness: Practices, Challenges, and Possibilities. Austin, Texas, Higher Education Policy Institute**:** 1-48.
2. Ingle, P. (2012). Framing the Career ePortfolio. AAEEBL Conference on Career, Employability and ePortfolios, Salt Lake City, UT, AAEBL.
3. Nusche, D. (2008). Assessment of Learning Outcomes in Higher Education: a comparative review of selected practices. OECD Education Working Papers**:** 1-50.
4. Wade, A., P. Abrami, et al. (2005). "An electronic portfolio to support learning." Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie **31**(3).
5. Wilhelm, L., K. Puckett, et al. (2006). "Lessons Learned from the Implementation of Electronic Portfolios at Three Universities." TechTrends **50**(4): 62-71.

A 4-Phase-Model for the Long-Term use of ePortfolios

Klaus Himpsl-Gutermann

Abstract

The paper centres on an empirical study concluding a three-year action research project, in which a digital portfolio was conceived, implemented and evaluated as an integral component of an extra-occupational continued education course. In the final study, which is based on interviews with alumni, the student's perspective was the main focus. What were the ePortfolio's and the embedded digital media's benefits during studies and beyond? Which problems arose in using them, and how did the learners cope? The case study based on Grounded Theory methodology shows that an ideal-typical development can be described in four phases, in which students orientate, position, identify and present themselves. For a better understanding of the model, the first part of the paper presents the study's context as well as the main aspects of ePortfolio implementation – a detailed description of the concept, the research design as well as empirical documentation are available in Himpsl-Gutermann's (2012) doctoral thesis.

1 Background and problem statement

Digital portfolios are an instrument promising to unite many aspects of promoting life-long learning (McAllister, Hallam, & Harper, 2010). Despite being widely used in the Anglo-Saxon world since the 1990ies, the ePortfolio was only more generally received in Europe, and in particular in the German-speaking countries, through the 2003 campaign "ePortfolio for all" (Ravet, 2007). The ePortfolio represents the digital counterpart to a portfolio file, a form of presenting academic achievement which originated in reform-pedagogic approaches and was first mentioned in a pedagogical context in 1974 (Häcker, 2008, p. 28). Because of diverging pedagogical traditions, a transfer of ePortfolio concepts to universities in German-speaking countries should be approached carefully, considering specific conditions as well as current academic-didactic developments within the Bologna reform process (Baumgartner, Himpsl & Zauchner, 2009). This is especially important as, in spite of the noble pedagogical goal of improving the culture of assessing learning and performance, implementations risk being executed at the expense of students, as for example a meta-study by Ayala (2006) states. An important objection is that, although the ePortfolio is integrated into the curriculum, its didactic integration into teaching is neglected. Therefore, when the ePortfolio was implemented into an extra-occupational master course at the Danube University Krems, we particularly focused on its didactic integration into the blended learning concept of the degree course and on the creation of a favourable benefit-cost ratio for students.

2 Context of the case study and research method

The action research project, the ePortfolio implementation and the final case study are anchored in the academic course eEducation, an extra-occupational continued education course available at the Danube University Krems since 2007. Students are mostly working and study part-time, so they have more or less restricted resources for their studies. They deliberately chose a course of studies which deals with the possibilities of computer and internet technologies for learning and teaching, which means they usually work in a pedagogical field themselves (schools, universities, adult education, in-house continued training) and have an affinity to digital media. Here, previous technological knowledge is of less importance than a readiness to engage with digital media characterised by openness, curiosity and some scepticism. The profile of the target group directly influences the training offer, as "e-learning" is not only the subject of the course, but is also reflected in the methodology leading to a blended learning concept.

The ePortfolio concept I will outline below has been developed in several cycles during an action research project (cf. Coghlan & Brannick, 2010), the chronology overview of which I present in figure 1.

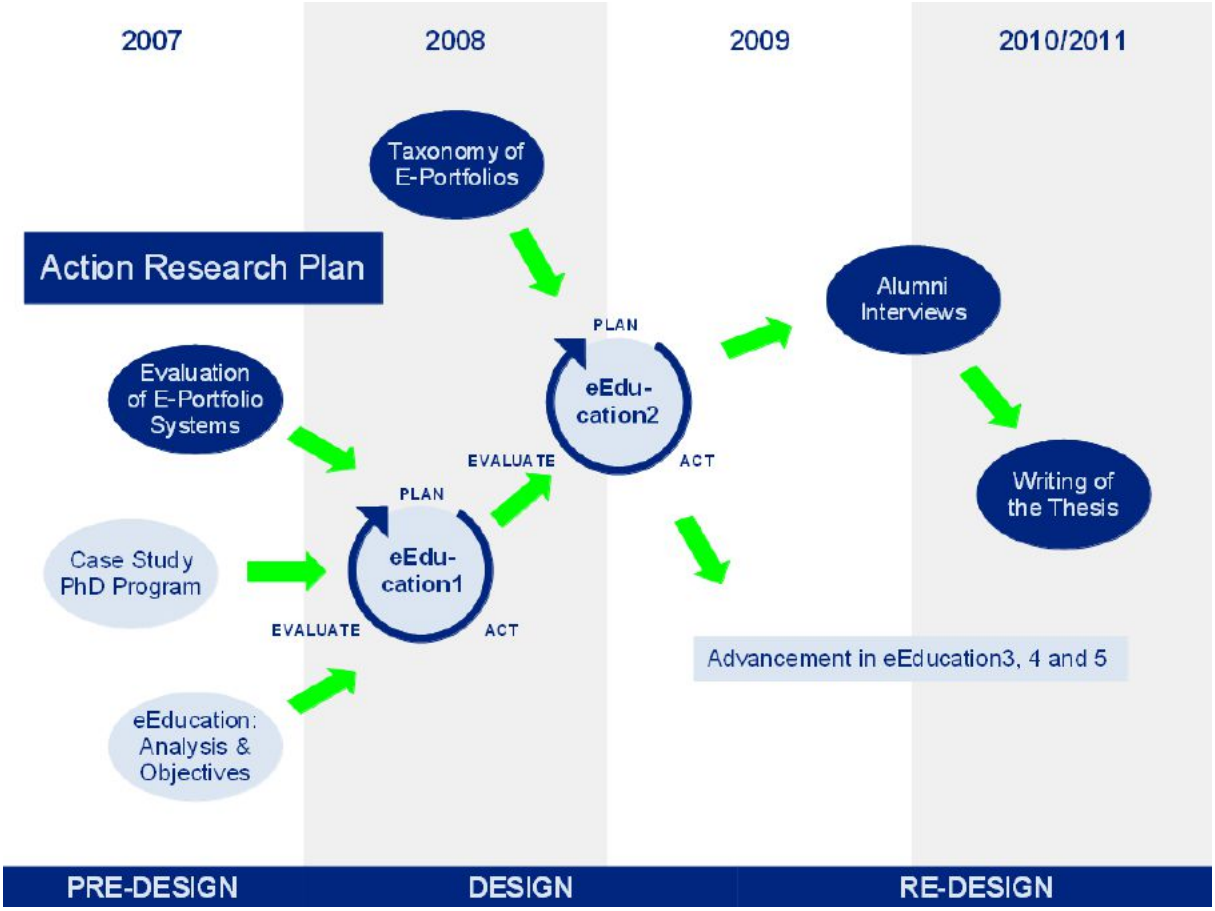


Fig. 1: Overview of the action research project on the ePortfolio implementation at the master course eEducation (Himpsl-Gutermann, 2012, p. 47)

After preparations in 2007 (cf. Baumgartner, 2008; Zwiauer & Kopp, 2008; Himpsl & Baumgartner, 2009), the implementation was planned in two main cycles:

1. *First Cycle*: In the first class, *eEducation1*, the ePortfolio was introduced within a single course on „advanced education technologies“ at the end of the second term. In the following courses, when writing their master theses and outside their studies, students were able to continue using the ePortfolio *on a voluntary basis*.
2. *Second Cycle:* Based on the positive evaluation of the first cycle, the ePortfolio was introduced as an obligatory element in the next class, *eEducation2,* from the start, and integrated into the blended learning mode in such a way that it was an *inherent part* of the virtual learning environment *in all modules* and embedded into individual lecturers' didactic scenarios.

For the evaluation of the project, I chose a combination of formative and summative approaches. While in formative evaluation, different individual methods were used, the final summative evaluation was based on interviews with students which were analysed with qualitative methodology. Following Grounded Theory methodology, sampling, data collection, encoding and analysis were conducted in a cyclical altercating procedure (Przyborski & Wohlrab-Sahr, 2008, p. 194). Within the action research project, the course director of eEducation had multiple roles as a course director, lecturer, examiner, interviewer and researcher. The interviews were held about one year after the students had finished their degree course in order to avoid a possible conflict of roles, but also to allow for a distanced view on ePortfolio use. This was directly confirmed in one interview (s3, paragraph 88).

3 Concept of the ePortfolio solution

For a better understanding of the final case study, this section gives an overview on the ePortfolio implementation – further details on the concept are available in Himpsl-Gutermann (2012).

3.1 Goal of the modular curriculum: Reflective Practitioners

The curriculum of the course eEducation has a modular structure, in which individual modules cover between three and six ECTS points. While the modules are self-contained units, they cannot be completed in an arbitrary order, but are coordinated with each other. Some modules refer to each other and some are

based on others. There is a common theme which runs through the modular organisation and which has several lines of development. The central theme of the course is teaching and learning with new media. As it is an extra-occupational further training, transfer of newly acquired knowledge to the students' own professional praxis is paramount. Students should have the possibility to use new knowledge and new competencies in their professional lives as directly as possible. Inversely, they are asked to contribute their practical expert knowledge to the course. This presupposes a certain readiness and openness to question and to reflect upon one's own knowledge which is based on tradition and experience in order to create a feedback between praxis and theory. This refers to the image of "reflective practitioners" according to Schön (1983), with the focus on "reflection on action" rather than "reflection in action", i.e. reflection after the act. The ePortfolio's aim is not least to promote an ability for reflection which is important in two respects: firstly regarding one's own ability to learn in the form of meta-cognitive skills, and secondly regarding one's knowledge gained from experience in a professional field which should be expanded, but also critically challenged and transformed if necessary (Mezirow, 1991).

3.2 The design of the virtual learning environment

One important line of development within our master course is the use of diverse education technologies. These are not only examined in content, but also tested – according to individually suitable application scenarios - across all modules. Different individual methods and software types like e.g. online mind mapping, social bookmarking or reference management software are integrated into the virtual learning environment of the course, which consists of three main pillars, the *triple M* (see figure 2).

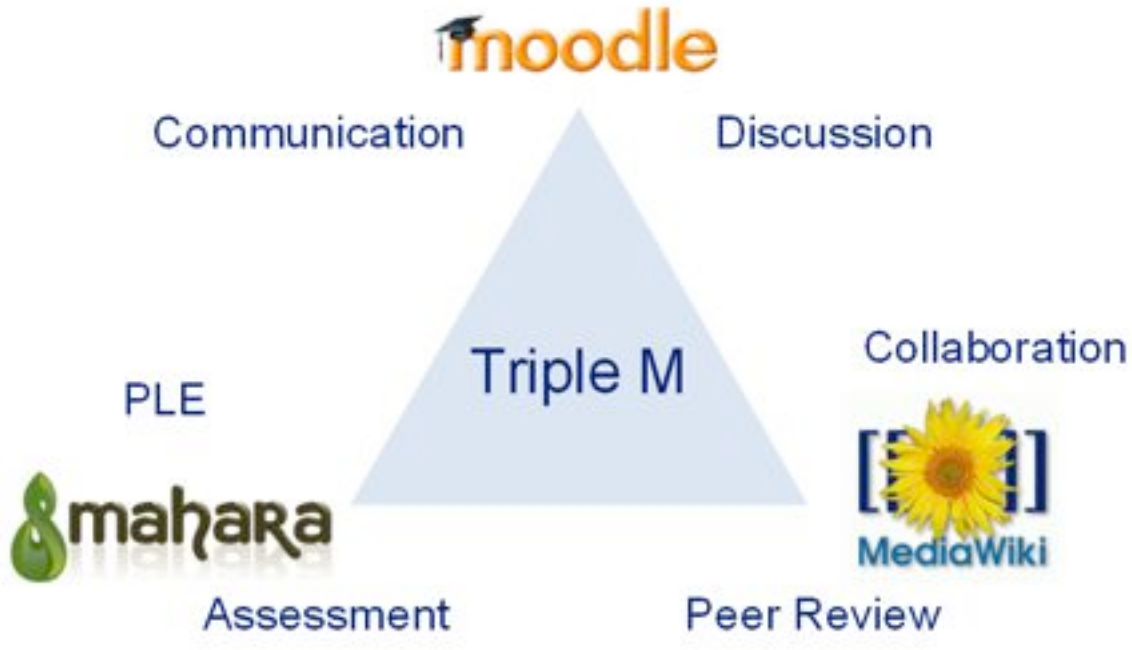


Fig. 2: Triple M – the virtual learning environment of the master course eEducation (Himpsl-Gutermann, 2012, p. 98)

The three pillars are formed by the LMS/LCMS Moodle, the ePortfolio software Mahara and the collaborative platform MediaWiki – this combination covers the functions of a portal solution which e.g. Kerres, Ojstersek, Preussler & Stratmann (2009) suggest. The "control centre" of the course is Moodle, which is used as an LMS27 by the course management and serves as an LCMS28 for individual lecturers who use it for their course design. Thus, Moodle is mainly a tool for course management and lecturers, which is indicated by the abbreviation "T" for "teacher" in the top corner of the triangle. The students interact with the course offer on the learning platform, though the type of learning activity may differ strongly in individual modules, according to the chosen didactic scenario. All modules, however, have a strong focus on communicating with and within the learning group, mainly a-synchronically in discussion forums. The second pillar, the ePortfolio software Mahara, is more learner-centred (abbreviation "L" for "learner"). Students document and reflect their personal learning activities in individual portfolio views on each module, and simultaneously present their learning results. Mahara may thus be seen first as an

[27] LMS = Learning Management System (cf. Baumgartner, Häfele & Maier-Häfele, 2002)

[28] LCMS = Learning Content Management System (cf. Baumgartner et al., 2002)

important mainstay of the personal learning environment (PLE), while those parts of the portfolio accessible to others are primarily used for assessment. Finally, the Wiki platform is used in some modules when direct collaborations within the group are planned (abbreviation "G" for "group"). In contrast to the ePortfolio, personal authorship has little relevance in the Wiki (Himpsl-Gutermann & Schnabl, 2012).

3.3 Didactic integration of the ePortfolio

Following the basic ePortfolio types according to Baumgartner et al. (2009), the ePortfolio has a threefold purpose:

1. *Learning portfolio*: It serves to acquire knowledge and competencies as well as for individual reflection on one's learning progress in individual modules of the curriculum (more process-orientated).
2. *Assessment portfolio*: It serves the assessment of knowledge and competency acquirement in the modules, and thus as a replacement for examination requirements (more product-orientated).
3. *Presentation portfolio*: It serves to present one's own products and competencies and can also be used outside the course (more product-orientated).

The modular design of the curriculum and the premise of its tight didactic integration already give rise to a basic decision for the ePortfolio: Because of the aim of using the ePortfolio as a learning and assessment portfolio, it is bound to follow the modular structure of the curriculum, which means that the students create sub-portfolios as part of individual modules which are submitted to an assessment by the examiners after the module is completed. Independent of the individually diverse detail design of the modules there is a prototypical concept for the didactic integration of the ePortfolio into the blended learning mode, which will be described below. Figure 3 sketches a typical sequence for a 3 ECTS module with one attendance day which takes place in the middle of the module period.

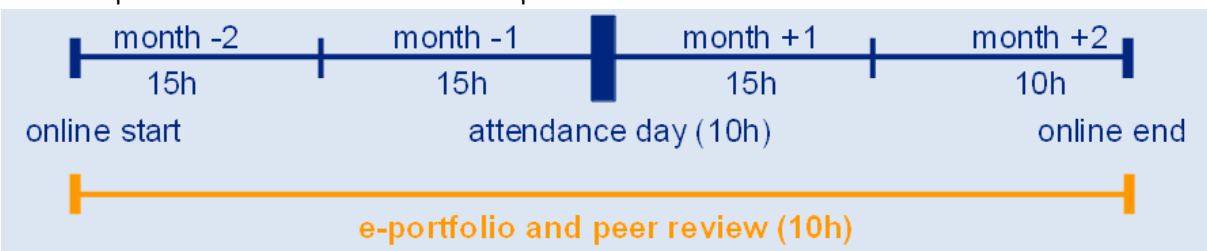


Fig. 3: Prototypical sequence of a module with 3 ECTS points (corresponds to about 75h learning time29)

The online phases before and after the attendance day are supervised via the learning platform Moodle. Here course material is made available, as well as the description of the module, which serves as a starting point for the portfolio work. In the first two months, previous knowledge is activated and the attendance day is prepared, e.g. with literature research (15h) and an online forum discussion (15h). On the attendance day itself (10h), lectures, discussions and exercises in teamwork ensure a diversity of methods. In the final phase, the focus lies on application, advanced studies and the transfer of newly acquired knowledge, e.g. in an online teamwork in the Wiki (15h) and an individual paper (10h). The portfolio design is organised by the students themselves and created alongside the moderated module activities. After finishing the last learning activity – in this case after finishing the term paper – there is a first deadline for the portfolio view. After this, there is a peer review loop along three meta-categories (Himpsl, 2010) before the portfolio view is finally submitted for assessment. The students administer the access of others to their portfolio view themselves – they are encouraged to enable access as soon as possible during the process of development in order to guarantee mutual support.

3.4 Introduction to ePortfolio use

The students' introduction to ePortfolio use stands at the start of the master course, where the complete triple M learning environment is presented successively. This introduction into methodology and software handling is integrated into the starter module on education technologies covering 6 ECTS points. During this module, the students are closely supported by their tutor and receive intermediate feedback at different points in order to avoid insecurities in the first portfolio design of the course as much as possible. In this process, an "assessment for learning" stands on a par with an "assessment of learning" (Biggs, 2003). A criteria-orientated feedback pointing out potential for improvement paves the way for the future use of the ePortfolio in the following modules. Finally, the ePortfolio serves as an accompanying collection of

[29] In Austria, 1 ECTS point is calculated with about 25 learning hours.

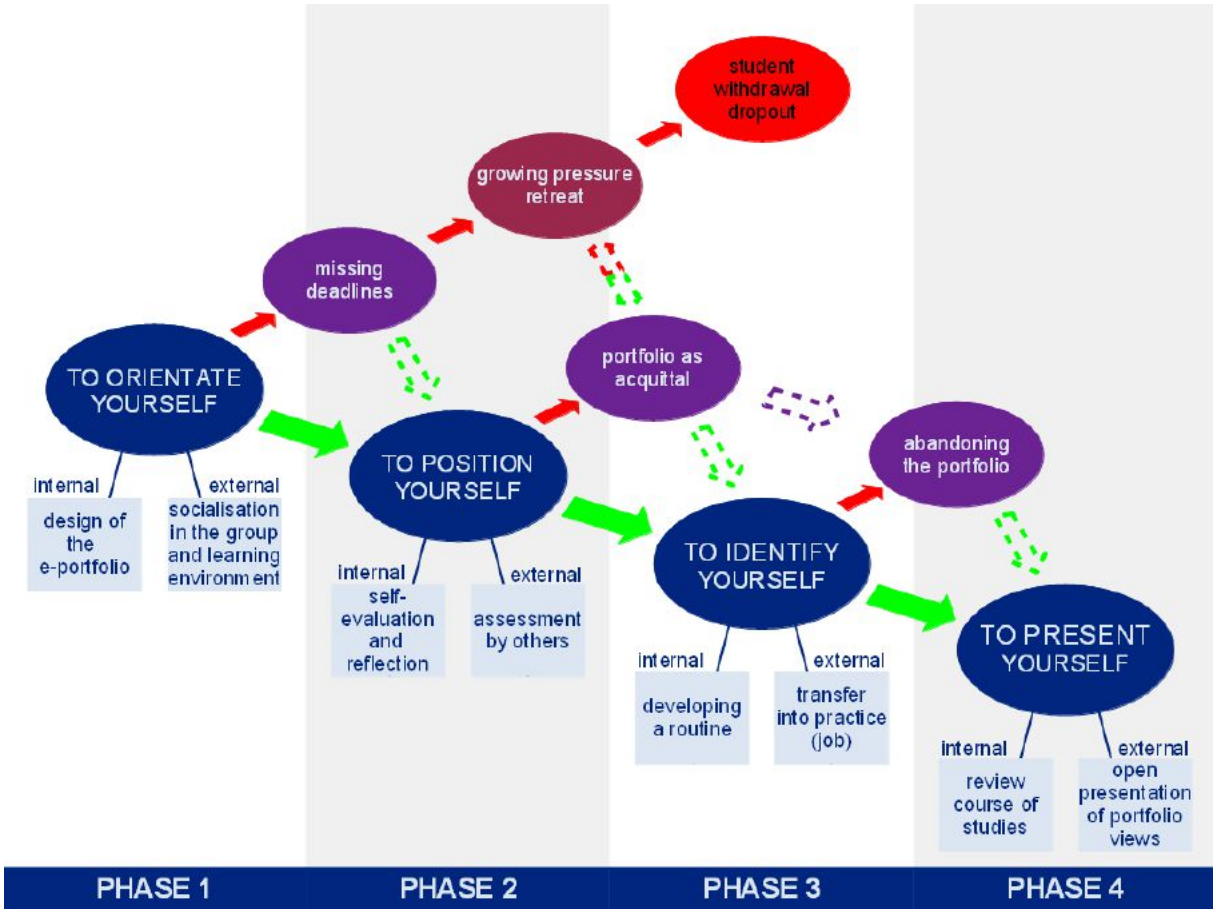
resources, as a pool of ideas and as a research diary alongside the master thesis, which is also used for communicating with the supervising tutor.

4 The 4-phase model of portfolio use

An analysis of the alumni interviews quickly showed that change is a central category for the ePortfolio in the master course eEducation. The ePortfolio was important for the students during their studies, and continues to have some importance for the alumni afterwards. However, over the course of time, there are remarkable changes: changes in the use of the portfolio itself, changes relating to what is seen as important, changes in the attitudes towards the portfolio. An in-depth analysis based on Grounded Theory methodology resulted in four key categories which also form the headlines of four consecutive phases:

1. Orientate yourself
2. Position yourself
3. Identify yourself
4. Present yourself

On these key categories, the interview data yielded main codes, which express what was most important for the students in the respective phase. These codes show a universal pattern: They can be classified by two dimensions stressing the internal perspective (self-reference) and the external perspective (environmental reference) of students respectively, which is expressed at the same time in or by the ePortfolio. Self-reference is reflected in each phase headline by the word "yourself" – while each verb only makes sense when there is a counterpart. While reflection in the ePortfolio centres on one's own learning, the students do not revolve around themselves, but keep looking outwards[30]. This not only shows one of the characteristics of the portfolio, but also what the "process of education" is about: the search for, and forging and formation of identity. This 4-phase sequence shows what Lenz (2011, p. 147) calls "to transform yourself by learning". In an ePortfolio in academic continued education, "digital identity" and "career identity" merge into each other: The ePortfolio can become the expression of one's digital professional identity. Figure 4 shows the 4-phase model for ePortfolio use in the master course eEducation, which inductively arose from interview data.



[30] Looking outwards avoids the danger of „over-reflecting", as termed by Reinmann & Sippel (2011, p. 193).

Fig. 4: An overview of the 4-phase sequence of ePortfolio use in eEducation, ideal-typical sequence and deviations (Himpsl-Gutermann, 2012, p. 130)

The chart illustrates the ideal-typical sequence along the green arrows as well as possible deviations from it in critical phases of portfolio work – in its description I will first follow the ideal-typical sequence.

At the start of the master course, the main challenge is to orientate yourself, to get to know the team and to find one's way around the learning environment (external perspective). Thus, important socialisation processes take place in this phase. The attitude towards the ePortfolio in the starting phase is rather sceptical, mostly because of anxieties relating to the expected workload. In portfolio work, basic questions of portfolio design and software operation are central (internal perspective). When these are solved, a critical examination of the portfolio concept may take place during the transition to phase 2. Here, one by one known portfolio dilemmas come to the fore: How do I handle reflection (self-reference), especially when my portfolio will be graded for my studies as a test performance (environmental reference)? The following excerpt from an interview clearly expresses pertinent thoughts and conclusions in a rather tactical course of action:

"[…] as soon as you know in such a case that you will publish this at some point, then there is, let's say, self-critical thinking is restrained, of course, because you don't say this is simply my diary that no-one will see, where I am writing things down for myself. It's not that, you would have to somehow separate that, you would have to say, ok, I can do one part for myself, reflecting for myself alone, but I don't really want to show this to the public, right. This is, I see some tension there […] So probably I have, let's say, I tended to write for a reader, not really for myself. That's, well, looking back honestly right now, this is like a rather automatic and unconscious process, that you tell yourself, ok, this is going to be looked at, graded, so you will write what somehow, well, will give a good impression on the whole. And everything else, well, I can think about that for myself. So, well, it does have this tendency, doesn't it." (s1, para. 68-70)

What exactly are the criteria for assessment, how much creative freedom is possible? What are the rules for the peer review? In phase 2, positioning yourself is necessary, one the one hand towards the portfolio itself (self-reference), and on the other hand towards the learning group and the authority (environmental reference). At the same time, this is the most critical phase within the whole portfolio process, which has a decisive influence on whether the learner succeeds in identifying him-/herself with his/her portfolio and the method during the transition to phase 3:

"And over and above this, there is this additional investment and the creation of a suitable portfolio. At least it seems to be an additional investment at first. And possibly many will only see when looking back that this investment actually pays or has paid. I don't know whether this is always the case from the start. I was rather sceptical at the beginning. Or rather, I didn't know this method ePortfolio at all, and it took some time until I was actually able to identify with it, and before I really used it, actually used it with more and more pleasure." (s3, para. 48)

Besides an expert handling of one's own portfolio and the realisation of the possible value of the ePortfolio for one's life (internal perspective), this shows mainly in a transfer into one's professional practice (external presentation). The students achieve a change of perspective towards the authority, develop their own ideas for using the ePortfolio and implement these step by step. This third phase also seems to be critically decisive for whether the ePortfolio continues to be used after the end of the course.

After finishing their studies, students mainly use the portfolio t*o present themselves*, in two senses: in order to present themselves to others via the portfolio (external presentation) and to present the portfolio to themselves, in order to draw new motivation from their achievements (internal perspective). Besides this, the portfolio is valued as a personal learning archive, and time and again alumni resort to parts of it. The ePortfolio is actively continued when there is a concrete occasion in new learning communities.

The sketched sequence is ideal-typical – along the red arrows in the chart, the critical sequence of portfolio work can also be followed. When problems arise during the course of studies, these quickly become apparent insofar as (group) access to portfolio views is delayed and *deadlines are missed*. Missing portfolios have to be submitted later – when students succeed to do this quickly, a return to the "road to success" is possible. When shortfalls accumulate, *pressure* on the students *mounts* because work for new modules is due as well. The workload rises. At the same time, concerned students often *retreat*, from the learning group as well as the course management. When modules to be made up get out of hand, the continued high workload can lead to overburdening and an inability to cope. In some cases, extreme commitment succeeds in a return to the planned course sequence, but in most cases, the only option is *to interrupt the course* for some time, or *to drop out* completely. In eEducation, this rarely happens at the beginning right after the orientation phase, after only a few months. My observations seem to suggest that phase 2 is more critical. When the student does not succeed in positioning him-/herself towards the

portfolio appropriately, i.e. to find his/her own method of self-reflection and at the same time to cope with outside assessment, there is a danger that the portfolio becomes a simple *acquittal*. In the views, this becomes apparent in several aspects: The choice of artefacts is restricted to the mere minimum requirement, reflections refer more to the teaching context than to one's own learning process, and instead of creative design, the views become more and more alike. In this case the probability of a transfer of the portfolio method into the student's own professional practice is low, and *portfolio use* usually ends with the last obligatory module that has to be completed for the master course.

5 Summary and perspectives

The case study has shown that ePortfolio use by students can be described in its ideal-typical sequence *in four phases*: to orientate yourself, to position yourself, to identify yourself, to present yourself. The four phases may be structured in two *dimensions*, which respectively stress the *internal perspective (self-reference)* or the *external perspective (environmental reference)* of the learners, which are simultaneously expressed by or in the ePortfolio. The most critical phase in ePortfolio use seems to be the transition between phase 2 and phase 3: When we succeed in convincing students of the benefits of the ePortfolio in an intense and critical examination of the ePortfolio method, their identification with the ePortfolio will last beyond the course of studies. It is clear that, because of the study's context and its limitation to "one case" with a limited sample, the 4-phase model of ePortfolio use is to be understood as a first suggestion, which we hope will inspire further studies with a longer-term perspective in different contexts in order to question the central categories of the model and to allow for conclusions about problems and critical factors in the successful implementation of integrative ePortfolios.

Bibliography

Note:

Sections from interviews with students of eEducation were quoted with s1 to s7 – bibliographical data as well as interview transcripts (in German) and codes are available in Himpsl-Gutermann's (2012) dissertation. The quoted sections were translated freely, with the aim to convey the impression of the spoken word as well as the content.

1. Ayala, J. I. (2006). Electronic Portfolios for Whom? *Educause Quarterly*, (Number 1 2006), pp. 12–13.
2. Baumgartner, P. (2008). *Eine Taxonomie für Eportfolios - Teil II des BMWF-Abschlussberichts "Eportfolio an Hochschulen": GZ 51.700/0064-VII/10/2006* (Forschungsbericht). Krems: Department für Interaktive Medien und Bildungstechnologien, Donau Universität Krems.
3. Baumgartner, P., Häfele, H., & Maier-Häfele, K. (2002). E-Learning Praxishandbuch. Auswahl von Lernplattformen: Marktübersicht - Funktionen - Fachbegriffe. Innsbruck: Studienverlag.
4. Baumgartner, P., Himpsl, K., & Zauchner, S. (2009). *Einsatz von Eportfolios an (österreichischen) Hochschulen: Zusammenfassung - Teil I des BMWF-Abschlussberichts "Eportfolio an Hochschulen": GZ 51.700/0064-VII/10/2006.* (Forschungsbericht). Krems: Department für Interaktive Medien und Bildungstechnologien, Donau Universität Krems. Available at http://www.peter.baumgartner.name/Members/baumgartner/news/ePortfolio-forschungsbericht-und-publikationsstrategie/ [08.03.2012]
5. Biggs, J. (2003). *Teaching For Quality Learning at University* (2nd ed.). Buckingham, Maidenhead: Open University Press.
6. Coghlan, D., & Brannick, T. (2010). *Doing Action Research in Your Own Organization* (3rd ed.). London: Sage Publications Ltd.
7. Häcker, T. (2008). Wurzeln der Portfolioarbeit - Woraus das Konzept erwachsen ist. In I. Brunner, T. Häcker, & F. Winter (eds.), *Das Handbuch Portfolioarbeit* (2nd ed., pp. 27–32). Seelze-Velber: Kallmeyer.
8. Himpsl, K. (2010). Eportfolios in berufsbegleitenden Studiengängen zu Neuen Medien. *MedienPädagogik - Zeitschrift für Theorie und Praxis der Medienbildung*, Medienpädagogik, *18* (Neue Medien und individuelle Leistungsdarstellung – Möglichkeiten und Grenzen von ePortfolios und eAssessments). Available at http://www.medienpaed.com/18/himpsl1004.pdf [08.03.2012]
9. Himpsl, K., & Baumgartner, P. (2009). *Evaluation von Eportfolio-Software - Teil III des BMWF-Abschlussberichts "Eportfolio an Hochschulen": GZ 51.700/0064-VII/10/2006* (Forschungsbericht) (p. 94). Krems: Department für Interaktive Medien und Bildungstechnologien, Donau Universität Krems. Available at http://www.bildungstechnologie.net/blog/evaluation-von-ePortfolio-software-abschlussbericht [08.03.2012]
10. Himpsl-Gutermann, K. (2012). *Eportfolios in der universitären Weiterbildung. Studierende im Spannungsfeld von Reflexivem Lernen und Digital Career Identity (Dissertation)*. Boizenburg: Verlag Werner Hülsbusch.

11. Himpsl-Gutermann, K., & Schnabl, S. (2012). Tutorials mit Screenrecording und Wiki. Einführung von Studierenden eines berufsbegleitenden Weiterbildungslehrganges in das Arbeiten mit MediaWiki. In M. Beißwenger, N. Anskeit, & A. Sporrer (Hrsg.), *Wikis in Schule und Hochschule*. Boizenburg: Verlag Werner Hülsbusch.
12. Kerres, M., Ojstersek, N., Preussler, A., & Stratmann, J. (2009). E-Learning Umgebungen an Hochschulen: Lehrplattformen und persönliche Lernumgebungen. In U. Dittler, J. Krameritsch, N. Nistor, C. Schwarz, & A. Thilosen (eds.), *Ein kritischer Blick auf E-Learning an deutschsprachigen Hochschulen als Basis eines Aufbruchs* (pp. 101–115). Münster: Waxmann.
13. Lenz, W. (2011). *Wertvolle Bildung: kritisch - skeptisch - sozial*. Wien: Löcker.
14. McAllister, L. M., Hallam, G. C., & Harper, W. E. (2010). The ePortfolio as a tool for lifelong learning: Contextualising Australian practice. *International Lifelong Learning Conference 2008, 16-19 June 2008*. Yeppoon, Queensland. Available at http://eprints.qut.edu.au/14061/ [08.03.2012]
15. Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Francisco: Jossey-Bass.
16. Przyborski, A., & Wohlrab-Sahr, M. (2008). *Qualitative Sozialforschung. Ein Arbeitsbuch*. München: Oldenbourg.
17. Ravet, S. (2007). ElfEL-Campaign „ePortfolio for all“. Available at http://www.eife-l.org/activities/campaigns/ [08.03.2012]
18. Reinmann, G. & Sippel, S. (2011). Königsweg oder Sackgasse? Eportfolios für das forschende Lernen. In: T. Meyer, K. Mayrberger, S. Münte-Goussar & C.
19. Schwalbe (eds.), *Kontrolle und Selbstkontrolle: Zur Ambivalenz von E-Port- folios in Bildungsprozessen* (pp. 185–202). Wiesbaden: VS Verlag.
20. Schön, D. A. (1983). *The Reflective Practitioner: How professionals think in action*. London: Temple Smith.
21. Zwiauer, C., & Kopp, M. (2008). *Modellfälle für Implementierungsstrategien für integrierte ePortfolios im tertiären Bildungsbereich: GZ 51.700/0065- VII/10/2006* (research report). Wien: fnm-austria.

Technical and Pedagogical Feedback on the Deployment of an ePortfolio. Models of the Uses, Analysis and Perspectives

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Keywords: ePortfolio, professional insertion, competencies, skills, regional implementation, uses, model

Abstract

This paper asks how are being designed and expected modes of integration of students during and after their university studies in the specific context of development on private and public markets for applications such as e-digital portfolios.

She also questioned the manner in which to deploy the strategies and institutional policies regarding the choice of digital interfaces for the enhancement of learning and using the integration of students and in particular the way is taken into account the research dimension a tool to select and deploy.

To do this, it relies on a study conducted as part of e-inclusion project supported by the Office for Students professional insertion (BAIP) and funded by the University of Lorraine and the Regional Council of Lorraine. This study is based on monitoring of a panel of about 250 students and fifteen teachers experimenting "Lorfolio" in their regular educational setting. Lorfolio is a portfolio of digital skills remotely accessible, for all the assets of a territory, and being developed in Lorraine at the initiative of the Regional Council.

We propose in particular to highlight the returns through the use of specific questions that are generated when it comes to decide on their wide deployment of an institution, consortium or territory. What models to use is based does? What actual uses generates does? How to use these models and are they related to the digital strategies of institutions?

After recalling the context of the study, the actors and the methodology adopted, we will build on the first qualitative and quantitative analyzes performed to establish the first profiles of the perception of the tool from the point of view of students as teachers to measure the impact of such a deployment at institutional level.

Introduction

Background of the study

As part of the research project funded by the university of Lorraine and the Regional Council of Lorraine, LISEC Lorraine Lab[31], KIWI team[32] of LORIA and the department of the digital uses of the University of Lorraine propose to study, analyze and support the use of ePortfolio Lorraine, also known Lorfolio in the university.

It's about understanding how and give teachers and students mobilize the ePortfolio as part of lessons usually taught strategies around employability. In parallel, an analysis of traces of use should generate typical profiles of students uses. Profiles that will adapt the best features found on the interface and to add, if any, resources customized news relevant to learning conditions and needs of specific integration of students.

This study is based on the following assumptions:

- formalization of the activity conducted by students of their formal and informal learning helps facilitate their positioning for their employability.
- making available to students of an ePortfolio helps facilitate the formalization of their achievements and their visibility in the territory of Lorraine.

This multidisciplinary research contributions mobilizes science education that offer an analysis of the formalization of skills allied to the contributions of artificial intelligence in terms of modeling theory and uses of recommender systems. The results and prospects identified will be a basis for reflection by all departments of the University of Lorraine and components concerned with the employability of students.

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[31] http://www.lisec-recherche.eu/

[32] http://kiwi.loria.fr

To put the study in a broader context, we first redefine the concepts inherent in ePortfolio and we will review the implications and interactions and collaborations implemented between actors of this project.

ePortfolios by numbers

Currently, the ePortfolio or digital portfolio is growing both in the educational landscape that professional. Regions, departments, universities, schools, professionals will endow this tool. Nevertheless, the identification of objectives and interests of such a tool does not come naturally to the user.

According to Thierry KARSENTI[33], over 30 types of portfolio are identified (Developmental Portfolios, Reflective portfolios, Assessment Portfolios, Showcase Portfolios, Working Portfolios,...) with for each different purposes (show what has been learned, that one has reached the targeted skills, highlight reflexive work on their learning, show their skills in order to be evaluated, show that we continue to learn beyond the academic certification, showcases). To this, we can also add the difference made by the French Ministry of National Education between professional portfolio[34] (portfolio for teachers) and teaching portfolio[35] (students portfolio), which distinguish objectives centered on learning and objectives focused on Assessment i.e., process or product.

Regarding Long Life Learning (LLL), ePortfolio is a powerful teaching tool to formalize the collection and valorization of competencies (see in particular, LAYEC, J. (2006)). Long Life Learning takes an important place in training institutions, particularly at the university, and brings new practices self-assessment of formal and informal learning.

Thus, the ePortfolio, as a scalable set of materials, resources, … ie the "sèmes", identifies an individual in its singularity. We can then speak of individuation as a process leading from the undifferentiated to individuate. It is then placed in the footsteps of many authors such as Arthur Schopenhauer and especially Carl Jung and more recently Gilbert Simondon. Consequently, ePortfolios are at the crossroads of two processes of individuation: individual and technology. Thus, ePortfolio should not be seen as a process itself but as an outcome of a process of individuation linking people and technology (Ravet, 2011).

The actors, between universitary policie and regional policie

Regional Council of Lorraine

The Regional Council of Lorraine is in a regional framework for economical development: « *To address the socio-economic challenges, the Region of Lorraine must address issues of vocational training based on three major principles :*

- *Enhance the human heritage of the Region,*
- *Give everyone the means to become subject and actor of his training course for its personal and professional development,*
- *Mobilize training players to enhance its human heritage.*

One objective of the Region of Lorraine was to offer each people to built a custom tool to enable it to capitalize experiences and training skills». From these words approved by the Regional Council of Lorraine in 2006, the Lorraine ePortfolio project is born.

Starting in 2007, the region of Lorraine entrusted at INFFOLOR[36] the realization of a opportunity and feasibility study for the development of a customized tool for capitalizing experiences and training. The choice was then focused on the development of an ePortfolio.

First, to realize this study and to take the appropriate decisions in terms of technical and ergonomic specifications of the ePortfolio, INFFOLOR has worked with two experts[37] in normalization and digital systems interoperability. Second, INFFOLOR partnered with LISEC Lorraine in order to carry an experiment for characterizing the first uses and to imagine first deployment scenarios.

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[33] Thierry Karsenti, Chair on information technology and communication (ICT) in Education, Faculty of Education, University of Montreal

[34] http://www.educnet.education.fr/dossier/archives/portfolionumerique/usages-enseignement/portfolio-professionnel-de-lenseignant

[35] http://www.educnet.education.fr/dossier/archives/portfolionumerique/usages-enseignement/enseignement-superieur

[36] http://www.inffolor.org

[37] Monique Grandbastien, Bernard Blandin

University of Lorraine (UL)

The University of Lorraine has a Help Desk for students' professional integration (BAIP). It is a light structure designed to design the appropriate policies for a better professional integration of students. In this context, the research project "e-insertion" which aims to answer the question, «How digital environments can enforce professional integration strategies of the students?» aims, by its approach based on interdisciplinary research, to analyze the uses of populations of students et to offer tracks that will support the policy at the University of Lorraine level. The University of Lorraine eLearning department is also involved and works in the development of observation protocols and contributes to the analysis of results.

Laboratories

The research teams involved will work on complementary approaches based on uses modeling and qualitative analysis of pedagogical uses to have an analysis combining mathematical models of the real uses and qualitative analysis coming from questionnaires and interviews with both students and teachers. The diagram below shows the general process of interaction between the chosen approaches:

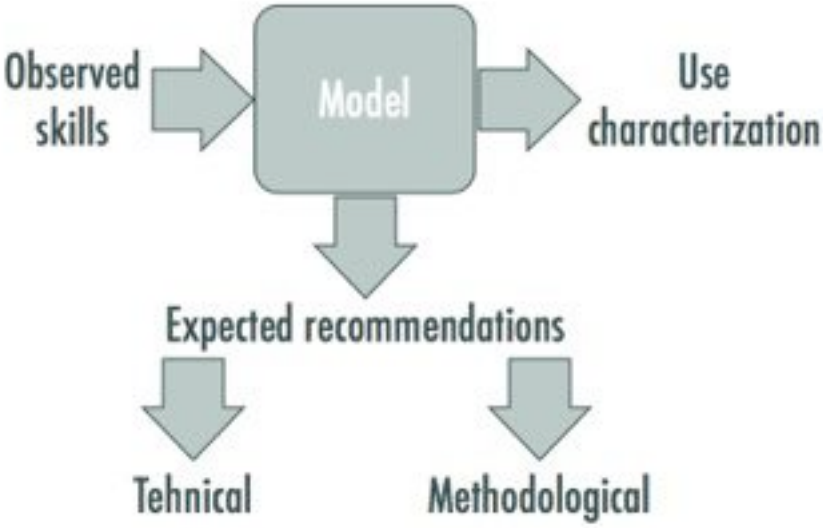

Figure 1. Modeling strategies

The objective of the work carried out in the KIWI (Knowledge Information and Web intelligence) team in LORIA aims to improve the quality of service provided by a computer based system (such as a corporate intranet, an online digital library, an information portal, the Internet, an ePortfolio, ...) to a specified user or not. The general approach can be outlined as follows:

- Learning models of user behavior, from the observation of their interactions with the system,
- From the observed behavior, planning actions that the system must perform in order to provide a customized service to user expectations.

It is part of a holistic approach for uses analysis which can be outlined as follows: To provide the accurate content at the right time is a key factor for an efficient delivering and sharing information systems.

Thus, recommender systems allow users to find resources that meet their needs by suggesting specific digital resources. Many approaches have been used to design recommender systems, including collaborative filtering, content based recommender, or users tracking by trajectories modeling in the recommender space. In this study, traces left by ePortfolio users will be the sets of data used to compute the models for the implementation of recommendation strategies.

ATIP Team (Activity, Work, Professional identity) in LISEC[38] laboratory is working on many learning processes having in common the links between activity analysis, identities and competencies in a professional environment. Whether the education market, social recognition of professional knowledge, procedures, guidance, work, the formalization of the activities of actors is at the heart of this research.

Applied methodology

The research is organized in three phases and includes three sets of qualitative and quantitative data:

[38] http://www.lisec-recherche.eu/

- Set 1 consists of survey results, obtained before to the first use of LORFOLIO: survey by questionnaire carried out among 256 students who have been supported to elaborate their career plan (Personal and professional projects or specific course) and among 15 teachers.
- Set 2 contains first feedbacks from students and teachers. It also includes the analysis of the traces.
- Set 3 contains interviews with subsets of students and teachers after the end of the experiment.

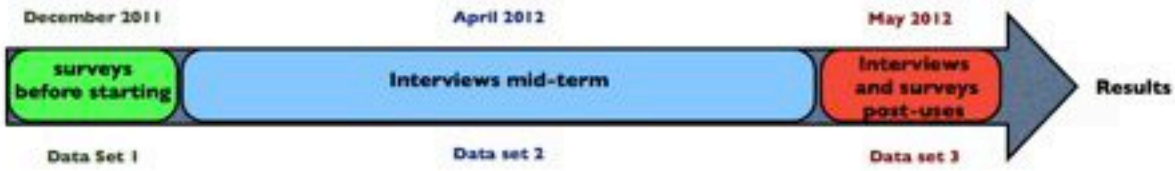

Figure 2 – Project timeline

All the interactions generated between the structures (research, teaching, administrative) will help to show the various processes involved in the use of LORFOLIO. Below are represented actors, actions and expected results.

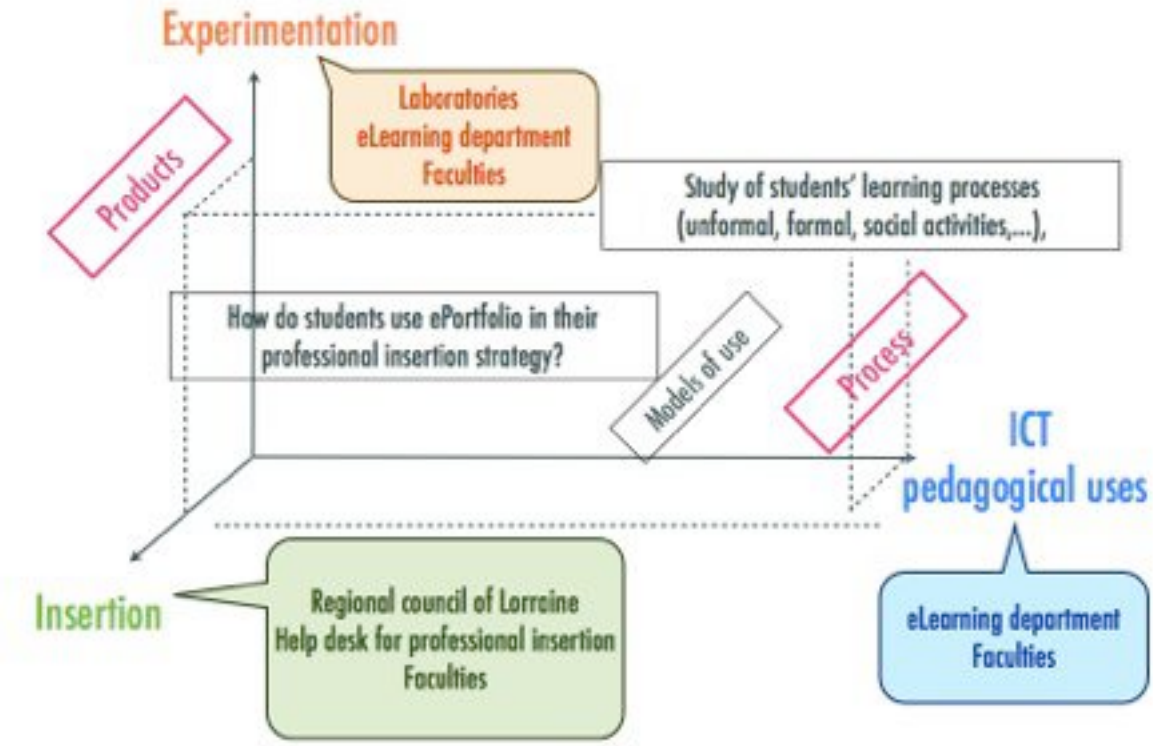

Figure 3 – Observation process

First results

Students – technological profiles

The analysis of the first set of data enables us to identify students' technological profile.

Their privileged mean of communication is Internet with its different possibilities of exchange such as email, instant messaging and social networks as Facebook. The use of Internet is close to the use of mobile phones. Then, marginally, students use mail post and face-to-face exchanges.

The preferred sources of information are of three categories:

- Internet: it is difficult to know what are the used online resources; Internet has been used as generic with no precision even if many cited examples are « wikipedia » and « google »,
- Traditional sources of information are Books, newspapers and sometimes libraries. We can also mention magazines, press and encyclopedia,
- Television

Figure 4 – Preferred websites

98% of the students surveyed have a personal computer and 7.3% of them share it with their family. Only 2% of students have no computer. The large majority (96%) used the Internet daily. 48% say they spend 2 to 3 hours per day on their computer against 30% who spend less than 2 hours.

They all have internet access. They say to connect from their mobile phone, WiFi hotspots in public places, streets, universities, among friends, at home and in restaurants …

30% of students consider themselves "regulars trying to get by" and over 60% identify themselves as "regulars who know their way". 99% of them sent their first email before the age of 19.

Their Internet use can be classified into five categories listed below in order of importance:

- Social networks (140 occurrences) including « facebook (135 occurrences)
- Videos (71 occurrences) including « youtube » (63 occurrences)
- Search engines (57 occurrences)
- Email (28 occurrences)
- Online music (18 occurrences)
- Online Encyclopedia (14 occurrences)

Figure 5 – Best ways to find a job

And marginally commercial, sport, news and entertainment websites.

Relating to job search, the best way they think to find a job is to use relationship. The words most frequently cited are:

Less than 9% use an ePortfolio. Most students cannot say what is an ePortfolio. For others, the functionalities of an ePortfolio are collecting competencies (regrouping, collecting, sorting, summarizing…) and presenting competencies (showing, highlighting, presenting) then marginally reflexivity (analyzing, self-knowing).

Figure 6 – Cited functionalities of an ePortfolio

Students – log analysis for the period from October 2011 ton January 2012

The goal of the users on this portfolio website is the construction of their cv and portfolio. To reach this goal, they have to perform some tasks, such as filling some personal information, competencies, etc. Each task is may be made up of several actions. For example, filling personal information, can be divided into filling one page to provide with information about name, age, sex, and filling another page about address, phone number, etc.

The characteristic of this website is that the order of the actions that the users have to perform to build theit cv is not predefined, they can perform them in the order that fits them the best.

The question we ask is if they tend to perform these actions in the same order, or if there are some prototypes of behaviors. More formally, by exploiting the logs of this website, we aim at discovering frequent sequential patterns of usage, if exist. To perform this task, we propose to exploit data mining algorithms (Han, 2006). Based on the assumption that the action a user performs at a given time on the website, depends on his/her past actions, we propose to exploit a K-order Markov Model (Rabiner, 1989). Such a model assumes that an action depends on exactly the K preceding actions. This model not only learns the sequences of actions of size K+1 that users perform, it is also a predictive model that may be used to predict the action a user should perform, given his/her last K actions.

This model may be viewed as too strict, as we can naturally imagine that an action may depend on less than the last K actions. Thus, we propose to exploit an all-kth-order Markov Model (Pitkow, 1999), which learns the sequences of actions of size from 1 to K and uses these sequences to predict the action a user should do.

Such models have been used to recommend actions in the frame of several domains, such as the Web (Deshpande, 2004), e-commerce (Lu, 2009)

On the observation period that runs from late October 2011 to January 3, 2012, visits of the website are mainly divided as follows:

- 234 connections, 229 only connected once and 21 connected 5 times

Finally, the sequences of most frequently visited pages are:

Over this period, we have obtained 21567 *5grams* [39] and 11094 are distinct. We chose *5grams* because they represent the optimal length of navigation within LORFOLIO. The most significant results show that:

697 *5grams* lead users to generate a resume (PDF and/or Word files)

207 *5grams* show navigation through competencies topics

119 *5grams* show navigation through training topics

Clearly, in the early days of the use of LORFOLIO, students have only export their resume to print it (PDF, rtf or sxf formats). Unfortunately, categories related to the formalization of competencies are not really used. This corresponds to the listed statements in the previous section.

Teachers –pedagogical and technical skills

Teachers interviewed can be classified as "digital migrants". However, they are advanced users of the Internet, they are aware to leave traces on the networks and they are aware of the encountered. Unlike their students, they are not users of social networks. Thus, one of the teachers surveyed had already created personal web pages and only two teachers have profiles on social networks (facebook for one / facebook, viadeo and linkedin for the other).

They all indicate that the digital environment is essential for their educational and administrative activities.

Their objectives are then organized around three topics:

- Objectives rather focused on job search activity and the way to introduce it pedagogically, with the desire to standardize practices of students in job search *(write a resume, prepare a job interview, provide evidences,…)*
- Objectives rather focused on supposed prerequisites to get a job, most often presented in terms of knowledge to be acquired *(« Know company, the environment, … »*)
- Objectives rather focused on students to help them to achieve reflexive posture (« *self-knowing, identify own means, … »*)

Teachers surveyed consider ePortfolio through three dimensions: self-learning, self-evaluation, self-actualization.

[39] 5gram: Sequence of 5 different viewed pages

For them, success regard to the professional insertion depends on two factors: on the one hand the mobilization of "good" means, (traditional and networks) and on the other hand self.

Finally, according to their perception, added value of the ePortfolio is in its numerical characteristics (storage, ease of use, format) but especially in the educational opportunities it offers: "*different way to motivate students, to be efficient, communicate more widely."*

However, they mention some risk: e risk of "formatting" the work done by the student, risk of standardization of documents produced, risk due to non respect of privacy.

Analysis of the results

Students have a digital profile quite different from that of their teachers, they are more familiar with social networks. However, they include only marginally the question of their professional integration in their use of the web and they seem unaware of the impact of their current uses on their present and future social visibility. Most of them count on their relationship (family, friends and professional) to find a job. When they prefer networks, they ask mainly to private networks. Finally, the analysis shows that LORFOLIO has been only used as a technical tool (to write a resume and to export it to text files).

From teachers' point of view, LORFOLIO is also seen as a tool (to produce documents related to a search for a job). But, the pedagogical considerations to support this production are mentioned in their speech. These two observations call for few remarks.

These observations need to recall Jean Heutte when he says in "le Livre Blanc" concerning the reflective process underlying the use of an ePortfolio.

> « *Est considérée comme relevant d'une "démarche ePortfolio", toute démarche réflexive d'un étudiant sur son parcours, ses apprentissages, ses expériences, ses compétences ou encore ses réalisations et visant à capitaliser dans un environnement numérique un ensemble évolutif de documents et de ressources électroniques qui décrit et illustre toutes ces dimensions biographiques* » (cité par Heutte,J, livre blanc,DGSIP TICE, MEN).

We can see that their expectations reach this objective even if the related pedagogical processes remain to be invented. Two main aspects have to be considered:

- To support of the process other than in the form of a transmission of knowledge
- To solve the problem they have to clearly identify what is related to professional integration strategy.

In this perspective, the implementation of the ePortfolio may then appear as a lever because teachers see it as a way to interest and to mobilize their students more.

The students whose responses show very clearly that they separate their personal and social activities of their academic activities, seem to develop a perception of their professional integration that does not predispose to a strong commitment to a reflective approach. It therefore remains to persuade them. The future results will show how teachers have set up their teaching methods:

- How a support system of this reflective work has implemented
- With what observations?
- What impacts on the students?

There is indeed much to expect from these experimental moments implemented in institutions.

Concerning the institution, the University of Lorraine, currently undergoing reconfiguration, intends to make the professional integration of its students one of its objectives and its major strengths. While it is too early to know what his policy on implementation of digital devices, the university has expressed strong expectations about the results of this experiment that ended in June 2012.

Conclusion

Have a combined analysis of the uses and perceptions of students and teachers through the implementation of a numerical tool which can be assumed that it will impact the process of individuation is an extremely rich field for observing the development of teaching practice.

The implementation of such a tool at the university is not trivial. Indeed, it appears attractive to teachers, due in part because they see it more fun, less austere, more readily used by students. However, the observed student practices show that the conditions for an intensive use of ePortfolios are not necessarily present. In particular, the pedagogical forms related to a reflexive approach remain to be invented. In this

perspective, these experiments used to test and to formalize new forms of teaching. Some aspects have to be studied:

- Only one tool will not be able to support diversity of practices and teaching profiles
- What added value of the ePortfolio in face of professional social networks as Linkedin?

Bibliography

1. LORRAINE, CONSEIL RÉGIONAL, « Un nouvel élan pour l'économie et l'emploi », Schéma Régional de Développement Économique (SRDE)
2. CROS, F. (éd.) (2005). Ecrire sur sa pratique pour développer des compétences professionnelles : enjeux et conditions. Paris : L'Harmattan.
3. BELL R. AND KOREN, Y., « Improved Neighborhood-based Collaborative Filtering » - Proceedings of the 13rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2007
4. BENNAGHMOUCH S. et GANGLOFF-ZIEGLER C., (2003), « La place de l'ePortfolio dans la décision de recrutement : complément ou substitut au diplôme ? », contribution, Université de Haute Alsace.
5. BERNAUD, J.-L., BIDEAULT, A. (2005). « Les déterminants de l'attractivité face à une démarche de conseil en orientation ». Carriériologie, 23 pages.
6. BONNIN, G., BRUN, A., BOYER, A. « A low-order markov model integrating long-distance histories for collaborative recommender systems. » In: Proceedings of the ACM International Conference on Intelligent User Interfaces (IUI'09), Sanibel Islands, USA (february 2009) 57-66
7. BOUZID M. AND MILLERAT J., « Mobile and User Modelling Business Issues », International Workshop on Ubiquitous and Decentralized User Modelling (UbiDeUM'2007), Corfu, Greece, June 2007. 7
8. BREESE, J.S., D. HECKERMAN AND C. KADIE « Empirical Analysis of Predictive Algorithms for Collaborative Filtering », Proceedings 14th Conference on Uncertainty in Artificial Intelligence, Madison WI: Morgan Kauffman, 1998.
9. BURKE, R., HAMMOND, K., COOPER, E., « Knowledge-based navigation of complex information spaces. » In: Proceedings of the 13th National Conference on Artificial Intelligence, Menlo Park, Canada (1996) 462–468
10. CHERQUI-HOUOT, I., NKENG,P., PAGNANI,I., ZAPATA,A. (2007). « La construction de nouvelles compétences, parcours de re-co-naissance. » PRAIRAT E. (coord) La médiation : Explorations, usages, figures. Questions d'éducation et de formation, PUN
11. CROS, F. (éd.) (2005). « Ecrire sur sa pratique pour développer des compétences professionnelles : enjeux et conditions. » Paris : L'Harmattan.
12. DESHPANDE M. and G. KARYPIS : « Selective Markov Models for Predicting Web Page Accesses. Transactions on Internet Technology. », 4(2):163–184, 2004. ISSN 1533-5399.
13. FATÈS N., « Directed percolation phenomena in asynchronous elementary cellular automata », LNCS 4173, pp. 667-675, 2006.
14. GAUTHIER P-D et JÉZÉGOU A., 2009, « Persister dans la publication de son ePortfolio ? Étude menée auprès d'un groupe d'étudiants de l'enseignement supérieur. » Revue internationale des technologies en pédagogie universitaire / International Journal of Technologies in Higher Education, vol. 6, n° 1, p. 6-17.
15. HAN et M. KAMBER, « Data Mining : Concepts and Techniques (Second Edition). » Morgan Kaufmann, second édition, 2006.
16. JENNINGS, N.R., « On Agent-Based Software Engineering », Artificial Intelligence, 117 (2) 277-296, 2000.
17. JORRO A., 2006, « Les formes de la reconnaissance professionnelle dans la démarche du portfolio. » In Figari
18. LAYEC, J. (2006), « L'Auto-orientation tout au long de la vie : le portfolio réflexif », l'Harmattan
19. O'DONOVAN J. AND SMYTH B., « Trust in Recommender Systems », IUI'05, San Diego, California, USA, January 9–12 2005.
20. PAZZANI, M., BILLSUS, D., « Content-Based Recommendation Systems. » In: The Adaptive Web. Springer Berlin / Heidelberg (2007) 325–341

21. PITKOW et P. PIROLLI, « Mining Longest Repeating Subsequences to Predict World Wide Web Surfing. » In USITS'99 : Proceedings of the 2nd conference on USENIX Symposium on Internet Technologies and Systems, pages 139–150, 1999.
22. RABINER L. R. « A tutorial on hidden Markov models and selected applications in speech recognition. » Proceedings of the IEEE, 77:257–286, 1989.
23. RAVET S., (2011), « ePortfolios, Products of an Individuation Process? » in EPIC Newsflash, Décembre 2011
24. RODRIGUES, G., ALVES, P., VALOIS, P., « Evaluation et compétences et apprentissage expérientiels : savoirs, modèles et méthodes », 17ème colloque de l'ADMEE-Europe, Lisbonne, Edition Educa, p 143-151.

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An Implementation of a Learning Portfolio

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Introduction

It is important to establish learner supports in both human and technological resources in online schools where all courses for academic degrees are provided by only distance learning over the Internet. Both sides are closely coordinated with each other, particularly, in the technological side, it clearly essential to establish a system to continually check their own learning information such as learning plan, goal, and progress situation by themselves. It seems, unfortunately, that Learning Management Systems (LMS) cannot provide such systematic functions adequately, because most of the LMS may focus on the construction of a learning environment providing the essential functionality for management of both learning materials and affiliates in the course. As complementary to functionalities of LMS, institutions usually offers some additional learning environments, for examples a student information system, a portal site system, a social network system like a Blog system, and an ePortfolio system. They usually are composed each other and offered as learning suites in which learners can easily access the learning environments via the portal site.

The graduate school of instructional systems of Kumamoto University is a fully online graduate program for human resource development with professional skills and knowledge associated to deliver learning programs with ICT, so called e-Learning, in Japan. Before started the program, we studied curricula, competencies, and learning materials in instructional systems design programs of overseas institutions because of breaking down academic preparations in the program. Then we clarified competencies demanded for our graduates and organize a curriculum in which learners can clearly see rigid relationships among all courses. It indicates that a course has one or more prerequisites, so that learners need to pass the prerequisites before they register subsequent course. We, in addition, made a direct correlation between the competencies and assignments in each courses [1]. We offer all of learning materials in every course in LMS, so that our students work out all learning activities like receiving and submitting assignments, and checking their learning results in LMS. As mention above, LMS set up inadequate environment for management of learning progresses across courses. The rigid curriculum enables us to develop our own learning portal site in which the students can look their progress of learning, and check their achievement in his/her learning plan [2]. The portal site can give our students effective learning supports, but it cannot play an essential role in assists of reflective activities across the subjects. An ePortfolio system is just to be an instrument clear the bother up. Then we have developed a Web-based learning portfolio system adopted Open Source Portfolio (OSP) [3].

In the present paper, we show our learning portfolio implementations, and portfolio environments operated in several leading institutions for our future improvements.

A learning portfolio of Graduate School of Instructional Systems

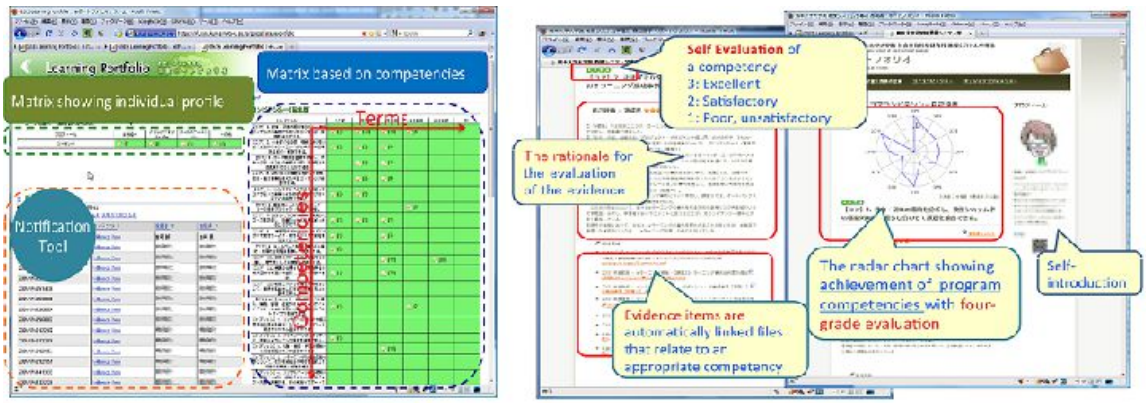

Fig.1 The learning portfolio of Graduate School of Instructional System

It is a specific feature of the program that the competencies demanding for graduates are defined and directly correlate with learning assignments in each course. In other words, students' goals in studying are to acquire competencies, that is, enough skills and knowledge they want. We employed at first a simple table type portfolio in the portal site illustrated just only the relation between the competencies and the

learning outcomes of every courses. In that system, each student could check what they got course credits corresponding to the competencies. It could not show the evidences of an obtained competency by a student. Then the student could not go back over to make sure it was right. Then we have started to develop a learning portfolio system that can display an obtained competency with learning evidences. It can be realized with use of powerful ePortfolio suites Open Source Portfolio (OSP), particularly Matrices tools of OSP, including in Sakai CLE [4]. The employment of Matrices tool of OSP gives us two meaningful advantages: One is easy access to the evidences involved with the obtained competency, and the other is concerned with reflection of personal learning history. It, of course, serves a workspace for the students where can be uploaded reflection papers or write feedback comments to reports of his/her classmates, and also a showcase functionality enables the students make a web portfolio and publish it to the internet or selected persons. We illustrate our learning portfolio in Fig. 1.

It is a characteristic learning activity of the program that we take a peer reviewing or an assignment in a small group on a bulletin board system (BBS) of LMS as assessments in course works [1]. We usually impose our students on two tasks in the assignment that submit a report of the assignment and write feedback comments or critiques about opinions submitted by their group members. There are lots of advantages in collaborative learning such as exchange of diverse opinions about a topic, and sharing his/her knowledge with others. We consider that the collaborative learning on BBS is valuable, not only to collect information toward their learning goal, but also to decrease failing rates attributed for decreasing motivation. It is a portfolio learning process [5], but the students cannot tackle reflective works or reuse their own learning achievements across the subjects because of the essential concept of LMS. As we have already shown, the ePortfolio system can be the instrument to clear the bother up. It is considered that the system encourages the students' deep learning by multiphase reflections and integration of knowledge. There may, on the other hand, remain an inefficient procedure that our students store their outcomes to both LMS and the ePortfolio system. We should avoid the inefficiency. Thus we have also developed a data migration system where students' outcomes (data) stored in LMS automatically migrate to OSP/Sakai CLE, and then mapped in each metrics cell.

Discussions

If an institution would develop a learning system, then availabilities of the system are conducted in both pedagogic and technological aspects. Particularly pay attention to whether functionalities of the system can satisfy both supporting students' learning activities and the purpose of the institution or not. It is often illustrated that primary purposes of developing an ePortfolio system are collection of outcomes for learners' activities, visualization in both teaching and learning processes, and assignments or formative evaluations. Then the systems are divided into either a matrix or a presentation type including also SNS/Blog style. The intended purposes of our learning portfolio are as workspace to collect all learners' activities for using them in self or peer assessment works, and as showcase to represent his/her achievements to others. Thus we have attained the requirements as follows: All learning outcomes of learners in LMS are automatically migrated to the ePortfolio system, and then mapped by the competencies in the matrix cells. Both learners and instructors can submit reflective or feedback comments about the collected outcomes in the matrix. The data, in addition, are available to self-summative evaluation in the final examination by other portfolio tools of OSP.

Besides we have successfully designed and offered learning programs within the environment of LMS, established a mutually complementary relationship between human with technological supports. The developed learning portfolio environment serves our students additional benefits that enable to tackle reflective works and/or reuse their learning outcomes across the courses, but the intended purposes of development of the ePortfolio, unfortunately, have not completely worked out in the both sides yet. It seems that, for example, our system as a work place cannot provide a function to facilitate self-assessments or easy publications of their achievement. Of course, the system is still being developed and making improvements under running and maintenance, so we should study more about good ePortfolio implementations of leading institutions as advanced cases [6, 7]. In the rest of this section we show ePortfolio implementations of a few institutions as references for our improvements.

As is well-known, the strategies of ePortfolio activities of universities in United States are clear and comprehensive from a course, a program, and the institutional level. They commonly categorizes usage of ePortfolio into three types; for personal representation where learners illustrate their virtual identities in professional portfolios, for teaching and learning where learners and teaching staffs can record learning activity like reflection and share it within or across courses for using integrative learning and improvement of teaching, and for assessment and accreditation where administrative staffs can receive reports of courses and/or programs to use improvement of a program and assessment of the institution. There are many universities in US employ SakaiCLE/OSP, mainly adopts matrices tools of OSP university-wide, and

customizes it to fit with needs of individual programs or schools [8]. It is fairly obvious that data i.e.

assignments and evaluations of students can be mapped by the students easily, in addition, extracted form LMS (Sakai CLE), then those are used in improvements of the course/program or accreditation of the institution.

Indiana University-Purdue University Indianapolis (IUPUI) is recognized as one of famous universities for strategic implementations of portfolio learning [8]. The ePortfolios in IU/IUPUI are designed by the Matrices tool of OSP in order to make attention to an organic connection between his/her learning goals and learning outcomes. For example the matrix portfolio for the Principles of Undergraduate Learning (PULs) composes by 6 essential ingredients of the undergraduate educational experience at IUPUI with 3 levels; Introductory/ Intermediate/Advanced. Learners can map own learning outcomes into a target cell by themselves in which both an assessment rubric for PULs and color-coded cells enable learners manage their own learning progress.

There is functionality for evaluation of learning, in other words, control of learning flows in Matrices tool of OSP originally. We can configure rank order to each cell of the matrix (learning flow), and often use different colors for each cell or column. In the case of PULs matrix, academic levels are set in rows. When a learner would submit an assignment report, if the learner cannot pass prerequisites of the assignment, then the cell for the assignment reject to submit the report. We, on the other hand, set rows of our matrix as academic grades and all of outcomes mapped in each cell via migration from LMS automatically. As mentioned above, the curriculum of our program defines the connection between the subjects, so that a rank order is imposed outside Matrices tool. It can be noted that our matrix is useful in the summative evaluation, but has less advantage than that of PULs for formative evaluation in conductive learning because, on present display style, it is difficult for a leaner to compare the outcomes of similar assignments in the same term.

We consider that different university of Michigan has made a strong effort to develop a scaffolding portfolio [9]. They have continuously worked to develop authoring portfolios closely with students to understand their needs and frustrations, and have developed a number of enhancements about the portfolios, but they concentrate on attempts to avoid any hard requirements. The scaffolding portfolio is implemented with an OSP Portfolio Template and generic Forms, using one Form per page of the final presentation. The intensive work with learners has concentrated on showcasing previous accomplishments in leadership and research.

The pages consist of a basic Page and an example of work. We consider that the portfolio system has an advantage for a beginner of constructing own showcase portfolio because the system includes an editing mode referred as Page Composer. While the base system of Page Composer is Portfolio Template and Form tool of OSP, it is provided some functional enhancements in light of needs and requests for learning motivations from the students such as WYSIWYG editing with own style sheets and auto saving of an editing page. In our ePortfolio system we employ original portfolio Template tool of OSP and offer a template for assist to make the final assessment report at the graduation examination only. We note that the install of Page Composer module is so significant because it gives our students some advantages that we have not provided up till now, such as make a capstone portfolio at the end of a semester or Blog like portfolio with individual styles. It is expected that the students can be stimulated to integrate their learning cross-disciplinary and effectively works to make reflection papers with evidences collected in the matrix.

It is represented that OSeP (Open Source ePortfolio) of University of Minnesota Duluth is a data-oriented ePortfolio system [10]. The ePortfolio is a secure web resource for entering, saving, organizing, viewing, and selectively sharing personal educational records for efficiently managing own digital information and records. The system divides into two functional areas; General and Community area. While General area is a kind of database where learners can access to collect useful information for themselves, Community area can be recognized as a learning class or a social networking group where the learners build up their learning evidences (outcomes) by using scaffolding activities and resources. A feature of OSeP is that all resources accumulated in General area are available for use in any community, on the other and, learning

resources gathered by community tools and activities are collected in General area, then the resources can be available to other communities.

We consider that such community (group) activities are very important for encouragement of learning activities deeply. Though we adopt the activities in BBS of LMS, reuse of learning outcomes, they call it “information”, across disciplines cannot realize in LMS. It is a good advantage of the ePortfolio system. In addition, like multiple changes of a matrix display, it is expected that in OSeP style learning suggested community based learning with sharing information beyond a course or a discipline learners carry out discussions or exchange of information with persons in different course or grade so that they can obtain

more worthwhile feedbacks than ever before, and then self-regulate their behaviors to achieve future

results toward own learning goal [11].

Concluding Remarks

We show our efforts for construction of a learning portfolio system employed Open Source Portfolio system as the base system of the development, system linkage between LMS and the ePortfolio, and a part of implementations of our portfolio learning. The system is still being developed and making improvements under running and maintenance, so we learn more about good ePortfolio implementations for improvements. We also represent the practices of some leading institutions and consider viewpoints for future works. It indicates that in any case the portfolio systems are designed to provide for a learner autonomy developing the ability to learn constructive lessons via reflections or self-assessments.

SakaiCLE/OSP as a base system of our ePortfolio is an aggregation of components of Web applications and Portlet that is the standard of JAVA framework, so that we can flexibly use them like combination of several tools. Thus in the leading institutions they have customized basic OSP to suite their needs. In a plan of Kumamoto University the learning portfolio system may become a model of university-wide ePortfolio. But both faculties and administrative staffs have different needs and strategies of use of ePortfolio systems respectively. So we should conduct to re-design and customize to suite theirs requires with references of the practices of the institutions.

It is important for learners to offer systematic supports in both human and technological aspects not only in full online of classes but also in traditional classes. There are strong user supports of human side in the leading intuitions. While they coordinate institutional faculty development activities and also training sessions for using the system by teaching support staffs, personalized assist for teaching staffs and learners are organized systematically. In those universities, of course, to make a rubric or assessments is an instructor's task, but an ePortfolio implementation workflow is constructed, and then staffs (consultants or coordinators) advise from underlying pedagogy or assessment strategy to overall matrix design and setting up a matrix and/or other portfolio learning tools. Though this may be an extreme case, it is a preferable sample of bimodal learning supports. We continuously adjust a supporting workflow for our faculties, and provide a human support for better learning of our students with improvements of the learning portfolio environment..

References

1. Katsuaki Suzuki (2009), *From Competency List to Curriculum Implementation: A Case Study of Japan's First Online Master's Program for E-Learning Specialists Training*, Intelligence, 8(4), 469-478.
2. Hiroshi Nakano, Kenichi Sugitani, Takayuki Nagai, Shin-Ichiro Kubota, Masahiro Migita, Yasuo Musashi, Norio Iriguchi, Tsuyoshi Usagawa, Toshiiro Kita, Ryuichi Matsuba (2010), *Web-based Time Schedule System for Multiple LMSs on the SSO/Portal Environment*, Proceedings of the 1st Annual IEEE Engineering Education Conferences, 153-158.
3. Makoto Miyazaki, Makoto Oyamada, Junko Nemoto, Toshihiro Kita, Hiroshi Nakano, Katsuaki Suzuki (2009), *A Design Proposal of Competency-based ePortfolio System Utilizing Sakai OSP*, Proceedings of International Conference on Media in Education, 313-319.
4. rSmart, *ePortfolios and the CLE Portfolio Tools*, https://confluence.sakaiproject.org/download/attachments/23691382/ePortfolios+and+the+CLE+Portfolio+Tools+FINAL.pdf
5. Helen L. Chen, Tracy Penny Light (2010), *Electronic Portfolios and Student Success: Effectiveness, Efficiency, and Learning*, AAC&U Publications.
6. Euro portfolio (2009), *ePortfolio a European Perspective*, http://www.eportfolio.eu/res/resources/europe/eu/eportfolio-a-european-perspective/view
7. Darren Cambridge, Luke Fernandez, Susan Kahn, Judith Kirkpatrick, Janice Smith (2008), *The Impact of the Open Source Portfolio on Learning and Assessment*, MERLOT Journal of Online Learning and Teaching Vol.4, No.4, 492-502, http://jolt.merlot.org/vol4no4/cambridge_1208.htm
8. D. Goodrum, J. Gosney, L. Ward (2007), *Indiana University - Future Directions and Priorities*, https://confluence.sakaiproject.org/display/OSP/Indiana+University+-+Future+Directions+and+Priorities
   IUPUI Web site: ePort Use, http://academicaffairs.iupui.edu/plans/ePort/projects.cfm
9. Noah Botimer, Erica Ackerman (2008), *Michigan Scaffolded Portfolio Authoring Work*, https://confluence.sakaiproject.org/display/OSP/Michigan+Scaffolded+Portfolio+Authoring+Work
10. Paul Treuer, Jill D. Jenson (2003), *Electronic Portfolios Need Standards to Thrive*, EDUCAUSE QUARTERLY, November 2, 2003, http://net.educause.edu/ir/library/pdf/eqm0324.pdf
    The Knowledge Management Center of University of Minnesota Duluth, http://www.d.umn.edu/kmc/eportfolio/

2.Chris Masui, Erik De Corte (2005), *Learning to reflect and to attribute constructively as basic components of self-regulated learning*, British Journal of Educational Psychology, 75, 351–372

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Ten Keys Ideas for ePortfolio Implementation in Higher Education (in French)

Jean Heutte, Université d'Artois et Université Paris Ouest Nanterre La Défense

L'approche « orientée compétences » s'inscrit dans les démarches impulsées dans l'espace européen de l'enseignement supérieur par le processus de Bologne. Dans ce contexte, la plupart des pays européens (et progressivement de l'ensemble de l'OCDE) organisent la valorisation et la promotion de la démarche ePortfolio. Cette démarche constitue un enjeu important pour le système universitaire. Elle renvoie à la fois aux problématiques de l'éducation et à celle de la formation « tout au long de la vie », au travers de la formalisation des parcours et des référentiels, de nouvelles modalités formelles et informelles d'acquisition ou encore de mise en exergue de compétences construites. En même temps, elle s'inscrit dans une logique de reconnaissance et de valorisation des acquis académiques et expérientiels, notamment dans la perspective de l'insertion professionnelle.

En France, de nouveaux textes règlementaires font référence de façon plus ou moins directe à la démarche ePortfolio. Pour exemple : concernant la certification Informatique et Internet (C2i), les principes et les modalités de certification reposent sur la constitution, par le candidat, d'un dossier numérique de compétences. Dans ce dossier, il doit faire état des savoirs qu'il a acquis ainsi que de la manière dont il a mobilisé et combiné ces acquis en situation, cela au regard des compétences requises pour l'obtention du certificat. D'une manière plus spécifique, *« ce dossier, constitué par le candidat, rassemble des éléments apportant la preuve des savoirs acquis, des aptitudes développées et des compétences maîtrisées en regard d'un référentiel C2i®. Ces éléments peuvent être des productions résultant des activités proposées au candidat et intégrées, autant que faire se peut, dans son cursus ; les résultats de contrôle de connaissances ; des productions externes commentées résultant d'activités du candidat en dehors de son cursus. »* (circulaire du 9 juin 2011).

Autre exemple : l'article 2 de l'arrêté du 1er août 2011, relatif à la Licence, précise que ce diplôme atteste l'acquisition d'un socle de connaissances et de compétences dans un champ disciplinaire ou pluridisciplinaires. Il annonce, dans son article 3, la production de référentiels de compétences définis pour une discipline ou un ensemble de disciplines. Actuellement, des référentiels sont en cours d'élaboration et seront prochainement publiés. *In fine*, dans l'article 13 de cet arrêté, il est précisé : *« Un processus dématérialisé de suivi des crédits acquis par chaque étudiant est mis en place »*.

Cette évolution majeure met en évidence la nécessité de s'interroger sur les dispositifs inhérents à cette démarche avec, en premier chef, l'accompagnement des étudiants et l'outillage supportant la démarche.

Afin d'apporter des réponses à nombre de questions liées à la démarche ePortfolio, un groupe de travail national (GTN) « ePortfolio » a été mis en place par la direction générale de l'enseignement supérieur (DGESIP), au cours du printemps 2011. Son but est de produire des éléments de clarification et des recommandations à l'attention des établissements d'enseignement supérieur français. Ce GTN est supporté par la mission numérique pour l'enseignement supérieur (MINES), au sein du service de la stratégie pour l'enseignement supérieur et l'insertion professionnelle.

Le GTN « ePortfolio » a pour objectifs spécifiques de :

- Dresser un état des lieux de la mise en œuvre de la démarche ePortfolio dans les établissements d'enseignement supérieur ;
- sensibiliser et informer la gouvernance des établissements, les services d'insertion professionnelle et les enseignants sur la démarche ePortfolio, tout en les outillant pour sa mise en œuvre notamment pour son pilotage politique et pédagogique ;
- proposer un cahier des charges fonctionnel afin d'aider à la mise en place des dispositifs de gestion de ePortfolios (SGeP) intégrés dans les systèmes d'information (SI) des établissements d'enseignement supérieur[40]. Ces dispositifs doivent donner la possibilité aux étudiants de disposer de ePortfolios sécurisés, pérennes, personnalisables, tout en leur permettant de présenter les données à partir de points de vue différents et des cibles visées au cours de leur formation initiale,

[40] Le Cahier des charges fonctionnel « d'un dispositif technique support à la mise en œuvre d'une démarche ePortfolio » (CdCF « ePortfolio ») est disponible en téléchargement et peut être commenté *via* un formulaire en ligne : http://www.enseignementsup-recherche.gouv.fr/eportfolio.

en vue de leur insertion professionnelle comme de leur parcours professionnel tout au long de la vie.

Ces éléments seront rassemblés dans le livre blanc « La démarche ePortfolio dans l'enseignement supérieur français » à paraître au cours de l'automne 2012. Appelé à être révisé périodiquement en fonction de nouveaux besoins ou d'avancées technologiques majeures, ce document de clarification et de recommandation permettra également d'orienter d'éventuels développements :

- De standards (notamment processus de traduction d'échanges et de passerelles) ;
- d'applications informatiques (notamment de systèmes de gestion d'ePortfolios) ;
- de connecteurs entre différents systèmes d'information (système d'information d'organismes de formation et/ou système d'information d'employeurs...).

Définition et clarification

Afin de faciliter les échanges entre l'ensemble des parties prenantes au sein des établissements, il est tout d'abord nécessaire de stabiliser les termes employés autour des propositions de clarification qui suivent.

Principes

Le ePortfolio est la propriété intellectuelle de son auteur, en l'occurrence de l'étudiant. Son contenu lui appartient et relève de sa vie privée. Il en a la maîtrise d'usage ; lui seul décide des données qu'il souhaite publier et avec qui il souhaite les partager.

L'établissement s'assure du pilotage de la globalité de la démarche ePortfolio ainsi que de la qualité du dispositif technique institutionnel, support à cette démarche. Intégré dans le système d'information de l'établissement, ce dispositif garantit l'interopérabilité : il prend en compte les normes et standards internationaux existants ou en cours d'élaboration, ainsi que la sécurité des données.

La démarche ePortfolio

Comme souligné précédemment, est considérée comme relevant d'une « démarche ePortfolio », toute démarche d'analyse réflexive d'un étudiant sur son parcours, ses apprentissages, ses expériences, ses compétences ou encore ses réalisations. La démarche vise à identifier, à expliciter et à formaliser l'ensemble de ces dimensions biographiques - tout en les valorisant et les capitalisant - dans un environnement numérique (le ePortfolio). Cet outil n'est que la partie visible d'une telle démarche dont l'enjeu est de développer l'agentivité et les compétences nécessaires pour cultiver (articuler « protection » et « projection ») de son identité numérique personnelle et professionnelle (Gauthier, 2008; Heutte & Caron, 2012; Kaplan, 2010).

Rappelons qu'il est souvent distingué quatre types de démarches[41] pouvant, si besoin, s'articuler entre-elles :

- *Démarche ePortfolio d'apprentissage*, avec la visée d'identification de la progression dans les apprentissages et des acquis en termes de savoirs ;
- *démarche ePortfolio d'évaluation*, avec la visée d'évaluation de connaissances ou de compétences ;
- *démarche ePortfolio de présentation*, avec la visée de la mise en valeur des savoirs ou compétences acquises, du parcours, des expériences vécues, des productions ePortfolio de développement personnel avec la visée de construction réflexive de compétences ;
- *démarche ePortfolio de développement personnel,* avec la visée de construction réflexive de compétences.

Le dispositif technique ePortfolio à vocation à supporter, indépendamment ou en ensemble, ces quatre démarches.

Le pilotage de la démarche ePortfolio consiste à organiser et à maintenir un ensemble de dispositifs (notamment de formation et techniques) cohérents et coordonnés au sein de l'établissement, en vue d'accompagner les étudiants dans la démarche ePortfolio. La démarche prend tout son sens si l'étudiant l'associe à la question de son projet professionnel et personnel, garantissant ainsi que, quel que soit le moment où il entre ou quitte l'établissement, ses acquis soient capitalisés. Il revient à l'établissement d'inscrire cette démarche dans sa politique de mise en œuvre de la formation tout au long de la vie (FTLV)

[41] ISO/IEC 20013 (PDTS2) : *Reference Model for e-Portfolio Information*, Technical Specification (PDTS2 Ballot).

et, de fait, de s'interroger sur l'importation, l'exportation des données ainsi que la durée d'accès aux services numériques supportant la démarche ePortfolio et les dispositifs (pédagogiques et techniques) favorisant la construction de l'identité numérique des étudiants.

Le ePortfolio

S'inspirant de diverses définitions (Cloutier, Fortier, & Slade, 2006; De Rozario, 2005; Endrizzi, Gaussel, & Leclercq, 2005; Gauthier, 2008; Ravet, 2009a), Heutte et Jézégou (2012) définissent le ePortfolio comme est un ensemble évolutif de documents et de ressources électroniques capitalisés dans un environnement numérique décrivant et illustrant l'apprentissage, l'expérience, les compétences ou le parcours de son auteur. Accessible à distance via une technologie interopérable, un ePortfolio s'appuie sur une base de données personnelles (informations, documents ou liens accessibles via internet) et un (ou plusieurs) espace(s) collectif(s) de publication sélective.

L'auteur du ePortfolio doit pouvoir maîtriser le contenu et les services associés du ePortfolio qu'il veut partager, sous son contrôle, avec des tierces personnes, notamment pour :

- Capitaliser ses expériences tout en apportant les preuves de la maîtrise de compétences (scientifiques, d'ingénierie, sociales, etc.) ;
- permettre la validation, la certification ou la valorisation de ses acquis de l'éducation, de la formation ou de l'expérience ;
- favoriser l'autodétermination de son parcours de formation (initiale et continue) ;
- accompagner son insertion professionnelle ou son développement personnel et professionnel tout au long de la vie ;
- cultiver son identité numérique (obtenir une lisibilité professionnelle sur Internet) et se démarquer par la singularité de ses expériences, de son projet, de son parcours.

Le dispositif technique ePortfolio

Un dispositif technique support à la démarche ePortfolio doit être réfléchi en tenant compte trois niveaux d'organisation (Ravet, 2009a) :

- *Le système de gestion de ePortfolios* (SGeP) est un dispositif technique permettant à une organisation de gérer un ensemble de ePortfolios en adéquation avec le système d'information et la gestion du dispositif, telle qu'elle sera définie au préalable par l'organisation.
- *Le système ePortfolio* (SeP) est un ensemble de services numériques institutionnels permettant à une personne (ou une organisation) d'archiver les résultats de ses apprentissages, de les relier entre eux et à d'autres sources d'informations (autres documents, bases de données de compétences) et de publier des portfolios adaptés aux besoins d'audiences particulières. C'est également dans le SeP que s'organisent les échanges entre les acteurs (étudiants, enseignants, tuteurs, maîtres de stage, administration…).
- *Le ePortfolio* (eP) est un espace personnel de l'étudiant/apprenant avec un ensemble de services lui permettant d'organiser ses données.
- Ce dispositif technique comprend différents outils qu'il est nécessaire de distinguer (Ravet, 2009a), tout en soulignant l'importance de leurs articulations :
- *Une archive personnelle* contenant les preuves de compétences et acquis de l'éducation, de la formation, de l'expérience personnelle ou professionnelle (permettant notamment d'élaborer un dossier de compétences).

  Exemple de fonctionnalités : Consultation du dossier scolaire, universitaire, du parcours professionnel et personnel.
- *Un système d'édition* permettant de sélectionner des éléments de cette archive, de les relier entre eux ou avec des sources extérieures (par exemple, lier une preuve de compétence avec un référentiel de compétences académique ou professionnel).

  Exemple de fonctionnalités : Edition de CV, gestionnaire d'artefacts/de production, accès à un espace réflexif (blogs, wiki…), accès à des communautés d'appartenance, exportation des données et accès aux ressources externes dédiées à l'orientation et à l'insertion professionnelle (ONISEP, CIDJ, APEC, Organisations professionnelles…), import et exports de données, système de recherche multicritères.

- *Un système de publication* permettant de communiquer le résultat de ce travail d'édition, à un formateur ou un tuteur (dans le cadre d'une formation), à un évaluateur (dans le cadre d'une certification/diplomation), à un employeur potentiel (pour une recherche d'emploi), ou à toute autre personne ou entité à qui l'étudiant voudrait le communiquer.

  Exemple de fonctionnalités : publication de CV, envoi de lien et de documents.

- *Un système de gestion* permettant à une organisation (une université ou un employeur) de gérer un ensemble de ePortfolio en fonction de l'objectif de l'organisation : suivi de l'évaluation, gestion des compétences, gestion des carrières.

  Exemple de fonctionnalités : Saisie de notes, d'appréciation, d'évaluation, consultation du dossier scolaire et universitaire, du parcours professionnel.

Le dispositif technique support à la démarche ePortfolio doit permettre l'exploitation des flux de données et d'information entre les espaces personnels et les espaces institutionnels, selon les principes de porosité et de malléabilité (Caron & Varga, 2008).

L'enquête « état des lieux »

Une enquête en ligne lancée en début d'année 2012[42] permet de dresser un premier état des lieux concernant les projets en cours. L'ensemble des données est en cours de traitement, nous souhaitons cependant en donner ici quelques premiers résultats (suite à une extraction réalisée le 1er avril 2012).

Qualification des répondants

Parmi les 166 réponses, 157 étaient exploitables. Les répondants (pour ceux qui ont répondu à cette question) sont majoritairement des enseignants (52,7%), dont près des deux tiers sont enseignants-chercheurs, 24,5% sont des ingénieurs d'étude ou de recherche, 22,7% sont des gestionnaires ou des responsables administratifs.

Ces personnes décrivent des projets en cours dans 47 organisations, dont 35 sont des établissements de l'enseignement supérieur français.

Types de projets ePortfolio

Les projets ePortfolio sont majoritairement (81,1%) ciblés sur des étudiants en formation initiale, 18,9% en formation continue. Ces projets concernent pour 53,1% des étudiants inscrits en Licence, 38,8 % en Master et 8,2 % en Doctorat. Parmi les projets décrits, 19,6% concernent des formations en IUT, 17,4% la formation aux métiers de l'enseignement (majoritairement dans les IUFM) et 6,5% la formation des élèves ingénieurs.

Il n'y a généralement (86,2%) qu'un seul projet en cours dans les établissements. Cependant, 11,7% des établissements décrivent 2 projets distincts en cours et 2,1% en décrivent au moins 3. Dans les établissements où il y a plusieurs projets, les répondants insistent sur la nécessité d'une cohérence des dispositifs pédagogiques et d'une rationalisation des outils, sous peine de créer une incompréhension génératrice d'une démobilisation massive des étudiants, comme des enseignants.

Pour les établissements ayant répondu à cette question, dans 55,1% des projets, il s'agit plutôt d'un ePortfolio de développement personnel (principalement lié au dispositif *Portefeuille d'expérience et de compétences (PEC)*), pour 27,5% d'un ePortfolio d'évaluation (principalement lié à l'évaluation du C2i), pour 13,0% d'un ePortfolio d'apprentissage, 4,3% d'un ePortfolio de présentation. Il est à noter que 13% des projets en articulent plusieurs types.

La démarche ePortfolio concerne pour 49,0% l'insertion professionnelle, pour 25,5% elle fait partie de formations intégrées dans le curriculum (compétences "métier", alternance, projet professionnel de l'étudiant…), pour 23,5% elle concerne le C2i et 2,0% pour le CLES. De nombreux répondants soulignent que l'intégration au curriculum de la démarche ePortfolio (dans le cadre d'un dispositif pédagogique faisant partie intégrante d'un diplôme) est un gage d'efficacité et surtout d'une meilleure compréhension de l'intérêt de la démarche par les étudiants.

[42] Il est toujours possible de renseigner l'enquête « Démarche ePortfolio : État des lieux » pour signaler un nouveau projet : http://www.enseignementsup-recherche.gouv.fr/eportfolio.

Pilotage de l'accompagnement et de la formation à la démarche ePortfolio

Ces projets sont majoritairement pilotés (56,1%) par les services en charge de l'orientation et de l'insertion professionnelle des étudiants. 17,1% le sont par des services TICE, 9,8% par des services en charge de la formation pédagogique des enseignants (du type service universitaire de pédagogie), 9,8% par des services en charge de la formation à distance, 7,3% par des services en charge de l'informatique et des systèmes d'information.

L'accompagnement et la formation des étudiants est une constante forte dans la plupart des établissements (92,2%), celle des enseignants ainsi que de l'ensemble des personnels en charge de l'accompagnement des étudiants se généralise (75,4 % des établissements). De nombreux répondants indiquent que ce n'est généralement pas la prise en main de l'outil qui pose problème, mais bien davantage la compréhension de la démarche ePortfolio et de son intérêt par les étudiants, comme par les enseignants.

Mutualisations inter universitaires

Les deux tiers des projets sont réalisés dans le cadre de collaborations inter universitaires.

Dans les réponses à l'enquête « état des lieux », il apparaît que 53,2% des projets s'inscrivent le dispositif *Portefeuille d'expérience et de compétences (PEC)* piloté par l'université Toulouse 3 – Paul Sabatier, 23,4% dans le consortium en charge du développement d'un *Environnement Malléable support à l'Évaluation des compétences (EMaEval)* piloté par l'université Lyon 1 – Claude Bernard, 14,9% œuvre au sein de la *communauté francophone de Mahara*, 4,3% utilisent le *Carnet de bord informatisé (Cbi)* soutenu par l'université de Reims Champagne Ardenne et 4,3% le *Module référentiel*.

Points de convergence des premiers retours d'expériences

Une synthèse partielle des éléments recueillis, entre avril 2011 et mars 2012, après consultations de près de 200 acteurs (réunions du groupe de travail national, appel à commentaires, enquête en ligne et entretiens individuels), complétée par une revue de littérature internationale (Dufour, 2011; Hallam et al., 2010; JISC, 2007, 2008; Janssen et al., 2011; Ravet, 2009b; Reese & Levy, 2009) permet de mettre en évidence et de conforter certains principes qui constituent des constantes prédictives des réussites (comme des échecs) de la démarche ePortfolio dans les établissements d'enseignement supérieur.

C'est autour de ces idées clés que s'organisent les orientations et propositions de pistes de mise en place d'une démarche ePortfolio qui seront préconisées dans le livre blanc à paraître au cours de l'automne 2012 et que nous souhaitons exposer brièvement, de façon hiérarchisée, dans les lignes suivantes, en nous focalisant plus particulièrement sur ce qui concerne le pilotage politique, les dispositifs pédagogiques et les dispositifs techniques.

À propos du pilotage politique

1) Les gouvernances des établissements s'assurent de la cohérence et de l'harmonisation des différents dispositifs s'intégrant dans la démarche ePortfolio (nouvelle licence, suppléments au diplôme, C2i, VAE, alternance, orientation, insertion professionnelle et mobilité européenne…).

2) La démarche ePortfolio permet une plus grande lisibilité des parcours individuel de l'étudiant et des parcours de formation, des acquis de l'éducation et de la formation, afin d'impliquer les employeurs potentiels et de comprendre leurs attentes et leurs besoins

À propos des dispositifs pédagogiques

3) Les données d'un ePortfolio relèvent d'activités réflexives intimes et complexes que l'étudiant mène dans un espace privé et confidentiel hébergé par l'institution. Les travaux partagés avec des tiers ou des pairs, en fonction des besoins académiques ou de démonstration d'employabilité, ne peuvent l'être que sous la responsabilité de l'étudiant.

4) La démarche ePortfolio s'intègre dans des dispositifs pédagogiques à la frontière des mondes académiques et professionnels dans une perspective de formation tout au long de la vie.

5) Un accompagnement humain fort est nécessaire pour initier la démarche et apprendre aux étudiants à être progressivement autonomes. Il se situe bien au-delà des contingences techniques liées à la prise en main d'un outil. La professionnalisation des acteurs de l'accompagnement est indispensable.

6) Le ePortfolio concerne l'identité numérique de l'étudiant. L'établissement a pour mission de faire acquérir les compétences nécessaires à la gestion de cette identité ainsi que de favoriser son enrichissement, notamment dans ses aspects académiques et professionnels

À propos des dispositifs techniques

7) La démarche ePortfolio repose sur un dispositif technique intégré au système d'informations de l'établissement, lequel garantit la cohérence et la globalité de la démarche. Toutes les données connues des services administratifs et pédagogiques de l'établissement, dont l'usage peut s'avérer utile, doivent être automatiquement et directement accessibles dans le dispositif ePortfolio grâce à une connexion aux applications métiers du Système d'information.

8) Le dispositif technique prévient toute lecture abusive et garantit le droit des intéressés dans la mesure où le contenu du ePortfolio appartient à l'étudiant et relève de la vie privée. C'est lui qui choisit, en fonction des publics, les informations qu'il veut donner à voir.

9) Le dispositif articule la description de l'offre de formation aux résultats et acquis de la formation. Il permet également l'édition, des documents académiques valorisant le curriculum de l'étudiant (diplômes, suppléments au diplôme, certificats, attestations…). Le dispositif vise à terme la mise en place d'un service d'authentification numérique de ces documents et sa pérennisation dans une perspective de formation tout au long de la vie.

10) Le dispositif garantit l'interopérabilité, en prenant en compte les normes et standards internationaux existants ou en cours d'élaboration, ainsi que la sécurité des données.

Conclusion

En guise de conclusion provisoire, nous souhaitons retenir que la démarche ePortfolio nécessite de développer et de maintenir de façon pérenne des dispositifs pédagogiques destinés à favoriser la création d'ePortfolios par les étudiants, notamment en vue de s'assurer qu'ils auront les compétences nécessaires pour cultiver leur identité numérique personnelle et professionnelle tout au long de la vie.

La mise en œuvre de la démarche ePortfolio repose en premier lieu sur une vison stratégique de la place de l'université française dans l'espace européen de l'enseignement supérieur, notamment dans ses compétences à valoriser les acquis de l'expérience, de l'éducation et de la formation tout au long de la vie des étudiants.

Tout en se préservant de la vision réductrice d'un pilotage par les contingences informatiques, les choix politiques et pédagogique induits par la démarche ePortfolio ne peuvent se concevoir sans une réflexion collégiale éclairée de l'ensemble des acteurs prenant effectivement et pleinement en compte la dimension technologique incontournable de cette démarche.

A l'évidence, la réussite de démarche ePortfolio nécessite une implication forte des gouvernances des établissements d'enseignement supérieur (présidents et vice-présidents, directeurs, responsables des services de formation ou en charge de l'insertion professionnelle), notamment afin de coordonner les actions de l'ensemble des communautés professionnelles à mobiliser :

- les praticiens — qui accompagnent les étudiants et les acteurs de cet accompagnement — et notamment les enseignants, les professionnels de l'accompagnement des Bureau d'aide à l'insertion professionnelle (BAIP), des Service universitaire d'information d'orientation (SUIO), des Services de formation continue universitaires ;
- les ingénieurs et informaticiens qui fournissent les services supports adaptés aux besoins de l'ensemble des acteurs et au bon fonctionnement des dispositifs ;
- les professionnels des ressources humaines, du recrutement, et les cadres chargés des démarches compétences désormais incontournables dans les entreprises privées et les services publics.
- Enfin, il ne faut pas manquer de mobiliser les chercheurs, dès la conception des dispositifs, afin qu'ils soient en mesure d'évaluer, de modéliser et de produire des connaissances sur les phénomènes induits par ces dispositifs dans les meilleures conditions méthodologiques possibles. Développer un lien organique étroit entre formation et recherche relatives à la pédagogie universitaire est à l'évidence le meilleur moyen de conjuguer ensemble excellence de la recherche et excellence des formations, afin notamment de pouvoir en retour éclairer les pratiques des différents acteurs (Heutte, Lameul, & Bertrand, 2010).

Références

1. Caron, P.-A., & Varga, R. (2008). La malléabilité du Web 2.0 au service d'un environnement numérique d'apprentissage. *Actes du 6e Colloque Technologies de l'Information et de la Communication pour l'Enseignement (TICE 2008)*. Paris (France).

2. Cloutier, M., Fortier, G., & Slade, S. (2006). *Le portfolio numérique, un atout pour le citoyen apprenant*. Bibliothèque nationale du Canada.

3. De Rozario, P. (2005). Portfolio numérique dans la formation. *Séminaire «Le portfolio numérique dans la formation: le cas du C2i enseignant».* organisé par la Conférence des Directeurs d'IUFM et le Ministère de l'éducation nationale, de l'enseignement supérieur et de la recherche. Dijon (France).

4. Dufour, D. (2011). L'avènement de la validation des acquis de formation en France et en Europe: Les fonctions dévolues au portefeuille de compétences et d'expériences. Enjeux pour l'Université et la société. GREPH.

5. Endrizzi, L., Gaussel, M., & Leclercq, F. (2005). *Les publications électroniques* (Veille scientifique et technologique No. 8). INRP.

6. Gauthier, P.-D. (2008). Exploiter son portfolio numérique: construire son identité professionnelle numérique pour valoriser ses competences/The use of a personal digital portfolio: how to build its own professional digital identity and enhance its competences. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, *34*(3).

7. Hallam, G., Harper, W., McCowan, C., Hauville, K., McAllister, L., Creagh, T., van der Lee, J., et al. (2010). *Australian ePortfolio project, ePortfolio use by university students in Australia: Informing excellence in policy and practice, Final project report: August 2008*. Sydney: Australian Teaching and learning Council.

8. Heutte, J., & Caron, P.-A. (2012). Démarche ePortfolio et identité numérique: Développer les compétences et l'agentivité des étudiants. *27ème congrès de l'Association internationale de pédagogie universitaire (AIPU) «Quelle université pour demain?»*. Trois-Rivières (Canada).

9. Heutte, J., & Jézégou, A. (2012). La démarche ePortfolio dans l'enseignement supérieur français: Retours d'expériences et proposition de clarification. *24ème colloque de l'Association pour le développement des méthodes d'évaluation en éducation (ADMEE) Europe «Évaluation des compétences en milieu scolaire et en milieu professionnel»*. Luxembourg.

10. Heutte, J., Lameul, G., & Bertrand, C. (2010). Dispositifs de formation et d'accompagnement des enseignants du supérieur: point de situation et perspectives françaises concernant le développement de la pédagogie universitaire numérique. *Actes du 7e Colloque Technologies de l'Information et de la Communication pour l'Enseignement (TICE 2010)*. Nancy (France).

11. JISC. (2007). e-Portfolios: An overview of JISC activities. Higher Education Funding Council for England (HEFCE).

12. JISC. (2008). Effective Practice with e-Portfolios: Supporting 21st century learning. Higher Education Funding Council for England (HEFCE).

13. Janssen, J., Brouns, F., Vaessen, H., Weijnen, G., Huveneers, E., & Hodzelmans, R. (2011). A Nation-wide ePortfolio: Reflections on Ambitions and Experiences in the Netherlands.

14. Kaplan, D. (2010). *Informatique, libertés, identités*. FYP editions.

15. Ravet, S. (2009a). Leçon sur le ePortfolio — ElfEL. Consulté mars 14, 2012, de http://www.eife-l.org/publications/eportfolio/eportfolio-lessons

16. Ravet, S. (2009b). ePortfolio a European Perspective: A report on ePortfolio readiness and state of the art in technology and practice. ElfEL.

17. Reese, M., & Levy, R. (2009). Assessing the future: E-portfolio trends, uses, and options in higher education. *Research Bulletin*, (4).

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A Model for Embedding Reflective Learning in ePortfolios in Higher Education

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Abstract

Reflection is a common expectation of learners in higher education, both informally in the hope that learners will reflect and act upon feedback provided, but also in formal assessment tasks and ePortfolios. Despite the common (and often undefined) use of the term reflection, learners are not often taught how to reflect, which different types of reflection are possible, or how best to communicate their disciplinary knowledge through reflection. Indeed, attempts to include reflection in assessment tasks with little or no pedagogical scaffolding generally results in superficial reflections that have virtually no impact on learning or future practice. In addition there are obvious limits to how far an information system (such as an ePortfolio) can act to provide pedagogical scaffolding. This paper reports on the application of a theoretical model (TARL) around the teaching of reflection to undergraduate students through the selection of teaching activities from a multi-dimensional pedagogic field over time. A case study involving an ePortfolio submitted by a final year Education student who was taught using this model is analysed to show significant depth of reflective thinking along with transformative professional practice. The results support the contention that deliberative pedagogical scaffolding is a co-requisite for effective ePortfolio-based reflection.

Keywords: reflection, ePortfolio, pedagogy, higher education

Introduction

This paper is based on some early findings of a large ALTC project that sought to develop a cross-disciplinary approach to the teaching and assessing of reflective writing at the undergraduate level (Ryan and Ryan, 2010). A significant output of this research was a model for teaching and assessing reflective learning (TARL) that conceptualises pedagogical practice across courses (Ryan and Ryan, 2012). In the Faculty of Education, QUT, undergraduate students who have been taught using this model have started to apply their reflective thinking to assessment involving portfolios towards the end of their teacher education course. Here we report on preliminary findings based on a case study of these students and speculate on the relationships between academic reflection, pedagogical scaffolding and ePortfolio systems.

In the first part, we first examine the case for deliberative and staged pedagogical scaffolding that develops undergraduate student reflective capacities over time. This approach meets the critical need for the reflective writing as students assemble their ePortfolios as part of their course of study. Next, we analyse a case study to demonstrate how one student responded to an assessment task focused on the collection of a portfolio while engaged on field experience near the end of a teacher-preparation course. The connections between the TARL model and the student reflection provides cogent evidence of high-level and transformative learning. In the following discussion we speculate on the need for explicit teaching of reflection, in a coordinated way over undergraduate courses, as at the same time students organise artefacts into ePortfolios. We suggest that because of the complexity involved, it is not sufficient to offload such scaffolding onto an ePortfolio system.

A Model for Teaching and Assessing Reflective Learning

University assignments that ask students to "reflect" have a chequered history in higher education. There is evidence to suggest that reflective writing by higher education cohorts tends to be superficial unless it is approached in a consistent and systematic way (Orland-Barak, 2005). Thus, if students are not given much guidance, they tend to produce work composed of recount and response rather than making an authentic attempt to reflect on their experiences in a way that is framed within their discipline knowledge. This may be because students are not aware of what is meant by the term "reflection" within an academic setting, or it might be because they do not possess the linguistic resources to write in this genre. In short, the fundamental issue is in the teaching around reflection that they do, or do not receive. When a well-designed teaching episode is provided, students are better able to understand the nature of the task and can be scaffolded into producing high quality academic reflection.

Good pedagogic design (especially that targeting reflection) needs to account for many factors. To simplify the selection of possible designs around the teaching of reflection, Ryan and Ryan (2012) introduce a *pedagogic field*. It can be imagined as a two dimensional space where categories (or levels) of reflection are set against the development stages students experience, over time, throughout a course. Figure 1 shows the pedagogic field with these dimensions.

The dots represent specific teaching episodes (or *patterns*) that are relevant for students at a particular stage in their course and that target a specific level(s) of reflection. The trend indicated by the shaded area illustrates the expectation that increasingly higher levels of reflection are targeted as students progress through their course. For example, the Fishbowl Reflection pattern is seen as generally appropriate for students who have progressed past the foundation and onto to the mid-stage of a course and typically targets a mid-level of reflection. Of course, this is just an anticipated trend and some teaching approaches will lie outside this expectation.

Different scales have been proposed to characterise academic reflection, particularly in teacher education (Hatton and Smith, 1995; Kember, McKay, Sinclair and Wong, 2008). Ryan and Ryan (2012) chose to represent the levels of reflection as a simple scale, based on the work of Bain, Ballantyne, Packer, and Mills (1999) and Carrington & Selva (2010). Just four levels are used: a combined one of Reporting & Responding; Relating; Reasoning; and Reconstructing (the 4Rs). The levels increase in complexity and move from description of, and personal response to, an issue or situation; to the use of theory and experience to explain, interrogate, and ultimately transform practice. They suggest that the content or level of reflection should be determined by the problems and dilemmas of the individual in a particular context. At the broad level, reflection includes two key elements 1) making sense of experience; and importantly, 2) reimagining and/or planning future experience. This definition is based on the belief that reflection can operate at a number of levels, and suggests that to achieve the second element (reimagining), one must reach the higher, more abstract levels of critical or transformative reflection.

Figure 2 shows a student-orientated resource that identifies the different levels and provides general prompting questions that scaffold students into the type of thinking and expression at each level. The 4Rs is a general and accessible scale for students, with an easily remembered mnemonic.

The 4Rs provides the vertical axis for the pedagogic field which represents increasingly complex levels of higher-order thinking. Figure 3 shows an example of how other learning theories and professional standards can be optionally mapped alongside the 4Rs.The horizontal axis of the pedagogic field represent the phases of a course: foundation, theory and professional practice. The focus of reflection (what students are reflecting *on*) is likely to change over a course. Early in a course, students can readily reflect on their own understandings as well as surrounding social influences that they experience. Later in the course, students can reflect on other actors and events in their professional domain such as professional peers and clients. In concert with this more complex range, experiences typically change from ones that are simulated in the lecture- or tutorial-room to ones that are situated in real professional practice (such as an internship). Figure 3 shows just one instance of the whole TARL model (Ryan and Ryan, 2012) that may guide the selection of teaching methods across a course offered in a nursing school that used Kalantzis & Cope's knowledge processes as an organising framework.

Teaching patterns are abstract, formal descriptions of the steps involved in planning and executing a teaching episode. In the academic literature they are called pedagogical patterns (Goodyear, 2005) and their development in recent years can be traced from architectural design patterns pioneered by Alexander (1977). In short, they are recipe-like structured documents with descriptions based around the problem to be solved, contextual elements, planning steps, links to other patterns, etc. Ryan and Ryan (2012) collected teaching patterns associated with reflective teaching and assessment in undergraduate courses and organised them into a pedagogic field in order to assist selection. A sample pattern language with over 25 patterns was collected during 2010 and 2011 and is available at http://edpatterns.net.

Among these patterns were some associated with portfolio generation by students. For example, the Reflection as a Professional Activity during Service Learning (RPA) pattern is based on students keeping a portfolio of reflections as they engage in service learning experience. RPA is suitable for students in the capstone phase of their course and is scoped before, over, and after their field placement. It is worth noting that RPA and other patterns are based on the combination of an explicit teaching activity and of portfolio construction. Thus, support for, and development of, reflection has not just been "offloaded" to an ePortfolio system, but both components (pedagogy and system) are required.

Reflection and ePortfolios

Reflection has always been at the heart of ePortfolio student activity (Yancey, 2009). But what is the relationship between reflection and portfolios and where does responsibility lie for the support of student reflection? Yancey (2009) suggests that we should consider reflection both as a process and as a "text". So while reflection-as-a-process involves a wide range of mental operations, the writing of texts becomes an external manifestation of this thinking. This is an important distinction to make because it indicates that reflective writing is another genre to be mastered and that established pedagogic techniques for the teaching of writing can be brought to bear. The "texts" of an ePortfolio now include a wide array of modalities (image, video, conversation, etc), so the "writing" involves different skill sets than traditional

forms. In addition, a higher set of understandings that deal with the co-ordination of various multimodal elements becomes significant. However, this expansion increases, rather than diminishes the need for pedagogic intervention.

In an empirical study examining the relationship between ePortfolios and reflection with post-graduate students, Scott (2010) found that there was a strong correlation between portfolio use and reflection. Her definition of reflection closely matches the 4Rs framework (Ryan and Ryan, 2012) by including "… conscious awareness and questioning of personal experience, a search for alternative explanations and interpretations, and identification of areas for improvement."(p.430). She noted however, that with the experimental group, the level of reflection exhibited in the students' writing was not particularly high. She observes that this may have been because there was little opportunity for pedagogic intervention. Tellingly, Scott (2010) questions the perspective that the ePortfolio is a "tool" to engender reflection. In contrast, Mason (2009) while acknowledging the strong relationship between ePortfolios and reflection, frames a *technical question*, asking what "… kinds of tools might facilitate integrated reflection?" (p.73). Batson (2009) suggests a different metaphor for the relationship, arguing that rather than viewing ePortfolios as a repository, we should view them as a "place" for reflection. This debate is important, because if we ascribe pedagogic agency to a technical system like an ePortfolio in "facilitating" reflection, then technical issues can predominate. However, if ePortfolios are a "place" where human agents engage in pedagogic intervention to develop student reflection, then this framing suggests pedagogy should be the focus.

Orland-Barak (2005) identifies the problem when she asserts that we should worry less about the technical capabilities of a portfolio system, but concentrate on the quality of student reflection. And if student reflective "writing" is a genre to be mastered then pedagogic intervention should be the focus of research and development. When re-framed this way, the capabilities of an ePortfolio system can be measured against the degree to which they support the teaching and learning of reflection. For students, the development of ePortfolios cannot simply rely only on a "collection" of artefacts as evidence of particular achievements. It is in the responsible management and critical reflection of one's learning journey, that deep and sustainable learning can occur.

The Case Study

The purpose of this section is to demonstrate how one student responds to a portfolio building task where specific pedagogical intervention has been provided over an extended period of time. The aim is to illustrate an ideal relationship between a deliberative pedagogic approach to reflection and a collection of artefacts held in a portfolio system.

In this case, the student was a member of a large cohort (n=144) of teacher education students in the final year of the undergraduate study. Students were placed as trainee teachers in high schools for a four week block of field experience. During this time, in addition to teaching duties, the students were required to build a portfolio clustered around a self-selected theme, associated with the topic of school assessment. Following their field experience, the portfolio was submitted as a collection of electronic documents where the main part consisted of a reflective essay that drew upon artefacts that had been collected.

In earlier years of their teacher education course, the students were explicitly taught, and assessed on, reflective writing using the 4Rs scale. Pedagogic interventions were drawn from teaching patterns associated with the DRAW Project (Ryan and Ryan, 2010). Thus, by the time students were engaged in this portfolio task, they were well versed in the language of reflection, and had been assessed on their reflective writing ability when applied to field experiences.

The following paragraph, taken from one student (who had chosen the theme of "scaffolding"), demonstrates reflective writing associated with one portfolio artefact (a school-supplied model of scientific thinking):

> *After teaching an assignment focussed lesson I realised that the assignment task was too complex for my students to successfully interpret by themselves. I realized that I had assumed that students would be able to formulate a scientific argument naturally. I was unsure how to provide scaffolding, as I had never before had to do it for an assessment item. I raised the issue with my colleagues and was provided with a scaffolding model (Appendix 1) to use in the classroom.*

In this text, the student is operating at the first level of the 4Rs (reporting and responding) since he is describing both an incident ("I realised that …") and his response to it ("I was unsure …"). He also describes an action and its result in the form of an attached artefact. This artefact was not authored by the student, but plays a key part in denoting and explaining an expansion in his teaching repertoire. This reflection is subjective (as is appropriate for reflection) but follows a clear line of explanation that is supported by evidence. The student employs specific linguistic devices of logical construction. So, while the artefact is

not "owned" by the student it provides a basis (or "place") for authentic reflection. Indeed, without this reflection, such an artefact would be of little value as a portfolio item.

A second fragment illustrates reflective writing at the second level of the 4Rs scale (relating):

> *Clearly some of the students in this class would have benefited from individually tailored scaffolding, however as identified by Li and Lim (2008) such an intervention would be too demanding on a classroom teacher. Instead I supplied additional materials to all students with the primary aim of assisting the students with lower literacy levels. This was done by incorporating the school wide approach to answering questions called QAR (Question Answer Relationship) (Appendix 2) into my classroom activities (Appendix 3)*

Here, the student introduces discipline-related knowledge (the in-text citation) to explain and provide the basis for further professional action. By engaging in reflective "relating" this student is joining practical professional action with theoretical knowledge. Again, the text is structured as a subjective explanation that is supported by portfolio artefacts as evidence. In this case, one of these items is authored by the student. But both portfolio artefacts are really only meaningful when combined with the accompanying reflection.

A final fragment shows the student operating at the highest level on the 4Rs scale (reconstruction):

> *I now understand that individual students require different amounts* [sic] *scaffolding to complete the assessment tasks required of them but as for "How much scaffolding is enough?" I can now confidently say that many students require more scaffolding than I would have expected to complete an assessment item, but I have also seen that when too much is given it can be counterproductive and prevent students from engaging in higher order thinking.*

The reflection appears in the conclusion and is preceded by a reasoned argument (third level of the 4Rs) intended to resolve a dilemma related to his topic of "scaffolding". Here he synthesises earlier reflections that were well supported by portfolio evidence. Significantly, this fragment is not linked to a portfolio item, but succinctly expresses the professional learning that took place.

All the students in this cohort construct portfolios prior to interviews with employing authorities. The reflective writing that they do in this context prepares them to speak authoritatively and authentically about their professional learning. Such "thick" descriptions, where their understandings are deeply connected to theoretical and policy frameworks as well as evidenced professional practice (the ePortfolio) are an excellent preparation for their selection interviews.

For students, the 4Rs scale provides an intellectual scaffolding for reflective expression in a way that complements the organisational features of an ePortfolio system. For university teachers, the 4Rs scale and the associated TARL model are instrumental in choosing and designing pedagogic intervention. For both university teachers and students, the scale is also useful in providing a basis for assessment by allowing students to structure their writing and for examiners to design assessment rubrics.

Discussion

The case study described here provides only fragmentary data to support the contention that deliberative pedagogic scaffolding in reflection is a co-requisite for effective ePortfolio reflection. There is clearly a need for longitudinal research that tracks the development of reflective capabilities of undergraduate students as they interact with ePortfolio systems over time. Such a study could well look at the effects of discipline settings, students from different backgrounds, as well as the influence of different teaching strategies that are coordinated across a course of study.

Nevertheless, it is worth imagining other ways this need (to develop high levels of critical reflection by emerging professionals) might be engendered. Some would argue that reflective thinking within discipline contexts emerges "naturally" and does not require any specific intervention. However the literature is strong on this point: when left to their own devices, most undergraduates tend to remain at the "descriptive" level of reflection (level 1 on the 4Rs scale). The sort of high level reflection demonstrated in this case study is unlikely to emerge "naturally". Others would attempt to offload the development of reflection onto an information system, by providing prompts or other sophisticated "tools" in an ePortfolio system. This approach conflates one need (management a collection of multimodal artefacts) with another (the development of critical reflection). Given that the latter involves teaching a complex genre of "writing", it falls firmly within the provence of good pedagogy.

The student examined in this case study was taught for some years using a consistent framework of reflection (the 4Rs). When engaged in field experience and portfolio construction, there was no new genre to be mastered, he already had a "language" of reflection and was able to insightfully choose critical incidents from his professional experience. Although this was demonstrable through his choice of artefacts to include in the portfolio, it was really only the reflective text that provided a window into his professional

learning. ePortfolios and reflective texts are both critical in providing this window, but they must work and develop together.

Conclusion

This paper theorises a new, transferable and customisable model for teaching and assessing reflective learning in higher education, which foregrounds and explains the pedagogic field of higher education as a multi-dimensional space. We have argued that explicit and strategic pedagogic intervention around reflection, supported by dynamic resources, is necessary for successful ePortfolio implementation in higher education. This is particularly the case for students during field experience where high levels of reflection may be needed to make sense of a complex new environment. The highlights the pedagogical balancing act of attending to different levels of reflection as a way to stimulate focused, thoughtful and reasoned reflections that show evidence of new ways of thinking and doing.

While the goal of academic or professional reflection is generally to move students to the highest level of reflection to transform their learning/practice, unless higher education teachers attend to every level of reflection, there are specific, observable gaps in the reflections that students produce. This approach has important implications for the pedagogic activity that prepares students as they construct their ePortfolios.

References

1. Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977). *A Pattern Language*. New York: Oxford University Press.
2. Bain, J., Ballantyne, R., Packer, J., & Mills, C. (1999). Using journal writing to enhance student teachers' reflectivity during field experience placements. *Teachers and Teaching*, 5(1), 51-73.
3. Batson, T. (2009, July 1). The portfolio enigma in a time of ephemera. Chatsworth, CA: *Campus Technology*. Retrieved from http://campustechnology.com/Articles/2009/01/07/ThePortfolio-Enigma-in-a-Time-of- Ephemera.aspx
4. Carrington, S. & Selva, G. (2010). Critical social theory and transformative learning: evidence in pre-service teachers' service-learning reflection logs. *Higher Education Research & Development*, 29(1), 45-57.
5. Goodyear, P. (2005). Educational design and networked learning: Patterns, pattern languages and design practice. *Australasian Journal of Educational Technology*, 21(1), 82-101.
6. Hatton, N. & Smith, D. (1995) Reflection in teacher education: towards definition and implementation, *Teaching and Teacher Education*, 11(1), 33 – 49.
7. Kember, D., McKay, J., Sinclair, K. & Kam Yuet Wong, F. (2008): A four-category scheme for coding and assessing the level of reflection in written work. *Assessment & Evaluation in Higher Education*, 33(4), 369-379.
8. Mason, J. (2011). Developing tools to facilitate integrated reflection. In *ePortfolios Australia Conference 2011 : Making a Difference, Showing a Difference*, eLearning Services, Queensland University of Technology, Curtin University, Perth, WA, pp. 73-83.
9. Orland-Barak, L. (2005). Portfolios as evidence of reflective practice: What remains 'untold'. *Educational Research*, 47(1), 25-44.
10. Ryan, M. & Ryan, M. (2010). *Developing Reflective Approaches to Writing (DRAW)*. Retrieved June 22, 2012 from http://drawproject.net
11. Ryan, M. & Ryan, M. (2012). Theorising a model for teaching and assessing reflective learning in higher education. *Higher Education Research & Development*. DOI:10.1080/07294360.2012.661704
12. Scott, S. (2010). Enhancing reflection skills through learning portfolios: An empirical test. *Journal of Management Education*, 34(3), 430-457.
13. Yancey, K. (2009). Reflection and electronic portfolios. In D. Cambridge, K. Yancey, & B. Cambridge (Eds.), *Electronic portfolios 2.0: Emergent research on implementation and impact*. Sterling, VA: Stylus.

Using the ePortfolio as a Help Tool for Student Retention in Postsecondary Education

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Introduction

Abandonment and student retention are major challenges for post-secondary institutions, particularly as they face increasing challenges in maintaining their student clientele during their first year of studies. In American and Canadian universities, between 20 and 25% of students drop out during their first year (Grayson, 2003) and 20 to 30% of those who continue abandon during their second year (CCA, 2008). “What are the measures that postsecondary institutions can place online in order to help their struggling students and increase student retention?”

It is in regard to this question that a research team has developed and tested an online help system, SAMI-Perseverance, with post-secondary students in which an ePortfolio tool has been integrated. This study aimed to examine how a help system offering personalized and adapted support for the difficulties experienced by students during their studies can contribute to student retention and academic success. The study was also done to examine the contribution of ePortfolio in the context of perseverance in postsecondary education.

The report presents the context of the study, the personalized folder for each student (PSF) and the intervention folder (IF). Also included are the testing results from the testing of the PSF in terms of its user-friendliness, its content and its usefulness.

Context of the study

Our society, founded on knowledge, openness to the world, creativity and innovation, requires for the maximum development of potential and a high quality education for present day citizens (CSE, 2008). In this context, the abandonment of post-secondary education can severely handicap individuals concerning their future prospects: finding employment, their income, their health and their future lives (McKinsey & Company Social Sector Office, 2009; UNETP, 2010) while a post-secondary education becomes a rather important asset for them (CSE, 2008).

Knowing that individuals need to be more and more educated and competent in order to meet the changing labour market (Parkin & Baldwin, 2009; McKinsey & Company Social Sector Office, 2009; UNETP, 2010), the development of tools is important in order to enable students to achieve these ends and the development of means to disseminate these tools is fundamental. We need to examine what are the difficulties experienced by students enrolled in college and university.

Parkin & Baldwin (2009) find that characteristics associated with abandonment differ considerably from one study to another. They state that "the findings from one study do not always apply to other studies [...]" (2009, p.8). Thus, some studies concentrate on student characteristics: gender, age, dependents, academic achievement and commitment, education and income of parents, financial aid, career counselling and indigenous status. Others focus on student motivation (Reeve, 2002; Racette, 2008) in undertaking their studies and their commitment throughout their studies. A limited number of research studies are concerned with deficiencies in terms of learning strategies or with prior knowledge of French, mathematics or technology. Finally, very few studies examine the influence of a set of characteristics on the students' decision to abandon (Sauvé, Racette and Moisan, 2010). Like the CFS (2007).We have issued, as a first hypothesis, that the decision to abandon studies cannot be only attributed to a single problem but rather to a set of difficulties.

Wanting to place and test an online help system for aiding student retention in postsecondary institutions in Quebec, we reviewed the measures already in place in these schools to help and support students experiencing difficulties as well as the research studies which report on the experimentation of these measures. Different findings emerge.

Several projects were completed and several measures have been experimented with: individual tutoring, mentoring program, introductory course for a program, help center for French or mathematics, presential workshops on learning strategies, etc. Some of these measures were abandoned while others were implemented and became autonomous services; other projects were planned, but unrealized (Task Force for Student Success at UQTR (2008). These many and varied actions show little coordination between them (Bégin & Ringuette, 2005). Too many different actors are involved. The fragmentation of the activities and support measures does not encourage an integrated and comprehensive approach, which thus creates disorganization. In general, these measures are often based on intervention approaches which are oriented

towards the integration of students into the system and their adaptation rather than the student themselves (Dion, 2006; Box et al. 2012; Neslon et al, 2012). Finally, few measures are offered beyond the first year of study and even less that use technologies to support students in need throughout their journey through school (Santiago et al. , 2008; UNETP, 2010; Endrizzi, 2011). It is within this implementation context that we hypothesized that the online help system should consider the needs (difficulties) of the students based on their progress within their program (from the very first day until graduation) and not only at the beginning of their studies. The system also has to adapt to the needs of each student and suggest personalized measures in function with the student's progress in their studies. Finally, the system should provide a tool that would allow students to retain copies of the personalized approach and this throughout their entire studies: the ePortfolio. An ePortfolio provides a platform for the students to save and show their learning results. It is also a convenient way for the teacher to check student outcomes and supply online feedback (Dennis, Hardy & White, 2006; Chang, 2010). In this research, the ePortfolio is an evaluation tool to inspect the progress and outcome of student learning (Tsou, 2000; Barker, 2006).

The tools of the ePortfolio

During the design of the ePortfolio for the system, we wanted the collected data to serve both students and the intervention personnel who support course after course the students in their efforts to persevere and this throughout their study program.

Thus, the organization of the ePortfolio in SAMI-Perseverance reflects the activities to be undertaken by the students throughout their progress and having it available in real time to the intervention personnel so they can support students in difficulty by responding appropriately to their needs.

The ePortfolio tools should therefore generate at least two folders for consultation:

- A personalized student folder for each student (PSF) contains the following information: (1) their learning profile (style of learning, conditions and modes preferences, attitudes facing the study, etc.), (2) the results from the tools for screening difficulties (learning strategies, problems with institutional and social integration, financial and familial problems, learning disabilities), (3) personal notes (comments, reflections, information elements) (4) results from the self-assessment activities (refresher courses, competencies to develop or to be perfected), (5) their personal help tools for succeeding in their studies and (6) comment cards on their activities from the intervention personnel.
- An intervention folder (IF) for the person or persons assigned to support the students contains the following data: (1) personalized folders of the students enrolled in the system which is updated when accessed by the assigned personnel, (2) the quantitative and qualitative statistics of the difficulties experienced by the students and the means they used to alleviate these difficulties.

With the help of the PSF from SAMI-Perseverance, a student could do the following at any time: check on their progress within SAMI-Perseverance, examine their results from the different questionnaires of learning profile, check their difficulties from the different screening tools, consult with help tools for achieving success in school (learning strategies, problems with institutional and social integration, financial and familial problems, learning disabilities), evaluate their learning (in french and mathematics), take notes and examine the comments cards,. As for the intervention personnel, they could: directly comment on the student's actions in their IF, provide feedback at the appropriate time, exchange in real or differed time with one or more students and provide help and support tools for achieving success in postsecondary institution to a student or a group of students. Figure 1 presents the links between the two folders.

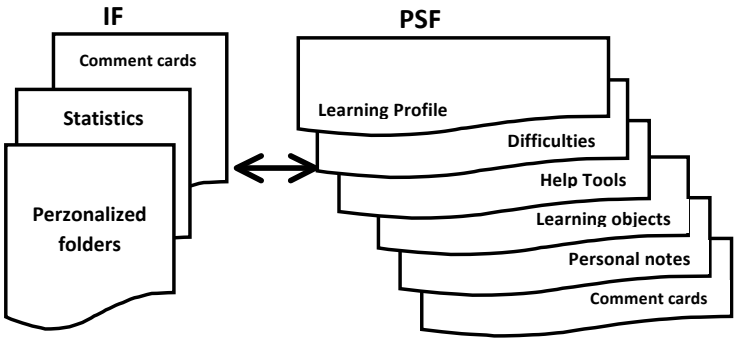

Figure 1. The links between PSF and IF

The PSF and the IF of our system were created with the help of Personn@lisa (http://personnalisa2.savie.ca), a design platform for online courses. Several technological criteria were also taken into account when developing these two folders: simple to use, supports various file types (texts, images, audio or video files, presentation documents, hyperlinks, etc..), indexed (each trace from the user is integrated in the structure of the ePortfolio which facilitates its consultation at any time), managed according to the contexts (public, private), mobile (via download in PDF format) and updated at the right time (the posted details are updated with a simple click from the users).

Methodology

In order to validate the contents of the SAMI-Perseverance TA support tool, we used the *Learner Verification and Revision* (L.V.R.) method. This method focuses on the user, is characterized by flexibility and is well adapted to the context in which the product will be used (Nguyen et al, 2008). It allowed us to identify and then correct the errors and problems (Thulal, 2003; Maddrell, 2008) and to effectively validate a prototype through its course of development with a sample of the targeted users. This method, also known as a user trial, has also been used in learning object development research (Sauvé & Hanca, 2008; Sauvé & Royer, 2008; Sauvé & Pépin, 2009). The process involves validating the prototype through a sample of the target audience in order to measure its effectiveness.

In the present study, the sample is comprised of students who registered with SAMI-Perseverance between September of 2010 and March of 2012. Respondents were informed about the research and signed a consent form that confirmed their participation in the evaluation of the SAMI-Perseverance TA help tools. Part III of the Questionnaire on the SAMI-Perseverance TA Help Tool has three groups of questions according to the categories of the variables being studied of the ePorfolio: (1) the design, (2) the contents and (3) the usefulness. The statements use an appreciation scale with five choices aiming to determine the level to which respondents agree or disagree with the statements corresponding to each criterion. The questionnaire is administered at the end of the experimentation with the help of the tool itself.

The results of the study

There are 318 students in our sample: 62% are women and 38% are men. The respondents are enrolled full time (54.1%) and part-time 38.7% while 7.2% are visiting students. Finally, 47.9% of respondents are studying on campus and 52.1% are studying at a distance.

In terms of the ePortfolio, by grouping together the responses for *Strongly agree* and *Agree*, the results show that students consider that is it easy to navigate the ePortfolio (91.6%), that the presentation is clear (91, 7%), that the organization facilitates the consultation of their realizations and help tools (86, 9 %) and finally that the navigation buttons are explicit and easily seen (89, 3%).

Regarding the content of the ePortfolio, students (94.4%) consider that having access to help tools in order to help them succeed in their studies and choosing them through their portfolio helped them to solve their difficulties. They also consider that the results obtained with the questionnaires concerning learning profiles represent them well as students (95.4%). They feel that the results they obtained with the screening tools (learning strategies, problems with institutional and social integration, financial and familial problems, learning disabilities) reflect the difficulties they encountered during their studies (90.7 %). They estimate that the logbook has helped them in their efforts to gather their thoughts and take down personal notes (94.3%). They consider that the results obtained from the self-assessment activities (ex. refresher courses, skills to develop or to be perfected) reflect well the difficulties they experienced during their studies (86.7%). They appreciated the comment cards from the intervention personnel on the activities they have done and believe that this feedback has encouraged them to continue their efforts with SAMI-Perseverance (88.8%).

In terms of the usefulness of the ePortfolio, the respondents found it useful (94.6%) and quite useful (5.7%) in helping them succeed in school. Finally, they consider that the consultation of their portfolio by intervention personnel has facilitated exchanges between the latter (89.3% agree or strongly agree and 10.7% somewhat agree). It also allowed the students to obtain comments that motivated them to continue with their efforts in SAMI-Perseverance (100% agree or strongly agree).

Conclusion

SAMI-Perseverance has been tested in two teaching modes (at a distance and on-campus) with students enrolled in postsecondary education. The results show a high degree of usefulness for the ePortfolios for supporting students trying to find measures that are susceptible in helping them resolve their difficulties. Students consider that the ePortfolio helped them reflect on their difficulties and find ways to resolve them. Thus, the ePortfolio assessment should involve: a learner's reflection to allow the learner to review his own learning process and an identification of the help tools that best fits their difficulties and finally to develop

the learner's capacity to take charge for solving these problems during their studies and so persevere until graduation.

Today, thousands of French speaking students use the ePortfolio from SAMI-Perseverance in colleges and universities throughout Quebec. SAMI-Perseverance is available at the following Web address: http://taperseverance.savie.ca.

Works Cited

1. Barker, K. C. (2006). *Environmental scan: Overview of the ePortfolio in general and in the workplace specifically*. [En ligne] http;//www.FuturEd.com.
2. Bégin, C., & Ringuette, M. (2005). L'étendue de nos actions. In Chenard, P. et Doray, P. (2005). *L'enjeu de la réussite dans l'enseignement supérieur*. Sainte-Foy : Presses de l'Université du Québec, 223-240.
3. Box, G., Callan, N., Geddes, T., Kemp, H., & Wojcieszek, J. (2012) University First Year Advisors: A network approach for first year student transition and retention. A Practice Report. *The International Journal of the First Year in Higher Education*, 3(1), 91-100.
4. Chang, C-C. (2010). Self-Evaluated Effects of Web-Base Portfolio Assessment for Various Student Motivation Levels. *Learning Forum London 2010 Proceedings*, 119-127.
5. Conseil Canadien sur l'apprentissage - CCA (2008). *État de l'apprentissage au Canada : Vers un avenir axé sur l'apprentissage.* Rapport sur l'enseignement au Canada*.* Juillet. [En ligne] http://www.ccl-cca.ca/NR/rdonlyres/E1E66229-93EA-4DB3-A019-0765E614E42B/0/SOLR_ 08_ French_final.pdf.
6. Conseil Supérieur de l'éducation – CSE. (2008). Plan stratégique 2007-2011. Mars. Document administratif. [En ligne] http://www.cse.gouv.qc.ca/fichiers/documents/publications/ DocAdministratifs/50-0202.pdf.
7. Dennis, C., Hardy, J., & White, P. (2006). Development of a model to advance the uptake of ePortfolios for undergraduates in teacher education and registered nurse preparation: An exemplar of best practice. In E. Pearson & P. Bohman (Eds.), *Proceedings of Ed-Media* (pp.248-253). Norfolk, VA: AACE.
8. Dion, C. (2006). *Évaluation du processus et de l'effet d'un programme d'aide à la réussite des études en enseignement supérieur universitaire*, UQTR : Thèse de doctorat, octobre.
9. Endrizzi, L. (2010). Réussir l'entrée dans l'enseignement supérieur. *Dossier d'actualité de la VST, 59.* [En ligne] http://www.inrp.fr/vst/LettreVST/59-decembre-2010.php.
10. Fédération Canadienne des Étudiantes et Étudiants [FCEE] (2007) *Une stratégie pour le changement : L'argent c'est important. Une solution de remplacement pour un système d'enseignement postsecondaire accessible et de qualité supérieure*, Octobre. [En ligne] http://cfsadmin.org/quickftp/Une_strategie_pour_le_ changement_ 2007.pdf - format PDF.
11. Grayson, P. (2003). *Les recherches sur le maintien et la diminution des effectifs étudiants.* Fondation canadienne des bourses d'études du millénaire : Montréal.
12. Groupe de travail sur la réussite étudiante (2008). *Plan quinquennal de soutien à la réussite étudiante*. Rapport final, Trois-Rivières : UQTR, 9 mai.
13. Maddrell, J. (2008) *Article Review*, IDT 848 Evaluation Study Abstracts, Old Dominion University. October*.* [En ligne] d*esignedtoinspire.com/drupal/files/ArticleSummary%20 Maddrell.doc.*
14. McKinsey & COMPANY SOCIAL SECTOR OFFICE (2009). *The Economic Impact of the Achievement Gap in America's Schools*, NY: McKinsey& Company, Social Sector Office
15. Nelson, K.J., Quinn, C., Marrington, A., & Clarke, J.A. (2012) Good practice for enhancing the engagement and success of commencing students. *Higher Education*, 63 (1), 83-96.
16. Nguyen, T., Chang, V., Chang, E., Jacob, C., & Turk, A. (2008). A contingent method for usability evaluation of Web-based learning systems, In K. McFerrin, R. Weber, R. Carlsen et D. A. Willis (eds), *Proceedings of the Society for Information Technology & Teacher Education Annual International Conference- 19th International Conference of SITE 2008* (p. 579-585), Chesapeake, VA, AACE.
17. Parkin, A., & Baldwin, N. (2009). *La persévérance dans les études postsecondaires au Canada : Dernières percées*. Note de recherche du millénaire nº 8.
18. Racette, N. (2008). *Expérimentation d'un modèle de motivation dans un cours universitaire à distance*. Thèse. Québec : Université Laval.
19. Reeve, J. (2002). Self-determination theory applied to educational settings. *In* E.L. Deci, and R.M. Ryan (Eds.). *Handbook of self-determination research.* University of Rochester Press : Rochester, New York.

20. Santiago, P., Tremblay, K., Basri, E., & Arnal, E. (2008). *Tertiary Education for the Knowledge Society,* Volume 2. Paris : OCDE.
21. Sauvé, L. & Royer, M. (2008). *Banc d'essai des capsules d'apprentissage du programme Asthme à la carte.* Québec, SAVIE, juillet.
22. Sauvé, L., & Pépin, K. (2009). *Banc d'essai des objets d'apprentissage Distance Zéro*. Québec, Télé-université.
23. Sauvé, L., & Hanca, G. (2008). *Banc d'essai des outils d'aide à la persévérance aux études*. Rapport de recherche, Québec : SAVIE et Fonds Inukshuk Sans-fil, février, 31 pages.
24. Sauvé, L., Racette, N., & Moisan, D. (2010). *Entre l'abandon et la réussite aux études postsecondaires : offre institutionnelle et recours des étudiants aux dispositifs d'aide*. Rapport de recension, Décembre, 42 pages.
25. Thulal, A.N. (2003). *Application of Software Testing in E-Learning***,** Delhi, Dept. of Information Technology, Amity School of Engineering and Technology, [En ligne] : http://www.jmi.nic.in/ Events/ witsa2003/ AmritNathThulal.pdf.
26. Tsou, H.-I. (2000). Concept and assessment of project-based learning. *Proceedings of Conference on Management of New Century Learning* (pp.35-52). Tainan: Tainan University Center for Test Development.
27. USA National Educational Technology Plan [UNETP] (2010). *Transforming American Education: Learning powered by technology*. [En ligne] http://www.ed.gov/sites/ default/files/NETP-2010-final-report.pdf.

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Fitness to Practice, Shipman and Evaluating the role of ePortfolios

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Context

Dr Harold Shipman is thought to be one of the most prolific serial killers of UK history, killing more than 200 people in 23 years (Smith 2002). How a respected doctor in his community was able to perform such atrocities has created a number of questions on how we assess fitness to practice. This paper will explore the use of the ePortfolio in assessing doctor's fitness to practice and addressing the concerns highlighted by the Shipman Inquiry.

Events such as the Shipman murders have lead to increasing public, media and political scrutiny concerning the notion of a doctor's fitness to practice; as a consequence a doctor's fitness to practice is no longer assumed, instead it must be proven (Boursicot et al. 2011). In the UK the Shipman Inquiry played a key role in identifying the shortcomings of the system and calling for reform and improvements in the way fitness to practice is monitored and assessed (Smith 2004). This in turn has given rise to increased emphasis on continued professional development, competence and its assessment (Southgate et al. 2001). It has been suggested that ePortfolios provide the opportunity for continued assessment of a Doctors fitness to practice particularly as part of the revalidation programme developed after the Shipman Inquiry (Smith 2004) and are due to play a key part of its implementation in the UK (RCGP 2012). In order to help restore the public's faith in the medical profession it was considered essential that independent practitioners demonstrate their fitness to practice not only at the point of independence but also at all levels of training.

Objectives

This paper explores the impact of the Shipman Inquiry and the role of the ePortfolio in determining if a doctor is fit to practice in the UK including whether he or she should be added or removed from the General Medical Council (GMC) register. The methods of investigation used here are a combination of a literature review with a critical assessment of the evidence; particularly in the light of the author's pre and post registration training experience as a medical doctor. (This is the first stage of forthcoming research interviewing stakeholders on their experiences of using ePortfolios in determining a doctor's fitness to practice.)

This paper commences with a literature review examining the definition and meanings of competence and performance in relation to fitness to practice. This is a prerequisite for considering the use of the ePortfolio in GMC revalidation following the recommendations from the Shipman Inquiry.

Fitness to practice, competence and performance

Fitness to practice, for doctors in the UK, is set out and regulated by the GMC (Great Britain Parliament 1983); their policy statement (GMC 2001) on the meaning of fitness to practice considers that doctors must be competent in what they do, respect patients rights and autonomy, live up to the trust placed in them and adhere to the publication Good Medical Practice (the publication has subsequently updated: GMC 2006, 2009). This statement and practice document will be used as the definition and basis for evaluation of fitness to practice in this paper.

Clinical competence forms a key part of the GMC's definition of fitness to practice (GMC 2001), which is mirrored in most other medical institutions. The GMC does not define the term competence and a review of the literature demonstrates there are several dimensions to clinical competence and a lack of consistent definitions. This lack of consistency among definitions leads to challenges in assessing the literature as different concepts may be considered under the same guise of 'competence'. If the literature has no consistency as to the definition of competence then how are we to apply it in the assessment of a doctor's fitness to practice.

Boursicot et al. (2011) define competence as: what the individual is 'able to do' in clinical practice; distinguishing it from performance: what the individual 'actually does'. The inclusion this definition of performance can be argued as crucial in the assessment of a doctor's fitness to practice with what the doctor actually does in practice being at the forefront of any notion of competence. Harold Shipman, for example, may have been *able* to treat his patients in an effective manner but did not act on that competence.

Many definitions of competence refer to a single act or skill, in contrast, Epstein and Hundert (2002) build on the concept of professional competence encompassing prior definitions including the Accreditation Council for Graduate Medical Education (ACGME) categories of competence (Swing 2007). Epstein and Hundert (2002:226) define professional competence as:

> *'The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.'*

This definition attempts to characterise a holistic view of clinical competence encompassing more than just individual competencies. There is greater emphasis on moral, emotional and relationship factors (Leach 2002) than was seen with previous definitions attempted by Rethans et al. (2002) and Miller (1990). The importance of assessing moral competence alongside technical is particularly pertinent in the case of Shipman. With Epstein and Hundert's definition (2002) there is further acknowledgement of the need for tacit knowledge, rather than just the explicit knowledge (Polanyi 1974) which has traditionally been examined (Miller 1990). It is this tacit knowledge (Polanyi 1974) and ability the to manage not just problems but uncertainty along with habitual practices that result in competence translating to performance (Schon 1983) - a concept which Epstein and Hundert (2002) can be seen to be attempting to incorporate into their definition.

An important consideration given by Epstein and Hundert (2002) is that competence and performance are developmental, impermanent and context specific. The argument that context needs to take into account the task at hand (Klass 2000), the clinical context and the ecology of the health system (Kane 1997; La Duca 1984) in combination with the doctor's ability is important in such a broad spectrum of specialties with varying grades and levels of experience. From reviewing the literature, it is concluded, that this definition of professional competence as set out by Epstein and Hundert provides one of the most comprehensive and holistic insights into the qualities required for clinical performance. The ePortfolio provides a potential resource for real-time context specific assessment of the performance of the doctor in question and thus their fitness to practice.

Assessing fitness to practice and the use of the ePortfolio

The Shipman Inquiry concluded the medical appraisal system, at that time, had some education benefits but was critical of its inability to detect unsafe practice whilst promoting good practice. The assessment of a doctors fitness to practice forms a high stakes summative assessment, its failure to identify and remove unfit doctors can result in catastrophic consequences (Rethans et al. 2002) as demonstrated by the Shipman Inquiry. This suggests, to me, that the assessment system for fitness to practice should be functionally distinct from the promotion of excellence.

Several institutional and regulatory changes have been recommended and implemented as a result of the Shipman Inquiry and its subsequent reports (DoH 2006; Greenhalgh and Wong 2011). One of the proposed solutions is to create a proactive system of continued fitness to practice assessment throughout a doctor's working life is revalidation. The new revalidation system, currently being introduced in the UK, is described by the GMC as 'the process by which doctors must demonstrate to the GMC, normally every five years that they are up to date and fit to practice' (GMC 2012b). It is based on a portfolio of documents including annual appraisal with the development of a personal development plan, evidence of continued professional development and Multi Source Feedback (MSF) of which the ePortfolio will play a key part. These subsequent revalidation plans are more comprehensive than the previous continued professional development system for example taking into account consultations from sources including patients and lay people. However, the proposed system still fails, in my opinion, to address a large number of the shortcomings of the original system.

The Inquiry and its subsequent reports commented on how doctors were perceived as looking after their own with the GMC accused of harvesting a culture and membership too likely to support the interests of doctors rather than protect patients (Smith 2004; DoH 2006). This has led to the involvement in other bodies in the regulation of doctors with the creation of the Council for Healthcare Regulatory Excellence (2002). In a system where peer, patient and institutional referral (both internal and to the GMC) had traditionally provided a safety net (DoH 2006) against unfit practitioners the culture of an 'old boys' club where doctors did not speak out against their colleagues also needed to be addressed.

One proposed solution has been Work Based Place Assessments, including anonymised MSF, which constitute part of the ePortfolio and will play a central role in the revalidation system (RCGP 2012). These ePortfolios are now used in the UK for both formative and summative assessment, and example of which is the UK Foundation Programme (Colleges et al. 2010). The MSF tool provides anonymised feedback from a range of healthcare professionals on the overall performance of a trainee, not only specific instances

(Norcini 2007). Despite the concerns outlined by the Inquiry on the cozy culture of doctors looking after their own (Smith 2004) trainees them (Norcini 2007) this, in my view, provides scope for selection bias. Efforts have been made to reduce bias, increase reliability and validity through anonyminity and increased numbers of assessments (Smith 2004; Norcini 2007) both of which are aided through the use of the ePortfolio. It does however, remain unclear as to the optimum number of assessments required to achieve reliability (Bouriscot et al. 2011) and their feasibility in practice (Norcini 2007). There has been positive evidence for the use of this tool, for example at the University of Missouri-Kansas the obstetrics and gynecology department demonstrated negative professional behaviors being appropriately highlighted by peers (Ramsey et al. 1989). The Question remains, however, if such a tool would have highlighted the practice of Harold Shipman who was a well liked individual by his colleagues.

Any assessment by colleagues needs to be continuous and within the context with which the doctor is expected to work (DoH 2006; 2007a&b). Context has already been shown by Epstein and Hundert (2002) to play a key part in the definition and application of competence. Assessment should therefore evolve and be adapted as a doctors career progresses, the scarcity of continued assessment on fitness to practice throughout a doctor's career, was however, a further issue brought to our attention in the Shipman Inquiry (DoH 2006). The Chief Medical Officer highlights how an independent practitioner (as a consultant or principal GP such as Harold Shipman) will traditionally no longer undergo formal assessment of knowledge, competence or clinical skills. The report further goes on to demonstrate how this is not consistent with other high-stakes professions such as airline pilots who would typically undergo over 100 assessments in the same period. This poses the question as to why such a high stakes profession such as medicine has been allowed to function with so little continued assessment and regulation, something revalidation aims to rectify.

Despite the importance of revalidation in the assessment of fitness to practice the revalidation process has little in the way of evidence base. Work based place assessments are rarely referenced with respect to their use in assessing ongoing fitness to practice. One of the few studies examining revalidation validity, a randomized controlled study of 66 GPs in Scotland found no difference in self reported outcome between a light-touch, 'criterion-based' model and a more comprehensive, 'educational outcome' model such as revalidation (Bruce et al. 2004). There has, however, been evidence to show improved clinical care with certification in the United States (Kingdon 1995) but this data is not randomised and it is therefore difficult to prove causality. This lack of evidence calls into question the effectiveness of revalidation in the assessment of fitness to feedback (Greenhalgh and Wong 2011). It is, however, not until the forthcoming implementation of revalidation that the changes brought about by the Shipman Inquiry and the role of the ePortfolios in this can be fully assessed.

Conclusion

Despite increased attention to fitness to practice, the medical profession has been slow to clarify its definition. There continues to be a lack of consensus and clarity on the definitions of competence, performance and their relation to fitness to practice.

Despite the implementation of changes to the revalidation process in response to the Shipman Inquiry it remains unclear if they will be successful at identifying a future doctor such as Harold Shipman. In order for fitness to practice assessment to be at its most effective a universally consistent and accepted definition of competence and thus fitness to practice is required. Only then can the validity of fitness to practice assessments and the role of the ePortfolio in those assessments be determined.

References

1. Boursicot, K. Etheridge, L. Setna, Z. Sturrock, A. Ker, J. Smee, S. and Sambandame (2011). *Performance in assessment: consensus statement and recommendations from the Ottawa conference.* Medical Teacher, 33(5), pp.370-383
2. Bruce, D. Phillips, K. Reid, R. Snadden, D. and Harden, R. (2004). Revalidation for general practitioners: randomised comparison of two revalidation models. *BMJ; 328(7441): 687–691*
3. Colleges, M., Intercollegiate, S. and Network, G. (2010). *Foundation programme curriculum*. London: The UK Foundation programme
4. Council for Healthcare Regulatory Excellence. (2002). *Council for Healthcare Regulatory Excellence*. Available at: http://www.chre.org.uk/regulators/ [accessed on 1 July 2012]
5. Department of Health (DoH), (2006). *Good doctors, safer patients Proposals to strengthen the system to assure and improve the performance of doctors and to protect the safety of patients A report by the Chief Medical Officer. London: Department of health.* London: Department of Health Available at: http://www.official-documents.gov.uk/ [accessed 1 July 2012]

6. *DoH, (2007a). Safeguarding Patients The Government's response to the recommendations of the Shipman Inquiry's fifth report and to the recommendations of the Ayling, Neale and Kerr/Haslam Inquiries.* London: Crown. Available at: http://www.official-documents.gov.uk/ [accessed on 1 July 2012]
7. DoH, (2007b). *Trust, Assurance and Safety – The Regulation of Health Professionals in the 21st Century*. London: Crown. Available *at:* http://www.official-documents.gov.uk/ [accessed on 1 July 2012]
8. Epstein, R. and Hundert, E. (2002). *Defining and assessing professional competence*. JAMA, 287(2), p. 226
9. GMC, (2001). *Fitness to practice policy statement*. Available at http://www.gmc-uk.org [Accessed on 1 July 2012]
10. GMC, (2006). *Good medical practice*. London: GMC
11. GMC, (2009). *Good medical practice*. London: GMC
12. GMC, (2011). *The trainee doctor*. London: GMC
13. GMC. (2012b). *Revalidation*, Available at: http://www.gmc-uk.org/doctors/revalidation.asp [Accessed on 1 July 2012]
14. Great Britain Parliament, (1983). *The Medical Act* (Act of Parliament) London: Crown*.* Available at: http://www.legislation.gov.uk [accessed on 1 July 2012]
15. Greenhalgh, T. and Wong, G. (2011). *Revalidation a critical perspective*. Br J Gen Prac 61(584) 166-8
16. Kane, M. (1997). *Model-based practice analysis and test specifications*. Appl Meas Educ.;10:18
17. Klass, D. (2000). *Revaluation of clinical competency*. Am J Phys Med Rehabil. *79:481-486*
18. LaDuca, A. Taylor, D. Hill, K. 1984. *The design of a new physician licensure examination*. Eval Health Prof*. 7:115-140*
19. Leach, D. (2002). *Competence is a habit*. JAMA, 287(2), pp.243-4.
20. Miller, G. (1990). *The assessment of clinical skills/competence/performance*. AAMC, 65(9 Suppl), p.S63-S67
21. Norcini, J. and John J, (2003). *Work based assessment*. BMJ, 326(7392), pp.753-755
22. Norcini, J. (2007). Workplace-based assessment in clinical training. Edinburgh: Association for the study of medical education
23. Polanyi, M. (1974). *Personal Knowledge: Towards a Post- Critical Philosophy*. Chicago, Ill: University of Chicago Press
24. RCGP (2012) *Guide to the RCGP revalidation ePortfolio*. London: Royal College of General Practice. Available at https://gpeportfolio.rcgp.org.uk [Accessed 1 July 2012]
25. Rethans, J. Blackmore, D. Baron-Maldonado, M. Blackmore, D. Jolly, B. LaDuca, T. Lew, S. Page, G. and Southgate, L. (2002). *The relationship between competence and performance: implications for assessing practice performance*. Science, pp.901-909
26. Schon, D. (1983). *The Reflective Practitioner*. New York, NY: Basic Books
27. Smith, J, (2004). *The Shipman Inquiry. Safeguarding patients: lessons from the past, proposals for the future.* London: Stationery Office, 2004. http://www.the-shipmaninquiry.org.uk/ [accessed on 1 July 2012]
28. Smith, J (2002). *The Shipman Inquiry: The first report*. London: Stationery Office, 2004. http://www.the-shipmaninquiry.org.uk/ [accessed on 1 July 2012]
29. Southgate, L. Hays, R. Norcini, J. Mulholland, H. Ayers, B. Woolliscroft, J. Cusimano, M. McAvoy, P. Ainsworth, M. Haist, S. and Campbell, M. (2001). *Setting performance standards for medical practice: a theoretical framework*. Medical education, 35(5), pp.474-81
30. Swing, S. 2007. *The ACGME outcome project: retrospective and prospective*. Medical teacher, 29(7), pp.648-54

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ePortfolio Practice in Companies (NL)

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Context

In the past ten years ePortfolio used in the Netherlands on a large scale in education. Today we see a trend that the ePortfolio is increasingly used in companies and organizations for the professional development of the staff. Kenteq, The centre of expertise and advice for technical craftsmanship has an intermediary role between the vocational education and companies. They promote the use of ePortfolios, because they offer several eServices for employability goals.

Objectives

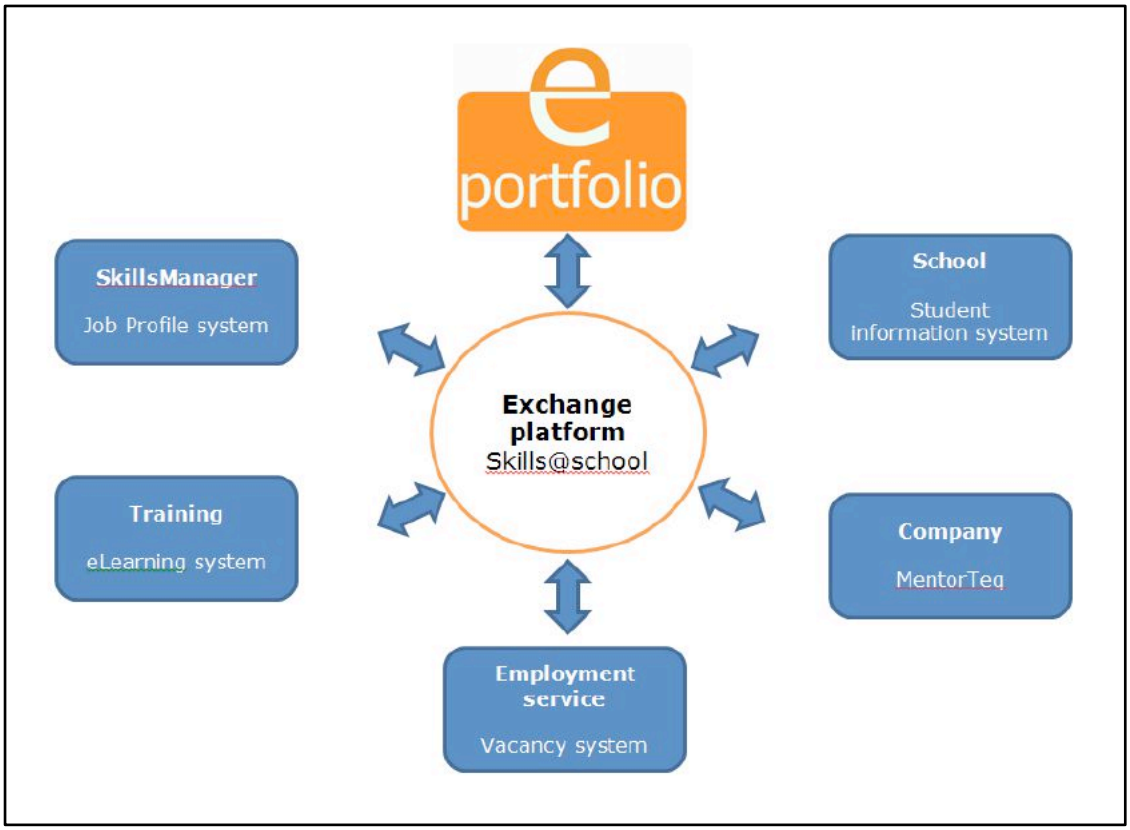
We want to give an overview of various initiatives in the Dutch business community. The examples refers to lifelong learning, work based learning and organisational learning.

Three ePortfolio project in companies

In our presentation we briefly show three projects in which the ePortfolio is a tool for professional development of the staff.

MentorTeq/Skills @ School

Students in vocational education must be performing a large part of their training in companies. The workplace coach of the company has access to an electronic instrument "MentorTeq", in which he can plan and assess the student during the practical part of the training. The school uses a different system for the progress of the theoretical part of the student. In the project we want to use the ePortfolio as a tool for the student to access his data from both the operating systems of the school and the company.



In the project we developed a exchange platform, which enables the transfer of data from other systems with an ePortfolio. This makes it possible for example that a teacher can view the results of the practical period of de student.

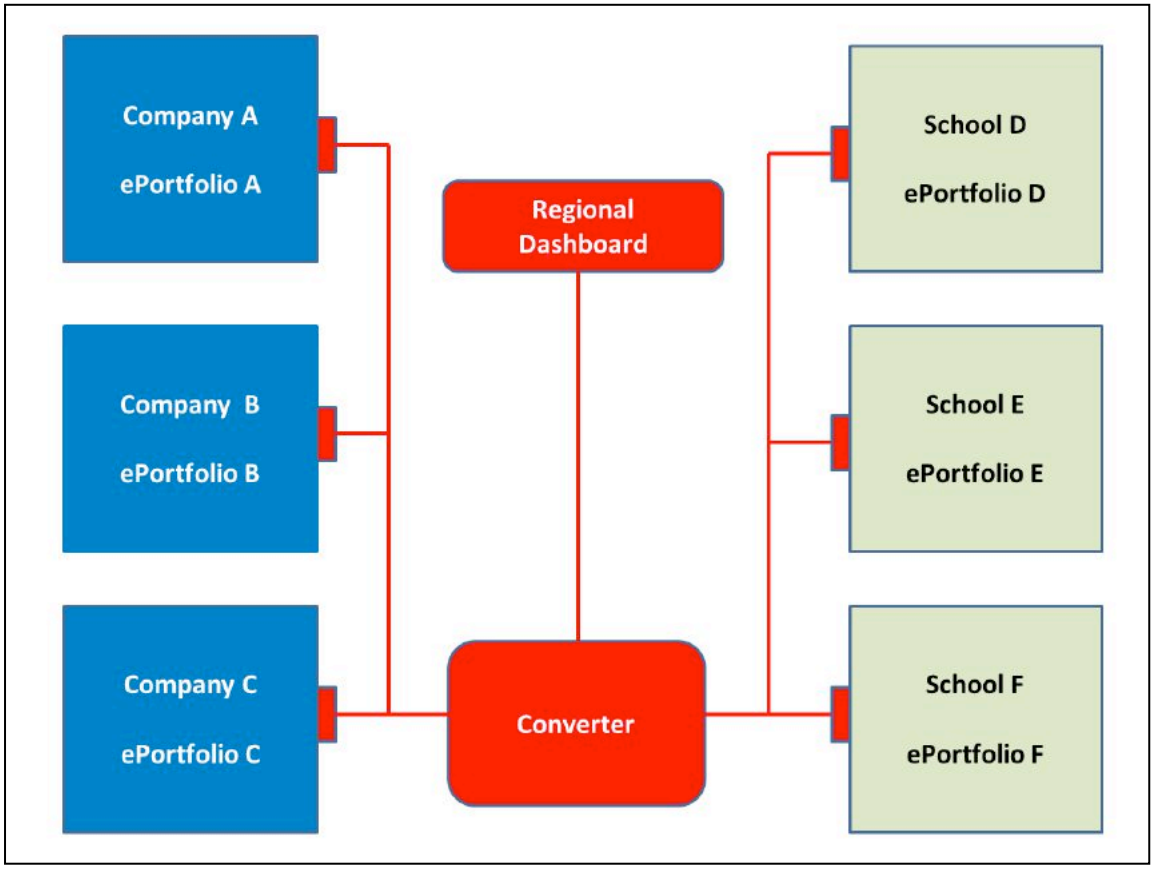
Let's Connect

The project Let's Connect is an innovative concept that helps companies systematically and decisively in the quest for the right person at the right place at the right time with the right qualifications. In 9

pilot companies in the Southeast of the Netherlands we implement different ePortfolios for approximately 320 employees.

The pilot companies also get access to a business dashboard, in which they have more insight into the existing quality of the staff.

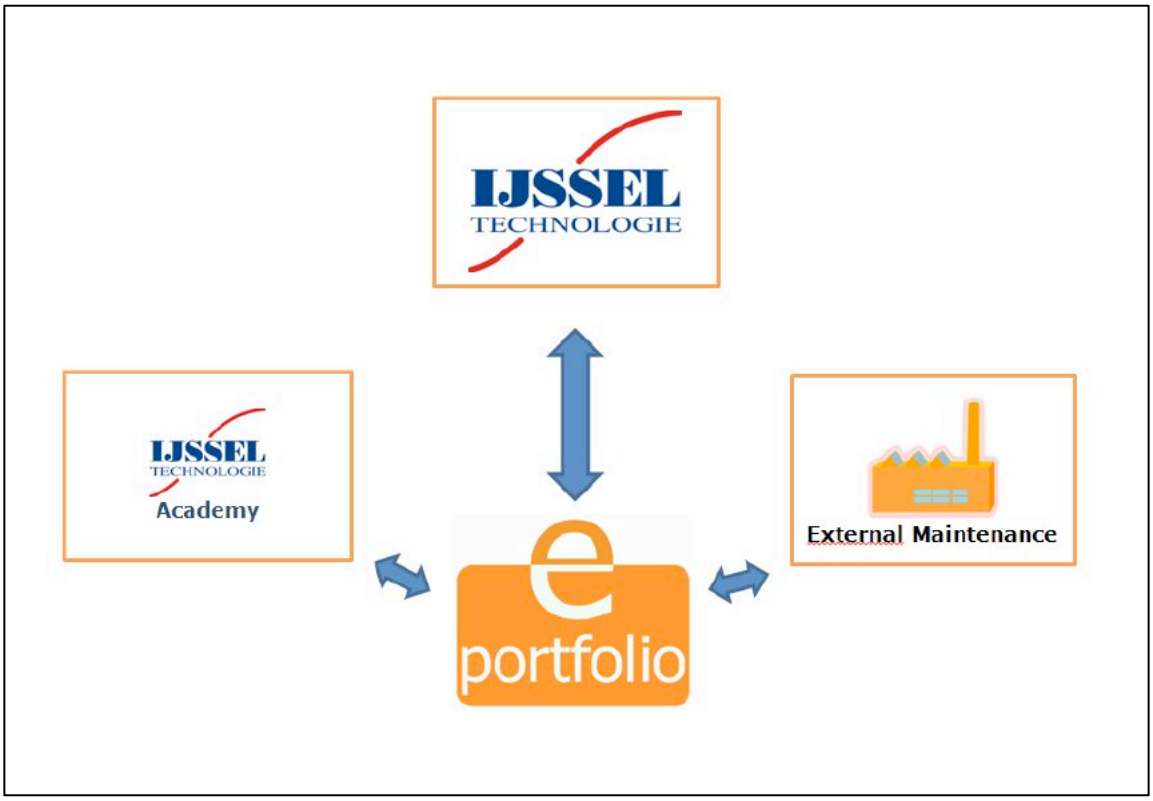
On a regional scale the same standard is used in terms of competencies and job profiles in Let's Connect and provides insight into the functioning of labour markets of Southeast Netherlands. Therefor a regional labour market dashboard is developed.



In the project we connect all different ePortfolios from both companies and schools to a converter. This converter translates all information according to a standard norm. That makes it possible that the dashboard can show information about the present competences in the regional labour market.

SME ePortfolio

The SME ePortfolio project involves the value of an ePortfolio in the mid-sized companies. We show the success of the implementation of ePortfolios at "IJssel Technologie". In this company, all employees have access to an ePortfolio in which their profile and also their competencies are recorded. The company has access to an organization portfolio, which is a representation of all portfolios of the employees. The company has so understanding of all existing competencies and can therefore plan their projects much better.



The company IJssel Technologie provides maintenance engineers to other companies. If necessary the employees are trained in their own academy for their task. All relevant information of the employees is stored in the ePortfolio. The maintenance engineers can use their ePortfolio to present them self at the company.

Conclusions

The presented examples of the ePortfolio implementation within the companies show that an instrument such as an ePortfolio certainly added value to companies.

JAISTEP Portfolio System that Facilitates Student's Self-Regulation by Showing Learning Goal and Educational Intention Embedded into Research Activity

Tomohiro Nabeta[1,2], Taisuke Ogawa[1], Mitsuru Ikeda[1], [1] Japan Advanced Institute of Science and Technology, [2] Center for Graduate Education Initiative

Self-regulated learning in graduate school

One of the key concepts in quality assurance of higher education is to aid the students to acquire transferable skills (Tillema & Kremer-Hayon, 2002). If the students solve the problem in well-designed situation (e.g., lecture), it is sufficient to apply the skills that the student acquired in the lecture to the problem. However, in realistic situations (e.g., research in university, work in company…) it is important to transfer the skills to a problem that does not have any fixed answer. For example, the students in research in the graduate school should identify what the problem is and then they should find out the skills they have to learn. Furthermore, the students should learn the necessary skill by themselves if they do not have the skill. Specifically, in realistic situation, to transfer the skill to the problem the students should design or regulate their own learning process. In short, in realistic situation, firstly the student should identify the problem, secondly they search the skill that solve the problem, and finally they learn the new necessary skill if they have not acquired the skill. Thus, from perspective of higher education, it is important to aid the students to learn how to regulate their own learning in realistic situation. The aim of the present study is to develop an ePortfolio system, (called JAISTEP) for research activity in graduate school that aids the graduate student to regulate their own learning.

Importantly the goal of this study is not to develop the eportfolio system that produces a lot of high quality research study but is to develop the eportfolio system that helps to acquire metacognitive knowledge and skills that let students transfer their own skill and knowledge to problems on a variety of field. In specific JAISTEP aims to enhance the students' self-regulated learning skills through the research activity in the graduate school.

Problems to be solved by JAISTEP

On our attempt for introduction of JAISTEP for enhancement of self-regulated learning there are two problems. Although JAISTEP aims at enhancing self-regulated learning, it is well known that the self-regulated learning is based on domain-specific knowledge such as knowledge about e-learning and computer skills as well as domain-general knowledge. It is implausible that the students who have little knowledge about e-learning set reasonable goal for studying e-learning or the student reflect on their own study correctly. Namely goal setting and reflection that are core concept on self-regulated learning is largely depends on domain-specific knowledge. If the JAISTEP is system to enhance domain-specific knowledge it is sufficient for the system to show the students a prompt saying goal such as "you should read text book pp.78 to 82". However authors do not believe that this type of learning is enough to acquire knowledge about self-regulated learning in graduate school. Specifically, in this case the students do not think about whether the goal itself is adequate for the students themselves because the system gives "correct" goal to the students.

Our second problem comes from diversity of the students. In graduate school each student are largely different potential for learning such as motivation, interest, knowledge, skills, attitude, and so on. Concerning diversity of the students' potential, the premade system is not usable in graduate school.

Consultation between student and supervisors with JAISTEP

Concerning on two problems in education on self-regulated learning in graduate school; dependence on domain-specific knowledge and diversity of students, authors developed task template in JAISTEP. The task template includes description of educational intention of task, list of learning goals, collaborators and sub-tasks that relates with the task. (Figure 1). Importantly, supervisors made the task templates in advance. And then the students customize the task templates along with consultation with the supervisors. Taking a task template of master thesis for an example, the task template of master thesis is shown in Figure 1 left picture.

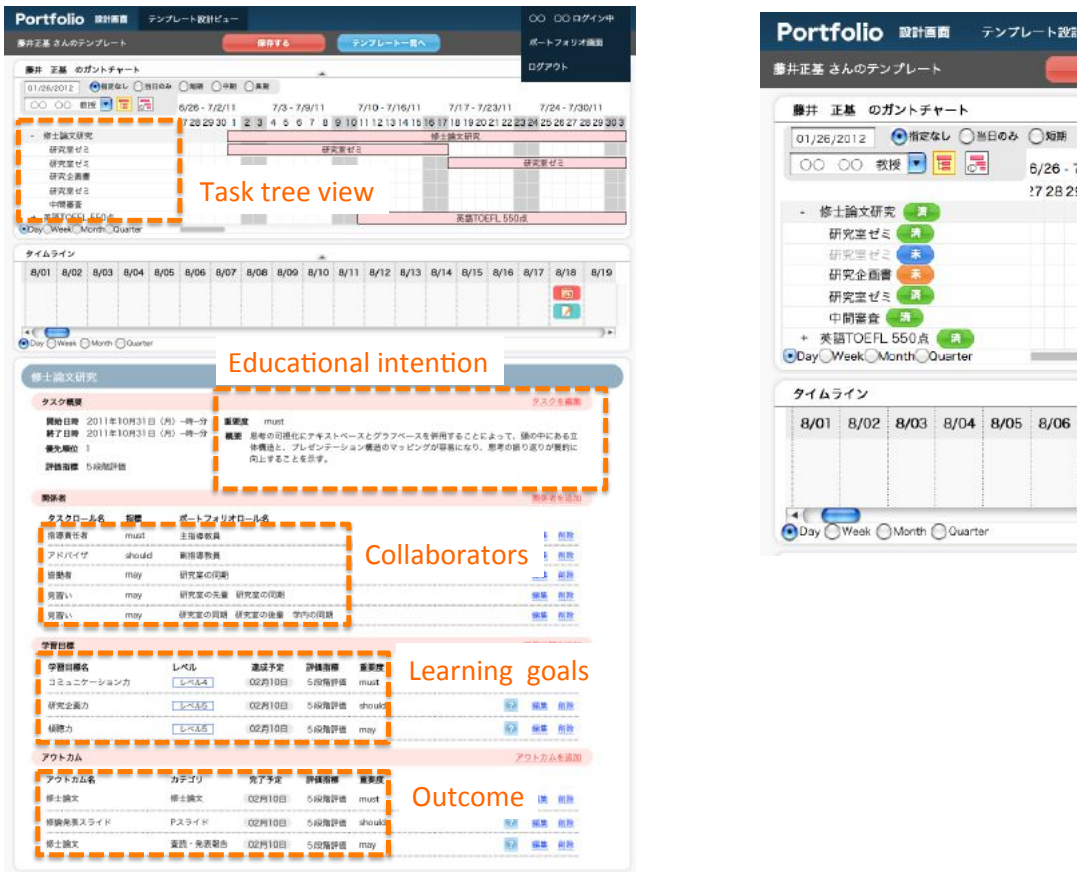


Figure 1. Task template (left side) and task instance (right side) in JAISTEP

Firstly, supervisors prepare task template by adding the properties such as educational intention (e.g., cultivating mind of scientist and knowledge worker), collaborators (e.g., supervisor), learning goals (e.g., communication skills and critical thinking) and outcome (e.g., article of master thesis) and sub-tasks (e.g., laboratory seminar presentation) into the task template. Since the task template is made by each supervisor (i.e., laboratory), the students who belong to the identical laboratory have common task template. Thus, each student customizes the task template by changing the properties along with consultation with supervisors. However the students have no right to change the task template while the supervisors have the right. Thus, the students consult about task such as master thesis with the supervisors who are expert on the domain, taking comments on how to set learning goal and on what content the student reflect on in this process. At last the students determine the task property by the students themselves by changing the task template into task instance, in which the students customize any types of properties in each task. As shown in figure 1 right picture, tasks that have been changed into instance is shown with a square of green while task that have not been changed into instance is shown with a square of blue.

Constructing task in JAISTEP

Planning task

In the research activity the students should conduct many types of activities such as learning new knowledge, writing article, discussing with experts, contacting with collaborators and so on. Along with doing the activities, the students set learning goal and assess if it is achieved. To accomplish this, JAISTEP helps the students to plan the task by the students themselves. For example, a student conducts presentation about the study in their laboratory seminar before the student presents the study at an international conference. In this case, since the student wants to practice the presentation of the study, the student conducted the presentation in laboratory seminar before the conference. Importantly, the student can voluntary plan their own schedule based on decision what they should learn. JAISTEP helps the student to plan their own tasks. As shown in figure 1, the tasks are shown in tree view. In this example, the international conference has a sub-task (e.g., laboratory seminar presentation). If the student wants to take comment from supervisor the student can add meeting with supervisor as sub-task by clicking the task that is the same level as added task (in this case laboratory seminar presentation) and selecting “add task”. The student renames the task as “meeting with supervisor” and includes supervisor into the collaborator.

Furthermore, the student can add learning goals and outcome if the student regards it is needed for their learning.

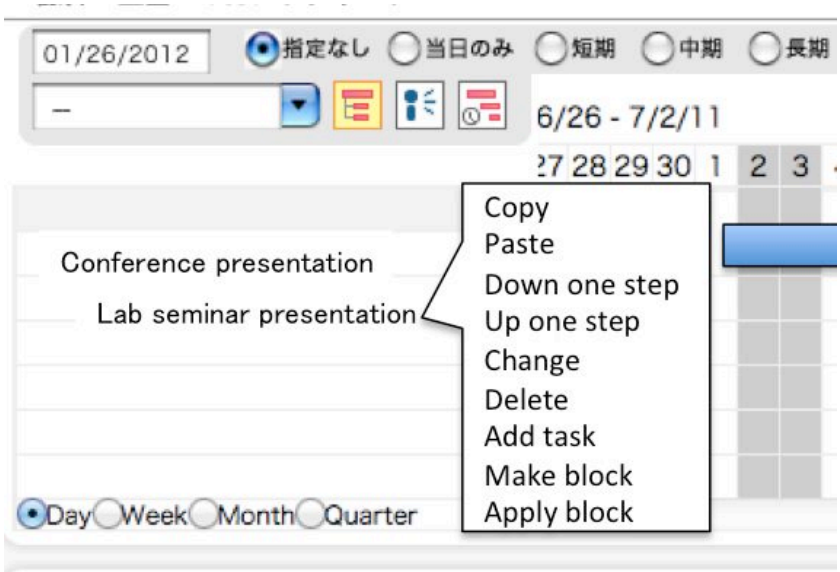


Figure 2. Task tree view in JAISTEP

Educational intention in research task

To help the students to learn regulation of their own learning process, it is important to show the educational intention of the research task (e.g., presentation on laboratory seminar). This is because the students' regulation of learning is improved if the educational intention is given to the students. For instance, student who should learn critical thinking make many opportunity for presentation on the laboratory seminar if the student previously knows that the educational intention of laboratory seminar presentation is to improve critical thinking. In addition, the educational intention of research task is variable by each laboratory. For example, one laboratory has educational intention to improve students' critical thinking on laboratory seminar presentation while another laboratory has educational intention to improve students' speech before audience on laboratory seminar presentation. For these reasons, the JAISTEP shows the students educational intention of research task in each laboratory. Specifically, principal investigators in each laboratory make the task template of the research task. They customize their laboratory's task template to reflect the educational intention. For example, the principal investigator adds the task template of laboratory seminar presentation to the sub-task that the presenter should evaluate one's own presentation if the educational intention of the laboratory seminar presentation is to improve self-analysis. In sum, the JAISTEP system enables the students and principal investigator to share the educational intention. Based on the educational intention shared between student and principal investigator the student can regulate one's own learning process.

Learning goal

Setting learning goal

The research activity in graduate school is a good example as realistic situation because the problems in research activity have no fixed answer. Thus, students in graduate school learn how to transfer their skill to problem if the students could regulate their own learning process by evaluation on what they have learned in research process. However some students have difficulty in evaluation on their own learning since they do not set the learning goal. To set the learning goal the following knowledge is needed; (i) how much difficult the research task is, (ii) time management and (iii) one's own skills and knowledge. Because these types of knowledge are constructed based on much experience of the research, the students sometimes have difficulty in setting learning goal. The JAISTEP system helps the students to set the learning goal by suggesting some helpful knowledge. Namely, the JAISTEP

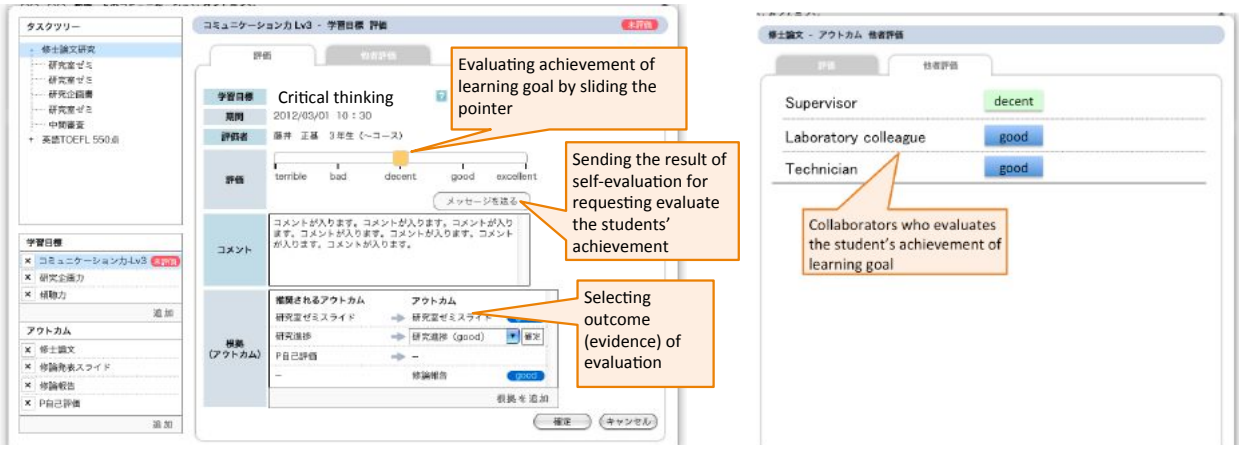


Figure 3 Evaluation views of learning goal in JAISTEP

Self evaluation view is indicated in left picture and the view showing evaluations from collaborators is indicated in right picture

system shows the students template of research tasks (e.g., presentation of laboratory seminar), in which some learning goal (e.g., improving critical thinking) are suggested. Viewing the learning goals suggested by the task template, the students could set the learning goal in the research activity in the graduate school.

The JAISTEP system has templates of tasks for research activity that the students conduct in graduate school (e.g., presentation of laboratory seminar). The supervisors include learning goals in a task template in advance. Namely, the supervisors prepare a set of learning goals in each task before the students set their learning goal using the template. For preparing set of learning goal, supervisors select certain competency from the competency list. In this list, certain competency (e.g., critical thinking) is divided into five levels based on difficulty. The supervisors input learning goals by selecting type of competency and difficulty level into each task template. When the student determines learning goals in the task, the students customize the learning goals in the task template.

Evaluating learning goal

As many theorist suggested, the self-regulated learning is continuous process; the results of reflection on whether the student achieved the learning goal leads to next learning goals (e.g., Hadwin, Oshige, Gress et al., 2010). JAISTEP helps the students to reflect on whether the learning goals have been achieved.

As shown in figure 3 in left picture, the students evaluate whether the learning goal has been achieved by sliding the pointer on the evaluation bar (from bad to excellent). After the evaluation by the students themselves, the students send the result of evaluation to collaborators for requesting to evaluate the students' achievement. As shown in figure 3 right picture, the evaluation of the learning goals that the collaborators have done was shown to the students. The result of collaborators helps the students to reflect on whether the students have achieved the learning goals as well as on whether the student have evaluated the learning goals correctly.

References

1. Hadwin, A. F., Oshige, M., Gress, C. L.Z., and Winne, P. H. (2010) *Innovative ways for using gStudy to orchestrate and research social aspects of self-regulated learning,* Computers in Human Behavior/26, 794-805.

2. Tillema, H. H. and Kremer-Hayon, L. (2002) *"Practising what we preach"—teacher educators' dilemmas in promoting self-regulated learning: a cross case comparison,* Teaching and Teacher Education/18, 593-607.

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An ePortfolio as a General Learning Tool

Beat Keller, Dominik Fankhauser, Bildungszentrum Gesundheit und Soziales

Introduction

Based on a theoretical model of learning and acting we propose an eportfolio as a general learning tool. The model of learning and acting is an elaborated version of the «integrating model of learning» by Kaiser (2005 [1], www.hrkll.ch), based on four cognitive systems and the transitions of contents of one system to other systems. The eportfolio presented here is an elaborated note-taking in the sense of publishing contents of the declarative system (D) in an external system (E) accessible to others (i.e. teachers).

A model of learning and acting : Four cognitive systems

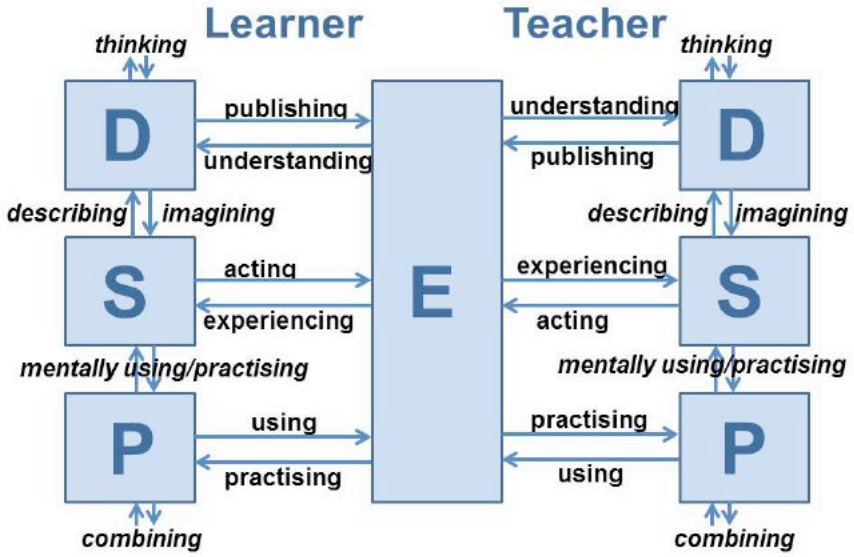

Figure 1 : A learner and a teacher with their four cognitive systems, sharing the external system

(The same picture could represent peer-to-peer interaction. And : More than two persons could share the external system.)

Declarative system (D)

The declarative system contains our knowledge in the form of concepts, theories and facts about the world (semantic descriptions of the «contents» of the external system). It also contains descriptions of experienced episodes in the form of stories, narratives. These stories are secondary representations of the contents of the situative system. We need them to communicate our experiences to others. Experiences cannot be communicated directly. They must be transformed into narratives. The declarative system corresponds roughly to the memory that is called «semantic» in the literature (i.e Roediger et al, 2009 [2]).

Situative system (S)

The situative system stores our experiences with minute details, including experienced emotions. The experiences are grouped by the similarity of the experienced situations, episodes. If we encounter a new situation, traces of similar situations in the past are immediately and automatically activated. By constructing ficticious experiences, the situative system provides the ability to imagine future situations, episodes. The situative system corresponds roughly to the memory that is called «episodic» in the literature [2].

Procedural system (P)

The procedural system contains our skills and habits as cognitive rule systems and sensory motor control loops linked together and to the environment. Skills and habits are automated routines that are executed without conscious monitoring (our attention is free for other aspects of the situation). The procedural system corresponds roughly to the memory that is called «procedural» in the literature [2].

External system (E)

The external system is the accessible world in which we live, act and experience episodes. It contains the external tools that we use to better cope with situations. It also contains «notes» in a broad sense: All written material, all published descriptions of content of declarative systems (others and my own). The external system can be seen as a (fourth) cognitive system in the sense of the extended cognition paradigm (i.e Clark, 2008) [3]. We do not completely agree with this paradigm, as we agree with the critic put forward by Fodor (2009) [4]. Specifically with his distinction of «content» (of the declarative system) and «derived content» (descriptions of content of the declarative system in the external system).

Connections between contents of different systems

Contents of the declarative system (knowledge) and contents of the procedural system (skills) are linked to the groups of similar experiences. The links have the following meaning: This knowledge/skill is useful for successfully coping with situations in this group.

Transitions between systems

Contents of one system can be transformed into contents of another system. These transitions between systems are the basic elements of learning and acting. They can be used to compose complex scenarios of learning and acting (and teaching), much in the same way as Laurillard (2012, [5]) uses her Conversational Framework to compose learning and teaching patterns.

acting

Acting means coping with a situation by putting a vision (of what we want to do) into action. The vision is based on experiences with similar situations and our normal course of action is to repeat former success. If we have no experiences with similar situations, we have to construct a vision based on a (declarative) plan by *imagining*. Putting a plan into action involves two steps: *imagining – acting*.

experiencing

We store experienced situations, episodes in the situative system. One of the most basic learning scenarios is the detection of regularities and correlations in experienced events: Pavlov‘s dogs detect the correlation between the ringing bell and the sausage (classical conditioning). Skinner’s pigeons detect the correlation between pressing a button and getting a corn (instrumental conditioning). The latter involves already two steps: *acting – experiencing*.

using / practising

Skills are acquired by practising. Practising a skill means using the skill, either as part of coping with a situation or in a situation explicitly arranged for practising. In the first case the skill is practised by using it as a resource to cope with aspects of the situation. In the second case the situation is specifically tailored for the purpose of practising.

using / practising mentally

Some skills can be used and practised mentally: Some people store phone numbers as movement patterns on a keyboard. Recalling the number is done by mentally executing the movement pattern and mentally reading off the digits.

describing

Describing means producing a (mental) description of an experienced situation, episode, event in the form of a story, a narrative. This description is a secondary representation of the experience in the medium of language and thus suitable for communication (*publishing*). The descriptions of skills as recipes are also secondary representations and are produced by (at least mentally) *using* the skill and *experiencing* the resulting episode and then *describing* the experience as a recipe.

imagining

We have a powerful capacity for reconstructing experiences out of our stories. This capacity is responsible for the fact that our episodic memories sometimes are embellished, producing a picture of the past that is more consistent than the past itself. The same capacity allows us to construct (ficticious) experiences out of stories of others, or to construct mental blueprints of actions out of (declarative) plans.

publishing

Declarative knowledge (the contents of the declarative system) can be transformed into a form suitable for storage in the external system for later use by oneself or by others. Only declarative knowledge can be published in this way. That is why we need secondary representations of the contents of the other systems (stories and recipes).

understanding

Publishing is only the first part of a communication. Understanding the published content is the second part. Understanding is necessary for the acquisition of new (declarative) knowledge from external (re)sources. And existing declarative knowledge is necessary for understanding. Therefore knowledge acquisition is always a slow and stepwise process, each step with the understanding of those parts that are understandable based on what has already been understood.

thinking

Thinking here means all uses of existing knowledge in the declarative system to derive new insights: concluding, inferencing, deducing, but also arguing, reasoning, rationalizing, planing. Thinking does not produce new knowledge, it only detects implied knowledge, i.e hidden parts of existing knowledge.

combining

The use of skills automatically creates more complex skills taking less complex skills as units. The same is true for habits. Very complex skills/habits that cope with complete routine situations are very rigid, inflexibel. Experts behave differently: In coping routinely with a situation they are still very sensitive to small signs of variation that require a different course of action.

ePortfolio

As already mentioned in the introduction, the eportfolio presented here publishes contents of the declarative system (concepts, theories, facts, stories, recipes) in the external system. Four types of entries in the eportfolio can be distinguished:

- Stories, narratives
- Encyclopaedic entries
- Connections
- Reflections

Stories, narratives

Stories, narratives are published descriptions of experienced episodes, of situations and how we managed to cope successfully with them.

Encyclopaedic entries

Encyclopedic entries are published descriptions of concepts, theories, facts («knowing that») and of skills and habits («knowing how»). They are descriptions of resources used in acting, in coping with situations.

Connections

Stories contain links to resources, i.e. to encyclopaedic entries describing resources that helped in coping with the situation. Resources (i.e. encyclopaedic entries) contain links to stories, where they helped in coping with the situation. If stories are collected in categories of similar situations, the encyclopaedic entries are best linked to the categories, not to the individual stories.

Reflections

Each entry in the portfolio (including reflections) can be annotated with comments by oneself (self-reflection) or by others (interactive reflection). This recursive commenting can produce complex threads of discussions among the learners and teachers that have access to the eportfolio. In the case of discussions about stories we have a record of a reflection process. In the case of discussions about encyclopaedic entries we have a record of a collaborative learning process.

ePortfolio – where and what for?

As the title already says, we propose the eportfolio as a general learning tool with a very broad scope. It can be used to support the personal development by documenting the outcomes of informal learning as well as to promote the formal learning processes within a formal education setting. In our instituiton (Bildungszentrum Gesundheit und Soziales) it is used in health care education.

Rather than listing all possible uses we want to emphasize some important general points:

- The eportfolio is the publication of descriptions of contents of the declarative system in the external system. It heavily depends on the «publishing skills» of the learner. Thus it has to start with the current skills of publishing. But these skills are practised by being used and they develop in parallel to the development documented in the content of the eportfolio. Reflecting is another skill that is best practised be being used.
- The eportfolio is metacognitive in a double sense: (1) Describing contents of a cognitive system is

already a metacognitive activity. (2) Each entry (including reflections) in the eportfolio can be the object of a metacognitive process on the next level.

- We support the constuctivist view of learning (and teaching): Learning is an individual **con**structive process. **In**structive processes cannot enforce but only foster this constructive process. The teacher is a learning coach. Adequate individual coaching is only possible based on diagnostic information about the individual learner. The eportfolio contains most of this diagnostic information.
- ePortfolio software: Garrett (2011) [6] identifies ownership, social learning and ease of use as three critical factors for user satisfaction with an eportfolio tool. His own software tries to maximize the values of these three factors. We think, the factor ownership or sense of ownership could be fostered even more, if learners would be allow to choose the eportfolio tool that best fits their hands. Today there are a lot of handy tools available online. To just name e few: A gmail account, a space on tiddlyspace.com, an account on catch.com or evernote.com. And most of these tool are also available on smartphones (mportfolios).
- Entries in the eportfolio do not have to be written text. Anything goes: Recorded speech, videos, animated powerpoint presentations. The possibility to store multimedia content is one of the main advantages of **e**portfolios.

References

1. Kaiser, H. (2005) Wirksames Wissen aufbauen: Ein integrierendes Modell des Lernens
2. Roediger, H.L. III, Zaromb, F.M. & Goode, M.K. (2009) A Typology of Memory Terms, in: Byrne, J.H. (ed.) Concise Learning and Memory: The Editor's Selection, 1-14
3. Clark, A. (2008) Supersizing the Mind: Embodiment, Action and Cognitive Extension
4. Fodor, J. (2009) *Where is my mind?,* London Review of Books/31(3), 13-15
5. Laurillard, D. (2012) Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology
6. Garrett, N. (2011) *An Eportfolio Design Supporting Ownership, Social Learning, and Ease of Use,* Educational Technology & Society/14(1), 187-202

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ePortfolio in the Context of Developing Learner Autonomy and Responsibility

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Introduction

Autonomous learning and responsibility are the very characteristic features and resources of a personality which ensure lifelong success. Autonomy is the asked-for quality of an employee on the labor market. From the psychological point of view autonomy is a new formation characteristic of the students' age.

In this respect a problem of pedagogical technologies for developing autonomy and responsibility at all the levels of professional training (Bachelor/Master programs) gains special importance. We consider ePortfolio to be a unique modern technology for developing learners' *autonomous learning* and responsibility for the quality result of educational activity; it helps in formation of the educational need. Institute of Education, Psychology and Sociology at Siberian Federal University has been carrying out the experiment on implementing ePortfolio technology in the academic process of training Bachelors/Masters of Education and Psychology for five years (2009-2012). The article presents the first results of this research.

This study accounts for the way to use ePortfolio technology as the instrument helping to develop autonomous learning, educational initiative based on the student's personal responsibility.

The following objectives were defined to investigate the mentioned above problem.

- Define phenomenology of meaning of the terms "autonomy" and "responsibility" in the context of developmental pedagogy for professional education.
- Define the available resources of ePortfolio as an instrument of autonomous learning and responsibility development for the both levels of higher education (Bachelor and Master degree).
- Distinguish which artifacts prove the increased learner autonomy.
- Carry out a survey among students of Master and Bachelor degree programs (of different years of studying) to define the dynamics of the transition of the academic ePortfolio into career ePortfolio.

Approaching the terms 'autonomy' and 'responsibility'

In our research different interpretations of autonomy in Russian and foreign psychological science are considered. According to J. Golovin (1998) autonomy is a generalized characteristic of a personality realized in the initiative, critical thinking, adequate self-evaluation and responsibility for the person's activity and conduct. Autonomy is closely connected to the active thinking process, feelings and will. Autonomy according to the leading psychologists E. Ericson, D. Levinson is a significant new formation of a personality characteristic of the student's age. D. Baume (1994) specified that "learner autonomy is the one of the key goals of higher education".

Professor Boris Elkonin (2012) says that autonomy is connected with constructing activity supports, while initiative is connected with challenge and overcoming barriers of the personal area of activity, with risking the supports. It should be investigated what may perform the role of the supports in the students' age from the point of view of higher professional education. For elementary school level B.D. Elkonin defined (2011) the condition of developing learner autonomy and initiative as "transition of control and assessment functions from an adult to a child" despite of their contradictory nature. Unfortunately most first year university students do not use this function instrumentally as they failed to develop it at school.

D. Baume (1994) relates the learner autonomy to self-efficacy, metacognition, self-regulation and proactive attitude. Thus according to unanimous opinion of Russian and foreign scientists, a self-dependent student decides himself what to study, managers his educational process and takes responsibility for the educational result. It is necessary to consider what the term 'learning outcome' means relating to higher education. How is learning outcome connected with the ability of a student to assess his resources and deficiency studying at different educational programmes?

The view presented in this research is based on the Vigotsky's methodology accepted in the developmental psychology by L.Vigotsky and V.Davidov and the necessity to develop the skills in "assessment for learning" and not only the necessity to get good examination marks.

We claim that the focus on leaning outcomes via adopting the new system of assessment connected with the formation of individual educational needs enables to develop learner autonomy and responsibility which

are the necessary characteristics for the competitive labor market. We encourage a student to define educational needs by means of developing the students' authentic assessment skills, and motivating the student to perform activity (Figure 1). The reflexive analysis of the students' practical work launches the process of career development. Therefore learning outcomes are transformed into professional needs, the basic competences are supplemented with the professional and the student gets personally significant learning outcomes. B.D. Elkonin (2011) says that "the first and the fundamental result of any educational activity is not what the students does, but what he asks from the teacher. It is his sensible and voluntary initiative … It is the educational need which appears". Student's ePortfolio makes the results of educational activity visible by means of the presented artifacts and reflexive materials, extends the university academic environment and constructs the assessment system significant for the student; ePortfolio serves to define educational need.

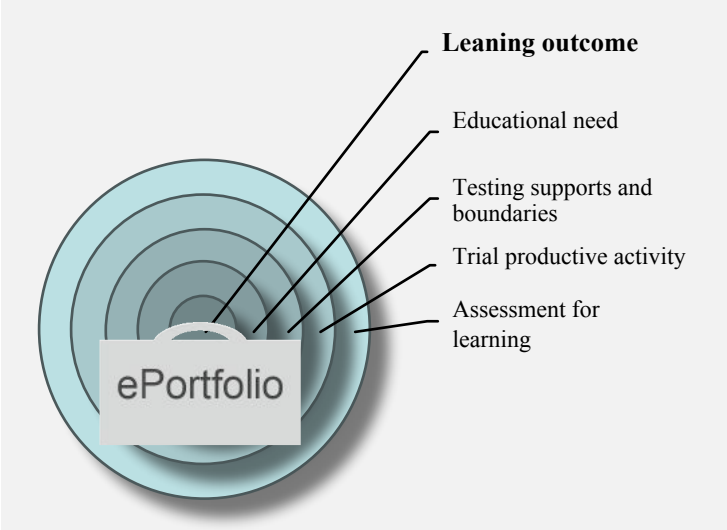

Figure 1. Learning outcome formation in the process of learner autonomy development

Traditional assessment system always tries to measure learning outcomes in grades. Isaak Froumin (2009) claimed that the dominating principle in education today is "the principle of similar action" when the teacher performs an action and the students follow the requirements or the sample and this what is considered to be the outcome, the result. The remote outcome is more important which is difficult to measure due to the insufficiently developed methodology of the research. ePortfolio technology allows to implement longitude measurements of leaning outcomes and present information to different subjects of assessment.

Summing up the mentioned above statements we get the following:

- The result of the higher educational system is an independent, reliable professional training aimed at satisfying the definite professional needs.
- Developing of the professional need is related to developing an educational need in specific professional competences.
- Developing educational need requires conscious assessment skills allowing a student to interpret his results, compare the results with the initial idea and plan further individual progress.
- Developing conscious assessment skills requires an experimental field, instruments for constructing activity supports, the methods to analyze and plan educational activity.

Students' ePortfolio may become a universal instrument for defining an educational need and developing assessment skills.

ePortfolio in the context of developing autonomy

There are different approaches towards the typology of autonomy in Russian and foreign psychological science. P. Hughes (2003) distinguishes the three main dimensions of educational autonomy: personal, rational (critical) and relational (social).

Russian psychological science (L.V. Vygotsky, A.N. Leontyev) distinguishes the three stages of autonomy a person undergoes in the process of developing any activity: reproduction, searching and creation.
K.E. Bezukladnikov (2008) stated the importance of developing all the stages of autonomy in professional education starting with the reproductive one as it is the basis of developing the quality of activity. N. Currant, P. Hughes, P. Rodway (2010) following K. Bezukladnikov (2008) and E. Polat (2007) admit that

ePortfolio technology enables effective development of all the dimensions of the students' autonomy (personal, rational and relational) and all the stage types (reproduction, searching and creation).

It should be singled out that this article describes a pilot research project which should be further followed by a more extended and prolonged sampling.

ePortfolio method has been used at the Institute of education, Psychology and Sociology of the Siberian Federal University for five years at different educational levels:

- Bachelor programs: teacher training programs for developmental education (Elkonin-Davidiv method) (14);
- Master programs: educational manager and researcher;
- Professional development programs post-graduate students (students specializing in different areas and acquiring additional qualification - Teacher)

In the study the quantitative and qualitative research methods were used such as a survey among students and teachers, interviews with students and teachers, analysis of the students' portfolios.

Basic ideas and results of the investigation

At the beginning of our experiment we described the goal as implementing an integrated authentic assessment system for a block of IT disciplines: the students' knowledge and competences were presented in the ePortfolio in the form of the authentic products. We also faced the urgent problem of motivating the students and increasing their interest in the result of education. Among the objectives of the experiment there were the development of self-evaluation skills and the skills to deal with the external assessment, independent assessment by means of ePortfolio technology and the skills of assessing the co-students' works.

Within our project work at launching the mechanism of reflexion we worked out the organizational activity with the students of the 1st year. The students learn to analyze their educational resources and deficiency. The results of the activity are presented by the students in the form of essays in their ePortfolios: their reflexion on the pedagogical profession and pedagogical career, their plans for the future. The students also include in their ePortfolio the thesaurus – the basic terms of the Elkonoin-Davidov system: development, theoretical thinking, educational activity, educational cooperation, educational goal, modeling, etc.). This thesaurus (according to our vision) will be developed through all the years of study. Further on it will become the individual pedagogical instrument of a primary school teacher working in the system of developmental education. After completion of different disciplines of the curriculum the students accumulate the material in his ePortfolio: analysis of the basic theories laying the ground of the developmental education and the examples of practical work in Russian schools and the instruments used by teachers in their work.

It is important that ePortfolio allows a teacher to return the student's work as requiring improvement several times teaching a student to be responsible for the learning outcome. Every Bachelor program student within the four years of study collects his own pedagogical 'moneybox' he will take with him when he starts teaching at school.

On completion of the introductory practical training (after the second term) the students present in their ePortfolio the reflexive materials in the form of the observation diary. The students try to sort out and describe the main characteristics of the secondary school students' activity and its structure, consider learning outcomes, marks and effects of the developmental education. Students of the second year publish in their ePortfolios the reflexive reports on their pedagogical practical training, their thoughts of the developmental education, analysis of the mistakes made by the students during their first lessons as teachers.

ePortfolios Bachelor program students of the second year allow drawing conclusion on developing the three dimensions of autonomy. Concerning personal autonomy, more than the half of the students show high level of motivation, high level of self-evaluative, reflective and action planning skills. Among the Master program students and post graduate students the number of those who prove a developed level of personal autonomy is 70-80% (within their first year of study). This was the result we expected as the latter group consists of adult students who already got their first university degree.

ePortfolio for Master and post-graduate program students

ePortfolio is a modern pedagogical technology that promotes the students' autonomous activity, both in the educational process and in constructing further career. Selection of the ePortfolio artifacts, reflection of the

educational and professional practical work develops the student's ability to perform reasonable activity, improve his results and overcome barriers. ePortfolio encourages the development of reflexion and the thinking processes. Going back to the psychological grounds we regard autonomy from the point of view of S.L. Rubinstein (1946) as "a developed within the ontogenesis actual, subjective experience". ePortfolio as a pedagogical technology promotes development of professional experience and provides the mechanisms of its visualization in the virtual environment. Most often higher education tendency to be too 'theoretic' does not allow enough place for practical experience. ePortfolio technology allows creating 'trial projects' in the secure virtual environment. It is the virtual environment where Master program students get the opportunity to model trial forms of activities referred to real practice, artifacts presented in the ePortfolio testify to the level of the developed rational autonomy (analytical, critical, metacognitive, formulating own problem).

ePortfolio visualizes the formation of the educational need by means of constructing the action plan and the attitude toward the achieved result, planning practical work and evaluation of the available resources. Extending the boarders of the educational environment is a significant factor in the professional self-determination. Analysis of the Master program students' ePortfolios allow concluding on the developed medium and high levels relational autonomy, which can be traced in the presented social achievements, in overcoming social and interdisciplinary contexts (Figure 2).

ePortfolios of that group of students often contain professional achievements proved by the presented certificates, awards, other documents proving the competences – they contain these documents two or three times more often that the students of the first group. Master program students and post-graduate students proposed including the section "Publications" into the ePortfolio to present scientific articles, thesis, patents, projects, etc. While interviewing this target group we found out that in the assessment procedures they underline such characteristics as openness, significance for future professional activity, clearness of the assessment criteria, accessibility of the results, integrated character of the work and the opportunity to improve the work. Post-graduate students stated that the assessment carried out by means of ePortfolio technology is the most important for professional growth and career development within and outside the university. We think this opinion proves the developed rational and relational autonomy of these respondents.

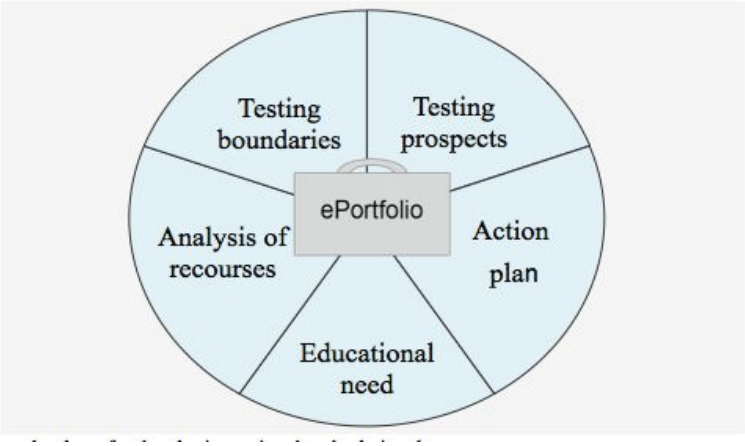

Figure 2. ePortfolio technology for developing rational and relational autonomy

ePortfolio is a modern technology for authentic assessment of educational and professional activity. It is an individual personally selected set of documents which on the one part presents learning outcomes in the form of a product, and on the other part contains information which characterizes the means of analysis and planning of the students' educational activity (H. Barret, 2007). According to E.S. Polat (2007) ePortfolio is an instrument for self-evaluating the student's cognitive creative activity, a documented result of the reflexive work.

The autonomy types

We may judge on the autonomy level analyzing the reflexive materials presented in the students' ePortfolios (the judgment is based on the expert assessment). In our investigation we considered students of different areas of specialization and years of study. The table below presents the examples of the artifacts which according to the expert opinion were classified as indicators testifying to the type of the autonomy (personal, rational, relational).

We use the following abbreviations to define the target audience:

- HST – Higher School teacher
- MES – Master Program in Education students,
- BES1 – Bachelor program in Education student of the 1st year
- BEP2 – Bachelor program in Education students of the 2nd year (area of specialization: primary school teacher in the constructive learning paradigm)

Autonomy type	Indicator
Personal	"My plans for the nearest future: first, present myself at the university as a hard-working, creative and active person; second, I want to take an additional course in English to study abroad as an exchange student; third, I am a very communicative person and I want to get to know more people in the university" – BES1.
Personal	"After graduating the university (Bachelor program in Education) I will go to work. Then I plan to enroll a Master program for professional development. My plan for future is to become a school head-master. I have to work hard, practical work is very important. It is very difficult to work with children having no experience" – BES1
Personal	"What do I expect from the university? Minimum – a Master degree. It will help me in my career. It will help me on the labor market and flatter me. I think the content of education will help me to develop professional and basic competencies and my personality. I will make another step in the sphere of education" – MES
Personal	"For me as a pedagogue reflexion is an important part of professional activity and life in general. Without it one cannot evaluate his/her activity and plan further professional and personal development" – BES2
Personal	"In my pedagogical activity I feel constant necessity to develop professional competences to make my work more productive and successful. To do so I take part in trainings, professional development courses – in the field of general pedagogy and in the field of my specialization. It helps me to plan and analyze my pedagogical activity" – MES
Personal	"During my study at the university I want to meet new friends, get new knowledge, become independent, realize my own educational ambitions, learn to implement the obtained knowledge in practical work" – BES2
Rational Autonomy	"I assess my resources as follows: I plan to participate in the organizational activity games, trainings, additional courses for broadening the mind, deepen the knowledge in my professional sphere; extending the number of useful and interesting acquaintances. Useful and necessary information one may obtain from different sources, meet clever people, read various literature, articles, Internet editions" – BES2
Rational	"ePortfolio is where *subjective* meanings of autonomy appear…"- MES
Rational	"ePortfolio allows planning career development , this is the place where all kinds of activity are welcome» MES
Rational	"ePortfolio is the field of intentions (goals, plans, purposes)…" BES2
Rational	"Senior students often study a lot of compulsory courses. Why English and Physical training are compulsory? I am not against English; I think a student should choose a foreign language considering his/her professional and personal interests. It is necessary to study what you are interested in. Then you will never forget it! It is necessary to provoke a student to be proactive. Now the students are megapassive. One of the basic principles of my future pedagogical career is "Do not impose" – HST
Rational	"I am an active person. But my interests are not often taken into consideration within the Bachelor program". More often the knowledge is presented in the ready-made form. I think it is bad for both mastering the knowledge and developing the thinking processes. The students work little to obtain new knowledge" – HST

Autonomy type	Indicator
Relational	"When I was a student of the 3rd and 4th year I understood I needed some adjustment of the educational trajectory. I was specializing in Translating but I have always been interested in Education. I have been teaching a language in private schools for several years and I like this job. There is where I get space for creative activity, for thinking out something new. That is why I chose Master program in Education. Then I decided to specialize in Educational Management as it offers new opportunities. Then the career prospects become more of administrative level as we will know how to manage an educational institution and have the right to work with the staff" – MES
Relational	"Studying at the university is an important step in my personal development. Though the employers yet do not quite understand the difference between Bachelor and Master degree I do not regret the time I spent at the university. First, I learned to work with texts better and it is easier for me now to understand and analyze scientific articles in the field of humanitarian branch of study. Second, I developed an active position. Third, the organizational activity games I took part in as a student of the first and the third year influenced me a lot. My scientific advisor played an important role in my professional development" – BES2
Relational	I decided to enter a Master degree program in Higher Education and defined my goals as further career development - I want to teach at a pedagogical college. My goals as a Master degree student are: • Mastering technologies and methods useful in teaching students; • Searching the ways of self-realization in the new professional activity; • Searching the opportunities of the Elkonin-Davidiv system of developmental learning for realizing the project "Applied Bachelor degree for training primary school teachers to work in the constructive learning paradigm" – MES

Table 1. The artifacts testifying to the different types of Autonomy presented in the students' ePortfolios, Institute of Education, Psychology and Sociology

As we see from the above table personal autonomy is characteristic of the students of the first level of training (Bachelor program). The focus is on formation of the universal self-educating instruments which allow defining the students' personal educational goals. ePortfolio technology helps Bachelor program students to visualize their picture of themselves in the virtual university environment, define educational principles, expectations, assessing the existing deficits (after completion of the practical work). Bachelor program students of the second year demonstrate rational autonomy, and participation in the organizational activity games, analyses of the available resources - constructing individual learning educational paradigms and activating professional interests play an important role in it.

The examples of rational autonomy are more often presented in the ePortfolios of the students getting additional specialization "Teacher" and "Higher School Teacher". These students are usually older than average and have a certain life and work experience - they are able to carry out critical analyses of the academic disciplines and reflect on the practical and theoretical aspects of the educational practical work. Rational autonomy is more often characteristic of the Master program students: their ePortfolios include more artifacts aimed at demonstration of the professional competences and the quotations on the metacognitive styles of education, self-control and self-management.

In the ePortfolios of the Master program students of the second year we could find a few artifacts testifying to the relational autonomy. While interviewing the group mentioned above we found out that the students enrolled in the Master program have already had working experience and a definite educational need aimed at career development. That is why for this category of students it was easier to present a ePortfolio - they are aware of the university learning context and profession. The level of relational autonomy of the representatives of the younger students to our opinion may be connected with their individual social proactive position and high professional motivation (in our investigation these were the students coming from teacher dynasties).

On completion of the term we carried out the questionnaire poll among Master program graduates specializing in Education. The results of this work are presented in Fig 3. As we may conclude from these data all the students admit the development of all the autonomy types by means of ePortfolio technology. Master program students pay attention to the important role of the ePortfolio technology in launching the

reflexive processes on the basis of the students' practical work and academic study, the process of constructing individual educational paradigm and individual progress assessment. To our opinion it proves to the fact that the graduates develop professional needs, are able to coordinate academic contexts and their future professional practice, are aware of the available personal resources and existing barriers. Practically a senior student' ePortfolio is gradually transformed into a professional (career) ePortfolio.

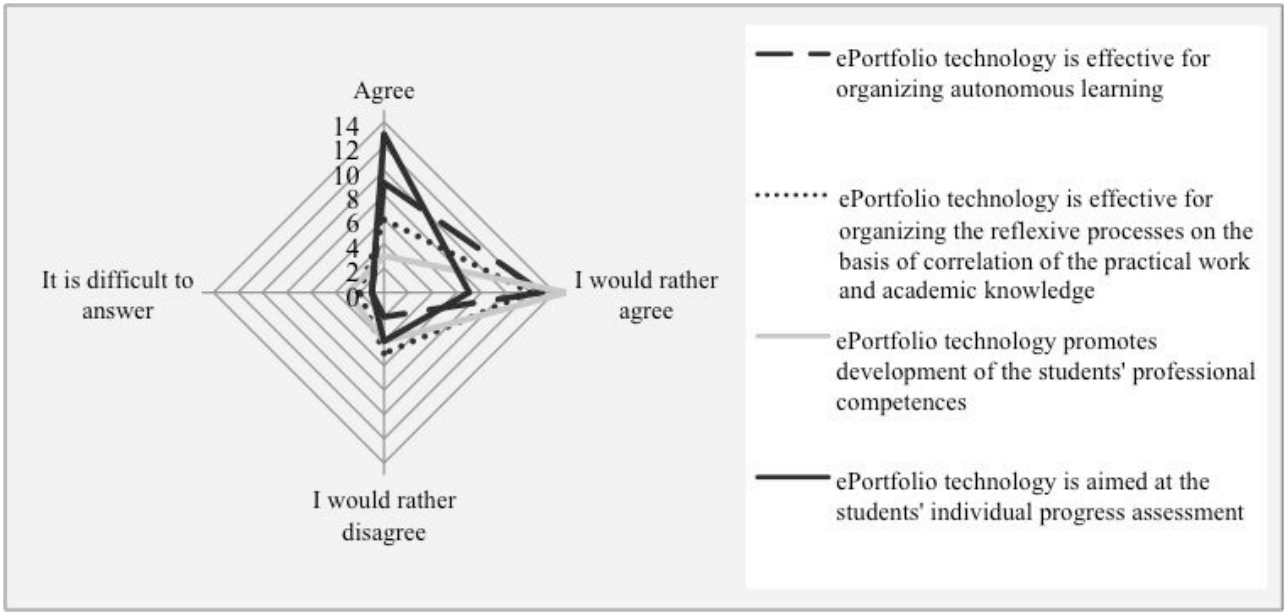

Figure 3. Results of the survey carried out among Master program graduates (area of specialization "Education") on the prospects and opportunities of the ePortfolio technology.

We studied the opinion of Master program and post-graduate students (52 respondents) of the ePortfolio technology and its prospects in the job placement process. 76% of the respondents consider ePortfolio useful in this context as it is described in Figure 4. From the above statement we may draw conclusion that these respondents have a developed professional need and career aspirations.

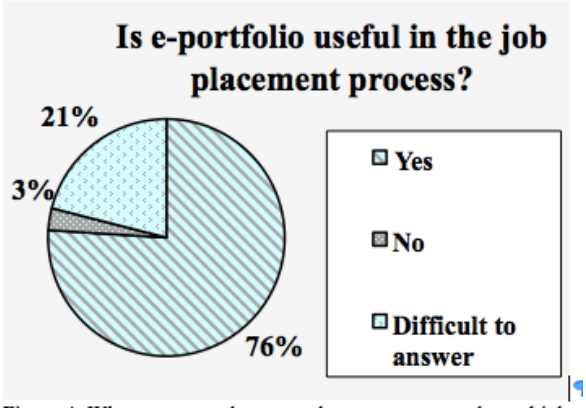

Figure 4. Master and post-graduate program students's opinions on using ePortfolio in the job placement process.

We asked the students what changes may be introduced in the educational ePortfolio structure and if the ePortfolios may be used by the prospective employers. We present the results of the questionnaire in the diagram below.

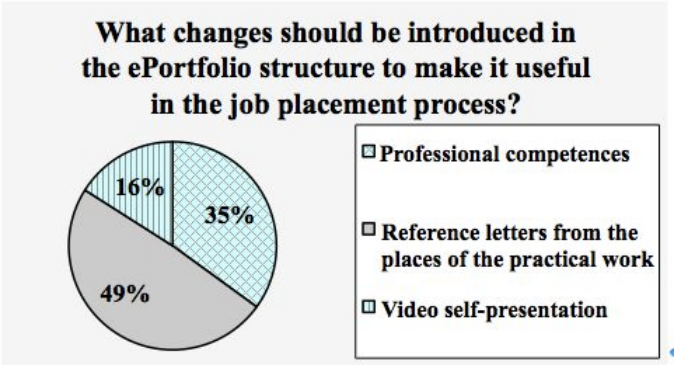

Figure 5. Master and post-graduate program students' opinions on career portfolio

16% of the respondents consider important including a video resume into ePortfolio, 49% mention references from the previous places of work and places where the students had practical training while studying at the university. 35% of the respondents state that artifacts proving professional competences should be included in the ePortfolio. The materials presented in the ePortfolio and the five years of the research work show that Master program and post-graduate students more often than the bachelor program students aspire to manage educational resources presented in the ePortfolio, both in the local university network and in the Internet. They test different perspectives, differentiating their aspects with the view of the further influence on the career prospects. The students begin constructing supports for their professional ePortfolio within the university environment taking up responsibility for their education.

B. Elkonin says that a portfolio allows a student "to construct trial productive forms of activity related to the subject", i.e. to their practical work and their deficiency revealed in real-life context. Thus we may speak about 'the students challenging their prospects' by means of ePortfolio instruments as it stores reflexive materials and the students' responds to the questions "Where do I go? Where have I arrived at? What resources do I lack? What do I need to improve?"

Conclusion

The five years of the experiment extended the goals including the following

It is necessary to work out a universal and flexible ePortfolio structure for every level of university education (Bachelor/Master programs, post graduate/professional development education) in accordance with the goals set by the subjects of education and the prospects of transforming an academic ePortfolio into professional ePortfolio.

In this respect it is necessary to train tutors - teachers helping to work with ePortfolio, the training may be carried out in the form of professional development courses. Thus we face a problem of working out methodology and the problem of validation the procedure and indicators used for assessing the students' academic and professional competencies by means of ePortfolio.

Nowadays a more extensive use of modern media and social contexts attractive for students, such as:

- integration of video resume into the students' ePortfolio for presenting oneself on the labor market;
- extending social contexts by means of including the resources available in the social networks in the students' ePortfolio;
- transition of the students' ePortfolio into career ePortfolio.

Currently there are problems still open for discussion. How to relate the ePortfolio artifacts to the specific types of educational and professional activity? Which productive prototypes of the professional activity retain the students' interests? How to encourage the students' initiative in developing ePortfolio for the job-placement process? How to tie together social and educational environment and educational practical work by means of individual ePortfolio? How to make the initiative to develop professional competences urgent and record this dynamics in the ePortfolio?

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References

1. Barrett,H. (2007) *Researching Electronic Portfolios and Learner Engagement*: *The REFLECT Initiative.* Electronic Portfolio issue, Journal of Adolescent and Adult Literacy (International Reading Association). 50:8, pp. 436-449.
2. Baume, D. (1994) *Developing Learner Autonomy*, SEDA Paper 84, Staff and Educational Development Association, Birmingham Bezukladnikov, K.E. (2008) *Competency Approach to Modeling the Academic Process of a Pedagogical Higher Educational Institution,* Proceedings of the All-Russia Scientific and Practical Conference, Perm, PGPU, pp.9-13
3. Bezukladnikov,K.S. (2008) Competency Approach to Modeling of the Learning Process. Proceedings of the All-Russia Scientific and Practical Conference. Perm. PGPU. pp.9-13.
4. Currant,N., Haigh, J., Higgison, C., Hughes, P., Rodway, P. and Whitfield, R. (2010) *Designing ePortfolio Based Learning Activities to Promote Learner Autonomy: Final Report to the Fourth Cohort of the Inter/ National Coalition for Research into Electronic Portfolios.* Available at: http://ncepr.org/finalreports/cohort4/University%20of%20Bradford%20Final%20Report.pdf [Accessed: 9 June 2010].
5. Elkonin,B.D. (2012) *Learning Autonomy and Initiative in the Content of Education*. XIX Conference on Developmental Pedagogy, Krasnoyarsk, 26 April 2012.
6. Elkonin, B.D. (2011) Modern Educational Results: Position of the Educational System by D.B.Elkonin – V.V.Davidov, 18 December 2011,
7. http://rudocs.exdat.com/docs/index-395000.html
8. Froumin,I. (2009) *Russian Education in 2020: Foresight Analyses*. Proceeding of 15th Conference on Constructive Pedagogy: Educational Results and Assessment, Krasnoyarsk, pp. 33-44.
9. Golovin, S.Y.(1998) *Dictionary of the Psychology Practitioner*,
10. http://vocabulary.ru/dictionary/25/word/samostojatelnost
11. Hughes, P. (2003) *Autonomous Learning Zones*, conference paper at 10th European Conference for Research into Learning and Instruction, Padova, Italy, August 26-30, 2003.
12. Leontiev,A.N. (2005). *Activity, Consciousness and Personality*. Moscow, Politizdat. 320 pp. Akademy. Moscow, 2005. Reprinted edition. First published in 1978.
13. Polat,E.S., Bukharkina,M.Y. *(*2007) *Modern Pedagogical and Information Technologies in the System of Education: Tutorial*. Moscow, Academia.
14. Rubinshtein,S.L. (2002) *Bases of General Psychology.* Piter. 720 pp. First published in 1946.
15. Smolyaninova,O.G. *The Strategy of Implementing ePortfolio in Training Elementary Teachers within the Constructive Learning Paradigm.* ePIC 2011, 9th International ePortfolio&Identity Conference, London – 2011.
16. Vygotsky, L. S. (1978). *Mind in society: The development of Higher Psychological Processes.* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Cambridge, Massachusetts: Harvard University Press.

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ePortfolio as a Tool for Reflexivity and Skills' Communication: Learn how to Communicate Skills

Gilles Merminod, University of Lausanne

This paper aims to present an ePortfolio project led for two years in a multilingual and interdisciplinary Master's program in public discourse and communication analysis offered by the Faculty of Arts of the University of Lausanne (Switzerland). Globally, the project – named *Learn to communicate skills* – offers a reflection about academic skills and their transferability to the professional world. More precisely, the aim of the project is to make students aware of the importance of reflexive learning to make their skills transferable to other contexts.

In this respect, the team in charge of the project has chosen an ePortfolio approach because it is intended to facilitate the expression and documentation of individual skills developed by students as part of a complex program.

Context

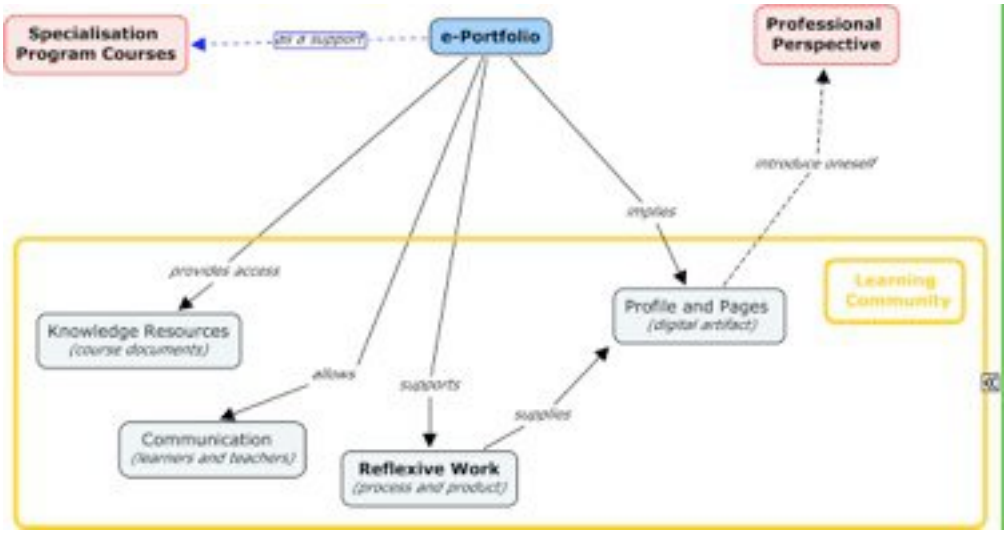
Designed as a multilingual and interdisciplinary specialisation in the field of public discourse analysis, the program is in partnership with two other Swiss Universities: Lugano, in the Italian speaking part, and Zurich, in the German speaking part. Offering a choice of courses in French, German, English and Italian, it gathers teachings in the areas of discourse and text analysis, verbal interactions, communication and media, and analysis of professional practices. Virtually, it consists of three core courses during a semester and of a personal activity (research or internship) made after the period of teaching.

The program has two main objectives. The first one is to acquire sharp knowledge of public discourse and communication analysis with the tools of communication sciences and languages sciences. The second one is to think about the complexity and the diversity of discourse and communicational cultures in a globalized world.

In addition to these main objectives, the program allows two different perspectives: either building a bridge between the Master and the PhD Thesis with a first research experience in research the field of public communication, or preparing the students at the working life with an internship in an institution or a corporate.

In such a context, the program has a lot of different aspects to piece together: partnerships with several institutions in Switzerland; multilingual and multicultural public communication as the object of study; an interdisciplinary analytical method, between communication sciences and language sciences; an important diversity of teaching's contents. All these aspects required the plasticity of an on line tool : the ePortfolio has allowed the creation of a learning community in order to facilitate the coordination of teaching contents and communication between the students engaged in the Master's program.

Besides a flexible structure, an anchorage in professional practices – the specialization opening to professional practices of communication through internships – has led to the necessity of a reflexive attitude about teaching contents, what is enabled by the ePortfolio approach.



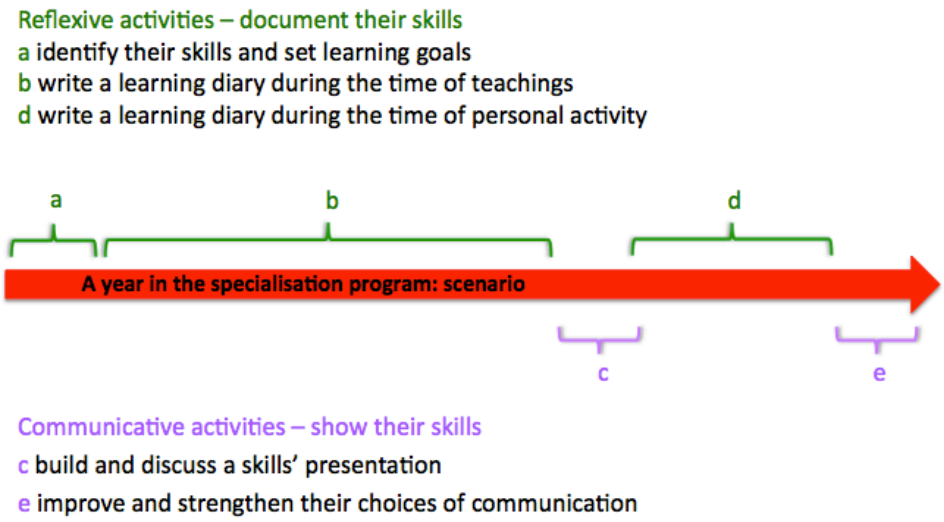
With its reflective tone, the ePortfolio encourages students to reconsider their learning with regard to their skills and to consider their transferability and communicability in a professional perspective. In that respect, the ePortfolio is a tool that responds to the communication needs of students at endpoint.

Indeed, communicating one's own skills is a relevant issue for students trained in communication. As a matter of fact, one can assume that communicating about their skills reflects their skills to communicate. To deal with this specific issue, the research team has implemented some activities allowing the students to develop reflexive learning practices, become aware of their skills and learn to communicate them effectively. The team developed a processual device that combines various dimensions via the ePortfolio: learning awareness through the development of skills; the discursive construction of identity; the implementation in a specific mediated communicative activity.

Learning goals

Learning how to communicate skills implies three steps: firstly, the identification of the skills, secondly, the verbalization of the skills, and thirdly the communication of the skills. The first step allows the students to avoid considering learning only in terms of knowledge and forces them to think also in terms of skills. Then, the second step helps the students formulate a lived but not necessarily conscious reality. In other words, it helps them express and explain their skills "for themselves". Eventually, the third step aims to help them consider their skills "for others" in an interactive and communicative way. That is, they learn to take into account the specificity of the medium, more precisely what is at stake with the communicative activity types committed by the medium. In this sense, they acquire the ability to manage the relationship between oneself and a broader audience.

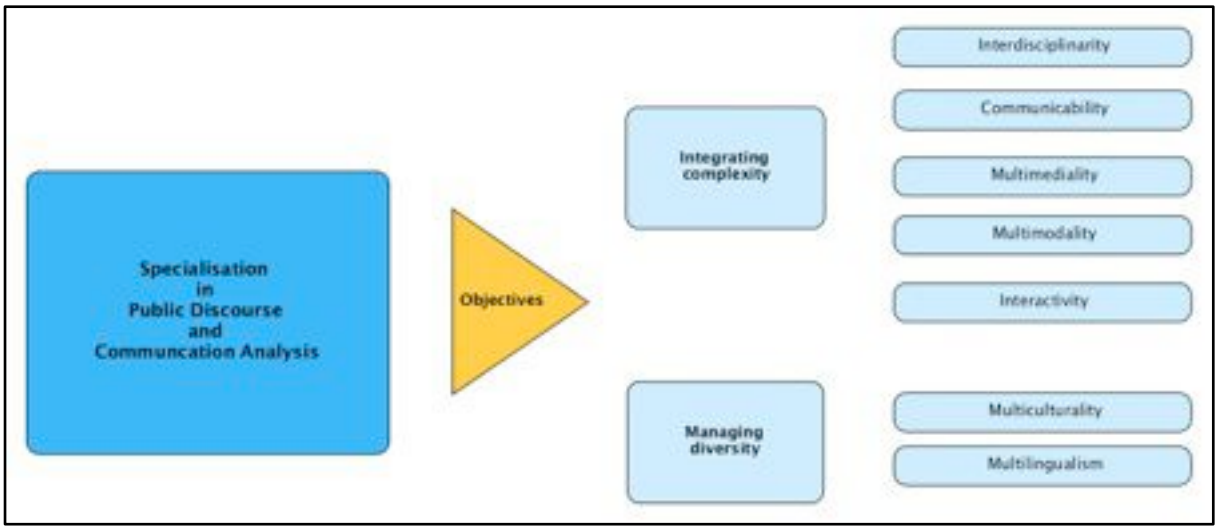
These three learning goals – identify skills, verbalise skills and learn how to communicate skills – correspond to two types of learning activities in the ePortfolio approach that has been developed: the reflexive activities through which they document their skills, expressing and explaining their skills for themselves; the communicative activities through which they communicate their skills, saying and showing their skills to the others. Five ePortfolio activities are distributed over one year: three during the time of the courses (a, b and c) and two during the time of the personal activity (d et e). The two activities that occur during the time of personal work are a kind of repetition of activities that occurred during the courses to allow a better understanding among the students, this is why we focus our discussion in this paper on the first three activities.



Reflexive activities

The reflexive activities are used to identify and verbalise skills. For the first one (a), it means identifying skills and setting learning goals. The first step in the direction of reflexivity is to consider academic learning not only by the view of knowledge but also by the skills developed. This is why we produced for each courses a list of specific skills that the students can view in their ePortfolio.

However, we noticed that it was necessary to identify the skills not only by providing students with specific skills, but also by allowing the students to consider the whole program in a comprehensive manner. Specific skills were not enough to develop a real conscience and a personal thinking process about which skills they had developed. They have to go beyond the traditional list of skills by course to think in terms of skills related to the entirety of the program. That's why we chose to present to the students what we call the skills' area.



It seems that a general description helps the student to see the whole logic of the program and to take the distance needed to a better development of a reflexive awareness. Thus, at the end of the presentation of the skills areas the students have to identify their skills and set learning goals in a place designed for this purpose in the ePortfolio.

This first activity helps them in the writing of their learning diary (b). As for this second activity, it consists of an exercise in two parts. Five times in the course semester, in addition to the core courses, the students have to follow a block of training on a specific issue in public communication. Before the lesson, they have to read a paper linked to each particular lesson and write a report of one page in which they summarize the main purpose of the paper, express their personal opinion and speak about their own context of understanding. After the lesson, the students have another report to write in which they come back to their previous report (in other words, on their first understanding) and speak about the transferability of the skills they have developed in this case (*How can they reuse this learning? In an other context? In a broader context?*). Each report receiving feedback from the teacher, the interactive aspect of the ePortfolio is particularly adapted for this activity in two times: it allows an online and continuous monitoring of students production.

Used for identifying and verbalising skills, these two activities (a and b) are closely related. By identifying skills, they allow one to take some distance from a framework that focuses only on the acquisition of knowledge for considering the learning in terms of skills: students become more widely aware of their learning outcomes. Supporting the specific work of verbalisation by putting words on learning processes, they encourage students to position themselves relatively to the skills they have developed.

Therefore, these activities allow students to distinguish their skills by expressing and explaining for themselves and considering them in new perspectives (Merminod 2012). In other words, their role is to be a skills assessment that increases steadily.

Communicative activities

The skills assessment allows gathering contents to communicate. But what is *communicating skills*? Communicating skills implies the articulation of three aspects: showing an identity by saying, establishing a relationship and managing communicative resources. The third activity (c) helps the students to learn how to communicate skills by asking them to construct an identity taking into account the relational process between themselves and others by using specific settings of a communication device.

In order to do this, at the end of the course semester, the students have to build a presentation of themselves with the products of all the reflections they have done in the previous activities but also with any other previous productions: their master's thesis for instance or a very good piece of work related to the identity they want to show.

In this manner, they learn how to communicate their skills by experiential learning. They try to communicate their skills by expressing themselves in a particular technological context using specific resources to make available the personal productions that demonstrate developed skills. Furthermore, to express their skills not just for themselves but also to take into account the look of others, they have to set explicitly the goals of an image to be transmitted. In other words, they have to make strategic choices with regards to their communication objectives. Students are encouraged to develop, implement and evaluate several strategies of skills' communication in the context of the ePortfolio, being aware that their ways of communicating

about their skills reflected the skill to communicate skills (which in fact is at stake in the field of communication).

Then, during a session that brings together all participants of the program, teachers and students analyse and criticise the choices of communication of each presentation. At that time, students have to reuse all the knowledge and the skills they have learned and developed about communication during the courses to defend their own choice of communication and criticise the choices of the others. This moment is extremely important in the development of reflexive capacities because it requires the entire learning community to report and to negotiate practices they have acquired through their interaction during the whole semester.

During this time of discussion, they learn how to communicate their skills by considering themselves communicating skills. They have to deploy a self-reflexive look on how to manage the image they give of their skills, explain why they made these particular choices of communication, provide solutions for improving the communication of developed skills and apply these proposals as best as possible, according to the other's feedback.

At the end of these three ePortfolio activities, the students are aware that communicating skills is a very strategic work requiring reflexive positioning. Then, the latter activities (d and e) are an opportunity to check how the students have integrated a reflexive attitude to their learning and communication practices.

Conclusion

Generally, the implementation of the research project with the ePortfolio tool in a Master's program has clearly helped improve the learning environment and allowed the consolidation of the program. The nature of the project (developing students' abilities to identify, verbalize and communicate the skills they have developed) has promoted a strong "involvement" of the students. One can assume that the "involvement" is motivated by a more explicit topicalisation of socio-professional issues. This dynamic has also enabled the teaching team to develop a sharper awareness of the educational issue of the program in which the students are involved.

Thus, the implementation of an ePortfolio has improved the transferability of skills through a better transmission of knowledge (with a reflection about the teachers' practices) and their uses (for students were better involved in their training). Such a device plays a part in the construction of the identity of the students as reflective and independent learners. It develops their ability to develop, manage and evaluate their own learning strategies. Autonomy and reflexivity are then called upon to reinforce the ability to transfer skills to another application domain, therefore facilitating the transition from university to the professional world.

References

1. COPSEY, Dickon (2010), *How does the PDP cycle work ?*, http://portfolio.gla.ac.uk/view/view.php?id=654 (last accessed time December 20, 2011).

2. JISC (2008), *Effective Practice with ePortfolios: Supporting 21st Century Learning*, JISC,http://www.jisc.ac.uk/media/documents/publications/effectivepracticeeportfolios.pdf (last accessed time March 10, 2012).

3. KOLB, D. A. (1984), *Experiential Learning - Experience as the source of learning and development*, Englewoods Cliffs (NJ), Prentice-Hall.

4. MERMINOD, Gilles (2012), *Dynamique réflexive et transférabilité des compétences : un usage intégré du ePortfolio en spécialisation*, Analyse des discours de communication publique, Marcel BURGER (dir), Cahiers de L'institut de linguistique et des sciences du langage n°34, University of Lausanne.

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Learning Scenarios with Integrated ePortfolios. EPortfolios are Nice to have but do Cause Inconvenience...

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Dedicated to Helen Barrett, who emphasises the heart and soul of ePortfolios

Abstract: Introduced by an analogy to Goldsworthy's reflection upon the line the working with ePortfolios is strongly related to learning theories and basic assumptions of constructivism, constructionism (Papert), and social constructionism (Gergen). The implementation of ePortfolios, which are developed out of WordPress-based templates, at German university courses is described. EPortfolio-based learning is analysed in the context of the so-called 'knowledge society' and 'bulimia learning'. Thus, motivational aspects and difficulties of the implementation of ePortfolios become obvious. Fromm's Being mode and self-directed learning are taken into account to widen up the discussion and strengthen a learner-oriented didactical perspective.

Introduction

The work of the British artist Andy Goldsworthy inspired us to reflect upon our work with ePortfolios. In his art landscape and the work of art are inextricably linked. This kind of art is created in nature using natural materials such as soil, rock, stones, and organic media such as logs, branches, leaves, and so on. Sculptures in land art are not placed *in* the landscape; rather, the landscape is the means of their creation. In his permanent as well as in his ephemeral works, which are documented through photography, films and books, Goldsworthy takes great care of the places, their history and features. When he works with stones, leaves, wood, flowers (or whatever he finds on his walks), Goldsworthy often emphasises structures and processes, growth and decay. So the *line* and its variations is one of his favoured forms.

"Searching out lines that already exist interests me more than imposing new ones. I have made lines that explore and follow the contours of a rock, the edge of a river, the growth of a bark, the junction between house and street... The intention is not just to make a line, but to draw the change, movement, growth and decay that flow through a place" (Goldsworthy & Thompson 2000, 36).

In applying this idea by analogy with ePortfolios we would like to encourage students to draw their attention to the development and growth that flow through their lives. Discovering lines in their biographies, and espying what is running through their lives like a common thread is one of the core elements of our work. And to follow Goldsworthy who "like(s) things drawing themselves" (ibid., 13) and to underpin "what is made visible in the piece itself" (ibid., 22), the art of ePortfolio in our opinion is to make competences and aspects of personality visible to oneself as well as to other people.

The 'poetry' of ePortfolios is the starting point of our didactical approach. We will strengthen these ideas by combining them with the constructionist learning theory (Papert 1987; Harel & Papert 1991; Han & Bhattacharya 2001; Gergen & Gergen 2009).

Constructivism, Constructionism, and Social Constructionism as basic elements of a learning theory for ePortfolios

The constructionist approach is based on the assumption that learning is a process of construction. The observation that children improve their ability to learn by doing very simple things is one of the core assumptions of constructionism (Papert 1987; Harel & Papert 1991). The basic idea is the parallelisation of doing and learning. Learning is seen as the developing of corresponding knowledge structures by activities such as constructing, playing, solving problems etc.

Both theories – the theory of social constructionism and radical constructivism – include the idea that our knowledge about our world and ourselves is made by processes of construction.

What both directions distinguish are different conceptions towards the character of knowledge and different answers to the question, how people create their common truth in context of corporate speech and action:

For constructivists each individual mentally constructs the world of experience. In other words: the process of world construction takes place 'in the head' (cf. Gergen 1999, 237). In this sense there could be as many realities as individuals, who interpret and conceptualise. For social constructionist – in contrast – what we take to be 'real' is an outcome of social relationships (cf. ibid.). This, in fact, is everything but a small matter for our educational system.

Constructionists are critical of the individualist tradition; they search for relational alternatives to action and understanding the world. “Invited are generative discourses, that is, ways of talking and writing (and otherwise representing) that simultaneously challenge existing traditions of understanding, and offer new possibilities for action” (ibid., 49).

Learners can prove their constructions of the world in testing their usefulness for problem solving. At the same time learners prove their own constructions in their heads and the relation to the construction in the world. Thus the learners become emancipated authorities for examination and assessment of their own learning processes.

By implementing ePortfolios to degree programs we contribute to and acknowledge this emancipation movement. Conceiving learning as a reconstruction rather than as a transmission of knowledge is one of the fundamental structures of the ePortfolio work. The idea of creating meaningful artefacts as proofs and testimonies of learning and personal development is extended to the idea that learning is most effective when it is part of an activity. Our work with ePortfolios at the university builds upon this learning theory and emphasises self-directed learning. We see our approach in the tradition of theories of self-directed learning: learning contents are acquired deeper and longer lasting if learning takes place self-directed (Knowles 1975). Also aspects of self-reflexion are integrated. Self-directed learning processes are characterised by the active role of the learner, “in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluation learning outcomes” (ibid., 18).

Self-directed learning also encourages the ‘Being Mode’ Erich Fromm describes as following: “Instead of being passive receptacles of words and ideas, they listen, they hear, and most important, they receive and they respond in an active, productive way. What they listen to stimulates their own thinking processes. New questions, new ideas, new perspectives arise” (Fromm 2007, 25). We will return to this convergence of learning and developing later. First we will explain three examples of learning scenarios and the ePortfolio template we used in our work.

Implementation of ePortfolios within three learning scenarios at a German university

During university courses students were instructed in writing and constructing individual elements of their ePortfolios which combine the functions of reflection, presentation and support of the learning process under one umbrella. The students developed those elements as authors of their own individual ePortfolios and, as well, elaborated through websites. There are two general aims in our work with ePortfolios: One aim is a web-based documentation of artefacts, which enables students to present their work to other people, not only the lecturer. The second aim as already explained by mentioning Goldsworthy’s idea of a line is to encourage students to draw their attention to development and growth that flow through their lives.

We prepared a WordPress based template (see Figure 1) for the students to put in their artefacts (essays, presentations etc.), thoughts, pictures, widgets etc. This template functions as a *‘scaffold’* (cf. Cotterill et al. 2007) so that students do not start with nothing. The students have to decide if they want to use this template/website only in one course or in additional courses, or throughout life, and they can decide whom to invite to look or to blog at their ePortfolios, or to be part of their ePortfolios.

The three learning scenarios are described by information about context (disciplines, target group, topics and ePortfolio elements as well as kind of artefacts), forms of support, and experiences/feedback about the implementation and work with ePortfolios.

(1) Learning scenario 1 – context: Within the master degree program at the University of Oldenburg 20 students from all disciplines can study a module called “Project Management”. Students do work in smaller teams on individually chosen projects, for example managing an exhibition, publishing a reader, special events at school or in the zoo etc. All elements of project management – public relation, funding, time scheduling, cooperation etc. – are represented and to be done by every team. All aspects should be collected and documented as an individual or team-based ePortfolio.

(2) Learning scenario 2 – context: Within a Master’s degree programme in economics at the University of Oldenburg 30 students have to create three artefacts for their ePortfolio: one essay about the main topic of the program, one paper for an empirical study and one documentation of a seminar moderation. Every student must work on his/ her own ePortfolio.

(3) Learning scenario 3 – context: Within the Bachelor’s degree programme in education at the University of Oldenburg 10 students are trained in doing empirical research in cooperation with institutions that cooperate with the university. They can acquire different skills, such as developing a research-

question and a methodological design, analysing and presenting data etc. Students in this course work in smaller teams. All results are presented in individual ePortfolios.

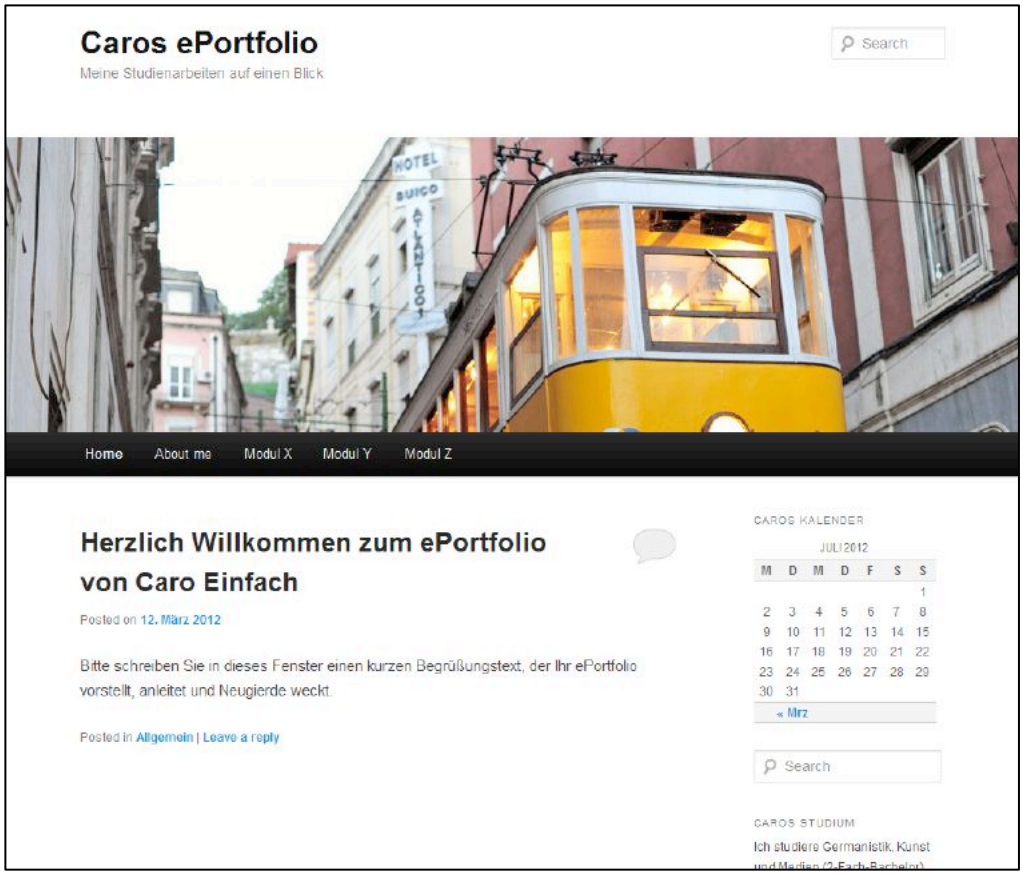

Figure 1: WordPress based ePortfolio template

In all these contexts we worked together with the lecturers and carefully prepared the implementation of ePortfolios in their courses. The cooperation with lecturers was led by the constructionist attitude and the "celebration of *reflexivity*" (Gergen 1999, 50) as well: Suspending the obvious, listening to "alternative framings of reality, and to grapple with the comparative outcomes of multiple standpoints" (ibid., 50) is the core of our support philosophy. We give the lecturers:

- didactical support in carefully listening to their thoughts, aims and methods and consulting them by presenting possible elements for ePortfolios and arguments for the benefit;
- support in implementation such as identifying steps in the implementation-procedure and dealing with the lecturers' fears and stress, because of their new role in the teaching-process, and because of the cooperation with us;
- technical support such as providing a WordPress-based template (see Figure 1); we train the lecturer and/or student tutors in using the tool, and we deliver a service for technical problems on demand.

Implementing ePortfolios in degree programmes are geared to three principles to be considered as general principles for implementing eLearning tools under a constructionist premise:

(1) Technique follows content: ELearning tools are to be seen as tools in a stricter sense. Tools do have to support lecturers and learners and should be adapted and customised to their needs and aims instead of vice versa (cf. Cotterill et al. 2005). Tools and learning forms carefully have to be reflected as consequences for the organisation of learning arrangements and organisation of seminars.

(2) Cost-benefit analysis: Efforts and benefits of eLearning and ePortfolio tools must bring a return and yield a profit for teachers and learners. More teaching and learning opportunities should be introduced and opened up.

(3) Respect of individual teaching methods and learning strategies: Teachers' peculiarity and their individual teaching method as well as students' peculiarity and their individual learning strategies should be respected and esteemed.

In the past, the fast and furious development of new media and information and communication technology (ICT) determined the hope of new and better ways of learning which should be more efficient, more effective, and have better learning outcomes (Müller 2004; Kerres 2011). According to Kerres, these assumptions are only little supported by research: "In fact, it is assumed that learning success, considered on average, is to a large extent independent of the chosen media system" (own translation by SB, Kerres 2005, 219). Evidently, not the media itself improve learning results, but the implementation of specific didactic concepts and learning scenarios (cf. Kerres 2011, 264; Issing 2011, 28).

Thus, eLearning tools should be regarded as tools in a strict sense – as they can support learning but do not revolutionise the learning process itself. This didactical view can be found not only in eLearning-centred research but also in other didactical approaches, cf. Oser and Baeriswyl's concept of Basis models of learning: "A basis model describes the learning sequences in regard to certain learning goals in a certain learning domain" (Baeriswyl 2001, 7). They distinguish the surface structure and the deep structure of learning: While the surface structure is something directly observable and includes all teaching methods as well as all social forms of learning, the deep structure "refers to the learning process as a psychological process" and can be only partly observable through the learner's actions (ibid., 6). They state that the learning process is "somehow sequenced by every learner the same way" and assume "that for every important learning area, such sequences can be described" (ibid. 2001, 7). Oser and Baeriswyl postulate twelve basis models of which each consists of a certain number of learning sequences (cf. Oser & Baeriswyl 2001).

In his study, Oser also comes to the conclusion that "[t]he use of new methods and media still does not guarantee a better learning result" and that "[t]he goal is that every student understands his learning as a planned act and takes the necessary responsibility for it" (Baeriswyl 2001, 13).

Reflecting our experiences we focused on the question how to merge the constructionist learning theory and one of the basic ideas of the portfolio work – not to learn for the school, but for life – on the one hand with the everyday life of German universities in the so-called 'knowledge society', which seems to be determined, among others, by the orientation on grades and credit points as well as a final degree which should be reached faster and faster on the other hand.

EPortfolio in a Knowledge Society

Today, learning and teaching methods and styles are determined by the philosophy of the 'knowledge society' (also: 'lifelong learning society'): "Knowledge production and development is readily recognised as one of the main drivers of economic development, and those who are able to make best use of knowledge will also be those who perform most effectively within globalised economic structures." (Kirk 2011, 40) Learning is determined to have an output named knowledge, and this output is very important because of, among others, economic reasons (i.e. to be competitive capable). Because knowledge is so basic for a knowledge society, learning should be carried out according to the principle 'as fast, as efficient, and as effective as possible'.

Ensuring that each student 'possesses knowledge', and that each individual mind has to master what is true seems to be part of every social discourse. "Students are thus confronted with curricula which have little intrinsic interest, and are subjected to frequent examinations of their capacity to repeat the truths as determined by the experts" (Gergen 1999, 179). This concept of competing and measuring has deep roots within our culture.

Constructivism is associated with individualist tradition in the West, in which the individual mind is the center of interest. Considering the 'truth' we have to keep in mind that there is "no simple relationship of reflection, imitation or one-in-one correspondence between language and the real world. The world is not accurately or otherwise reflected in the mirror of language" (Hall 1997, 28). Knowledge is produced through and at discourse. Thus, relationships are prior to all that is intelligible (cf. Gergen 1999, 48).

The knowledge about the world is not universally valid. It depends on a certain historical context and is never finally fixed: "Meanings are born of coordination among persons – agreements, negotiations, affirmations […]. Nothing exists for us – as an intelligible world of objects and persons – until there are relationships" (ibid., 48). The one and only truth does not exist.

From this point of view "relationship takes the priority over the individual self: selves are only realised as a byproduct of relatedness" (Gergen 1994, 249). The source of truth lies in society, it cannot be an individual matter, it is created in context of corporate speech and action. The dimension of the experts' opinions about the truth, which comes up and stays valid, does not depend on the empirical validity of view but on possibilities of social processes.

For several years, the German society has watched some of the consequences of this attitude: "Students suffer from burnout symptoms more and more" was the headline of an article on "Spiegel online", the online

edition of a German political magazine (Spiegel ONLINE, 2012).

According to the article, a study reports that German students experience burnout symptoms because of the growing pressure which rises through the degree restructuring to a Bachelor/ Master system at the German Universities (following the Bologna Reform measures). Students are said to feel more and more pressure to perform and increased pressure of competition, which puts an intractable strain on them.

Students seem to strive for being able to stand up for their profession later on as one of the primary outcomes of their studies – "functioning in a knowledge economy" (Siemens 2004). They worry about their future lives, they fear to stay unemployed after passing their degrees. So, the meaning of learning is reduced to a teleological view.

In Germany it is a common view that a rapidly completed degree is more valued and more respected later. Students 'consume' knowledge in a passive way instead of acquiring it in an active way, because this seems to be the most efficient and the fastest way. Thus, the learning process gets more and more functional and is not necessarily more valuable because of itself.

In the past years, this attitude led to the neologism 'bulimia learning'. This notion means the mere memorisation of facts ('bulimic swallowing') for the purpose of passing an assessment. After passing, the memorised facts quickly are forgotten as if they were 'vomited'. To demonstrate the significance of this development: When you search the term 'bachelor bulimie lernen' (bachelor bulimia learning) you will get more than 1 000 000 hits (Google, 30-08-2012).

We have found a demonstration of these processes at Erich Fromm in 1976 within his distinction of two modes of existence: 'To have and to be':

"Our education generally tries to train people to have knowledge as a possession, by and large commensurate with the amount of property or social prestige they are likely to have in later life. The minimum they receive is the amount they will need in order to function properly in their work" (Fromm 2007, 34).

The Brazilian pedagogue Paulo Freire calls this traditional mode accurately 'nutritionist" (cf. Gergen 1999, 180). In this model knowledge is treated as healthy food', students are defined as needy and educators are 'dispensers of the nutrients': "Ultimate authority in this case lies with those engaged in knowledge-production itself – for example, scientists and scholars. These experts dispense the truth' that students will ultimately be 'fed' […]. Teachers enter only at the end, as instruments to dispense the educational nutrients to the students. Students are expected merely to consume the knowledge" (ibid., 180).

Who might benefit from this particular way of conceptualizing the world or selves when students are treated as passive beings expected to absorb information? In this model creativity and innovation are lost! But just innovation power is one of the key competences we will need in future. Trend researchers are saying that required competences are changing: among others the initiative of changing, goal-oriented action and considerable vision will be important (cf. Jánszky 2012, 1). The world we will be living in is dominated by project-oriented work. Thus, so-called informal competences become more and more important.

According to trend researchers, the conventional mass culture with pursuit of attention involved disappearance for the benefit of the internet logic, which imposes more and more on our real world. In our world of one-to-one correspondence the economy of attention changes to an economy of acknowledgement. It becomes more and more important to be on a par with someone. The trend researcher predicts a decreasing importance of experts in the future (cf. ibid., 1). "At the same time, constructionism offers a bold invitation to transform social life, to build new futures. Transforming ourselves, our relationships, or our culture needs not await the intervention of some expert, a set of laws, public policies or the like. As we speak and write at this moment we participate in creating the future – for good or ill" (Gergen 1999, 49).

Discussion and Conclusions

The social constructionism does not claim truth but usefulness. The constructionists are attaching importance to the pluralism of constructions; they do not allow just one point of view. It becomes more important to focus on a critical view and on the question which methods and materials or data are to be used. Students should be challenged more than impressed by the so-called truth, in order to explore and to deal with different perspectives and opinions.

In the internet logic the information processing is tailored to particular, often customisable needs. This logic should be broadcasted to our educational system. In the centre should be the student and his/her individual learning processes. Thinking about learning with ePortfolios, we assume that it meets the actual societal expectations of outcome orientation quite well. EPortfolios are useful for demonstrating how capable of high-performance and how suitable for certain employments the creator is. Indeed, as we understand the

construction of an ePortfolio, this process should prioritise the 'Being Mode' Erich Fromm describes. Learners "do not simply acquire knowledge that they can take home and memorise. Each student has been affected and has changed: each is different after the lecture than he or she was before it" (Fromm 2007, 25).

This way of learning, of course, causes inconvenience because of (at least) three reasons: First, many students are unacquainted with this kind of learning because of the above mentioned general conditions of their education design. Second, this way of learning demands to reflect one's own being in the world, it demands to combine, to interrelate and to be active, not passive. Third, this way of learning takes its time and is not made for applying 'bulimia learning'. Behind these inevitable inconveniences, the benefits of an ePortfolio are hidden until the learning culture changes fundamentally.

Until this fundamental change takes place, it would seem appropriate to support students comprehensively in building their ePortfolios. Implementing ePortfolios should therefore be considered valuable in all the efforts that are linked to the learning activities. Students do need time and support in developing their ePortfolios within learning scenarios of modules. Intelligent solutions for combining scientific activities and ePortfolios in a more or less organic way seem promising, or in the words of Goldsworthy: "A tree has to put down strong roots to support its weight above the ground. It is the same with sculpture. What is not seen – the preparation and previous works – underpins what is made visible in the piece itself"(Goldsworthy & Thompson 2000, 22). EPortfolios on the one hand may serve as a "Trojan Horse" for stimulating self-directed learning and implicit motivation. On the other hand there is some evidence that it could be useful to play out time, because working with ePortfolios creates growing interest and understanding of the capabilities which are hidden at a first glance.

References

1. Baeriswyl, F.-J. (2001). *New Choregraphies of Teaching in Higher Education,* retrieved <01-06-2012> from http://redaberta.usc.es/aidu/index2.php?option=com_docman&task=doc_view&gid=157&Itemid=8
2. Cotterill, S.; Horner, P.; Gill, S.; McDonald, T.; Drummond, P.; Teasdale, D.; Whitworth, A. & Hammond, G. (2007). *Beyond the Blog: Getting the Right Level of Structure in an EPortfolio to Support Learning.* In: Proceedings of the 6th International ePortfolio Conference, Maastricht 17-19 October 2007. <07.07.2012> from http://www.epforum.eu/proceedings/ePortfolio%202007.pdf/view
3. Cotterill, S.; Horner, P.; Hammond, G.; McDonald, A.; Drummond, P.; Teasdale, D. et al. (2005). *Implementing ePortfolios: Adapting technology to suit pedagogy and not vice versa!* Paper presented at the The third International conference for the ePortfolios.
4. Fromm, E. (2007). To have or to be? New York: Continuum.
5. Gergen, K. J. (1994). *Realities and Relationships: Soundings in Social Construction*. London.
6. Gergen, K. J. (1999). *An invitation to social construction.* London.
7. Gergen, K. J. & Gergen, M. (2009). *Einführung in den Sozialen Konstruktionismus.* Carl-Auer-Systeme Verlag.
8. Goldsworthy, A. & Thompson, J.L. (2000). *Wall.* London: Thames & Hudson.
9. Hall, S. (1997). *The work of representation.* In: Hall, S. (Ed.): Representation: Cultural representation and signifying practices. London, pp. 15-64.
10. Jánszky, S. G. (2012). *The way we live in year 2022.* In: Urban, B.; Müsebeck, P. (Eds.): eLearning Baltics 2012. Proceedings of the 5th International eLBa Science Conference in Rostock, Germany, June 21-22.
11. Han, S. & Bhattacharya, K. (2001). *Constructionism, Learning by Design, and Project Based Learning.* In: M. Orey (Ed.): Emerging perspectives on learning, teaching, and technology, retrieved <10.01.2012>, from http://projects.coe.uga.edu/epltt/
12. Harel, I. & Papert, S. (1991). *Constructionism.* Norwood, NY: Ablex Publishing Corporation.
13. Issing, L. (2001) *Psychologische Grundlagen des Online-Lernens.* In: Klimsa, P.& Issing, L. (Eds.): Online-Lernen. Handbuch für Wissenschaft und Praxis, München: Oldenbourg; pp. 19-34.
14. Kerres, M. (2005). *Gestaltungsorientierte Mediendidaktik und ihr Verhältnis zur Allgemeinen Didaktik.* In: Diekmann, D. & Stadtfeld, P. (Eds.): Allgemeine Didaktik im Wandel, Bad Heilbrunn: Klinkhardt Verlag.
15. Kerres, M. (2011). Didaktische Konzeption von Angeboten des Online-Lernens. In: Dieckmann, D. & Stadtfeld, P. (2005) Online-Lernen. Handbuch für Wissenschaft und Praxis, Bad Heilbrunn: Klinkhardt Verlag, pp. 263-272.
16. Kirk, D. (2011). *The "Knowledge Society" in the Middle East: Education and the Development of*

*Knowledge Economies.*In: Conference Proceedings Papers from the Second Annual Symposium of the Gulf Comparative Education Society, retrieved <01-06-2012> from http://www.dsg.ae/en/Publication/Pdf_Ar/12620126082918078125 0.pdf

17. Knowles, M. (1975). *Self-directed learning: A guide for learners and teachers.* Cambridge: Cambridge Adult Education.
18. Müller, M. (2004). *Lerneffizienz mit E-Learning.* München: Hampp, Mering.
19. Oser, F.K., & Baeriswyl, F.-J. (2001). *Choreographies of Teaching: Bridging Instruction to Learning.* In: Richardson, V. (Ed.): Handbook of Research on Teaching. Fourth Edition. Washington: American Educational Research Assotiation.
20. Papert, S. (1999). *Ghost in the Machine: Seymour Papert on How Computers Fundamentally Change the Way Kids Learn.* Interview of Seymour Papert by Dan Schwartz. This interview was first posted on ZineZone.com in 1999, retrieved <10.01.2012> from: http://www.papert.org/articles/GhostInTheMachine.html
21. Siemens, G. (2004). *ePortfolios,* retrieved <01-06-2012> from http://www.elearnspace.org/Articles/eportfolios.htm
22. Google, retrieved <01-06-2012> from http://www.google.de
23. Spiegel ONLINE (2012), retrieved <01-06-2012> from http://www.spiegel.de/unispiegel/studium/expertenbefragung-studenten-leiden-zunehmend-an-burnout-symptomen-a-817624.html

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Mahara in Secondary School. The Introduction of an ePortfolio to Foster Oral Skills and Socialization.

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Introduction

The adoption of educational ePortfolios in Italian schools is still not widespread, both due to a lack of awareness of the portfolio itself and due to teachers' wariness of technology and applications that use the Internet. Many schools, moreover, suffer from outdated technology infrastructure, lack of updated computers and an Internet connection available only in the computer laboratory and not in classrooms. Under these conditions the adoption of the ePortfolio is difficult because it is an application that requires systematic use of the network and a fast and reliable connection.

However, the features of the ePortfolio, in particular its use to promote active and reflective learning (Becta, 2007), are considered extremely interesting and useful. For this reason its gradual adoption by different types of school is often recommended by researchers.
In particular, in secondary schools, it seems important to focus on some features that ePortfolio construction highlights. As recalled by Zubizarreta (2006), the portfolio work covers three areas of activity: documentation, reflection, collaboration. Through the collection and revision of the artifacts powerful processes of knowledge construction are put in place and creation of meaning is empowered. The motivational power of ePortfolios is being promoted and enhanced thanks to collaboration and sharing, allowed by the "social" features inserted into it. According to Millis, "Because portfolios get students into a rich and deep knowledge base focused on their own learning experiences, portfolios are highly motivating. Collaboration with others deepens these individual experiences by allowing probing questions, socially constructed knowledge, and alternative viewpoints. Such approaches often lead to significant critical thinking as part and parcel of the deep processing" (Millis, 2006, pp. XX, in Zubizarreta, 2006).

The present paper intends to present a project carried out in a secondary school during the current school year, where the adoption of an open source ePortfolio system, Mahara, was proposed. The research aim was to promote the use of the tool for the three-year of duration of the course. At the end of the first year of testing, we plan to document the influence that this tool has had in the life of the class with respect to three main dimensions: (a) the attitude that students had towards the disciplines, (b) the way students change their study methods within the portfolio, (c) the relationships and the climate inside the classroom.

To detect changes in the attitude of students towards the discipline, the research is based on observations made by researchers and teachers involved in the experiment. The working methods used were detected by analyzing the tracking of the activities within the platform, while the Classroom Life Measure questionnaire (Johnson & Johnson, 1983, 1986) in its Italian version (Chiari, 2003) was used to evaluate the relationships and perceptions of students and the classroom climate.

The Classroom Life Measure was designed by Johnson and Johnson (1983) to assess students' perceptions of 16 aspects of the classroom atmosphere, such as cooperative learning, resource interdependence, competitive learning, teacher academic support, teacher personal support, peer academic support, peer personal support, fairness of grading, and so forth. The original questionnaire contains a total of 91 items on a 5-point Likert-type scale, ranging from strongly agree to disagree with a neutral option available.

Of the 91 questionnaire items in the Classroom Life Measure, only 9 pertaining to peer support were used in this study: peer academic support (5 items), and peer personal support (4 items). Items on peer academic support focused on students' perceptions of the extent to which their peers cared about how much they learned and wanted to help them learn. Questions on peer personal support were designed to explore students' perceptions of how much their classmates cared about and liked them as individuals. Sample questions included: "Other students in this class want me to come to class every day" and "Other students in this class care about my feelings".

Background and context

The research was conducted within a secondary school, in particular within the Istituto Vincenzo Monti in Pollenza, Macerata (Italy). The group that took part in the project consists of 58 subjects, belonging to the three classes in the institute (classes 1A, 1B, 1C). The 20 pupils attending class 1C, which did not use the ePortfolio, were used as a control group. The three groups can be considered comparable because the youngsters included in the study belong to the same social context, they share many teachers and follow the same curriculum. The classes also had a similar level of problematic situations, due to the presence of

some pupils with learning difficulties and to the presence of foreign pupils. All were attending the first year of secondary school. The choice to work with children of this age was not a casual one. In the previous school year, in fact, within the same institution, similar research was conducted with the last grade of primary school. Among the pupils involved in the current school year's research , therefore, there are also some individuals who had already used the ePortfolio last year.

The two classes we interacted with have an adequate computer literacy. The researchers carried out their work at the school both in ordinary classrooms, using their laptop computers, and in the computer lab, for a total of about 20 hours. Their contribution was intended to present the tool to the class and to introduce the use of Mahara, to provide support for any technical problems, to monitor the progress. The construction of their ePortfolio by students, in fact, did not occur at school, but it was done mainly outside school hours, at home, individually.

The project structure

The research was conducted during the school year 2011/2012, from October until May. Before starting to work with the pupils, the researchers held several illustrative meetings in order to present the main characteristics of the project, first of all with the head teacher and later on with the teachers who would take part in the trial. During this initial phase the first problems emerged. Of all the teachers in the school, in fact, only two agreed to take part the project. The most significant doubts expressed by those who chose not to participate were related to the fear associated with the use of a new technology and to the introduction of a new tool that could generate a different way of approaching their own disciplines. In the end, the researchers were able to rely on the support of just two teachers, for the disciplines of history, geography and religion. Consequently, the amount of time available for direct use in the school environment was limited, due to the limited time provided by the two teachers, who were, of course, already preoccupied by all the work to be carried out in the classroom. The research was carried out by following several steps:

1. Introducing the ePortfolio

During the first meeting that researchers organized with the pupils, which took place in mid-October, they presented the main characteristics of the project, trying to identify together its significance. Therefore, they talked about the nature of the ePortfolio in general, what it is and what it does, and about some particular aspects linked to the use of a specific ePortfolio, built through Mahara. The presentation took place in the computer lab, in a period of about thirty minutes per class, between one lesson and the following one. Despite the limited time available, some interesting issues emerged, related, primarily, to the ingenuous knowledge that the youngsters had about the portfolio. They answered the question "What is a portfolio?" in different ways. These are the most interesting comments: "It is a piece of paper where we can write our name, our sport, our hobbies"; "It is it is a collection of our work". They also answered the question " Why can we use a portfolio?" in different ways, the most interesting comment being "We can use it in order to show Mom how good I am!". Faced with the question "Why should we collect our worst work?", of the various responses offered, the most interesting was "To understand what we did wrong and what we need to improve!". From these comments, it is possible to infer that, although the use of the portfolio in the Italian context is not yet a standard practice, the students seem to have different correct interpretations about the significance of its use.

Talking about the more technological aspects of the project, we can notice that the teacher was worried about the fact that the pupils did not know how to use a computer and that they would not be able to manage the situation independently because of IT-related difficulties linked that the ePortfolio would involve. Analyzing the responses, we can say that the teacher's doubts are not entirely justified. For example, they individually found the solution to this problem: "How can I put hand-written work into my computer?". Some of the pupils suggested several solutions ("We can use a camera, a web cam, a scanner, we can copy the work through the computer). In general, all said that they know how to use computers and that they have a PC with internet connection at home, even though some of them claimed that they need to get permission from their parents to use the Net. Within a few days, and each in their own way and in their own time (and sometimes taking rather a long time), the pupils started to open and customize their own profiles, giving themselves a nickname, establishing friendships and building groups.

2. Uploading the first materials

One week later, the researchers used an hour of time in the computer lab to show pupils how to put files into Mahara. To facilitate this task, we created a specific tutorial that was uploaded to the platform so that it could be followed by the students. At this point, the researchers proposed the first task to be performed by the pupils independently: they had to choose materials from those produced at school and put them into Mahara. The instructions for the task were found to be insufficiently specific and it was perceived by

students as "not mandatory", with the result that after two weeks, only a few materials had been inserted. Together with the teacher, the researchers decided to direct students toward a different kind of work, providing a more detailed request. So they asked the students to insert into their ePortfolio, an initial document, a search conducted some time before on the greenhouse effect. Many of them had done the initial work wrongly, and so had to do it again. This task was performed by all students, although some of them reported difficulties with the scanning of documents and their traceability to the computer, while they found no particular problems related to the upload of the materials to the platform. In the opinion of the researchers, however, the problems they encountered were not linked to technological factors. In particular, researchers noted a general lack of autonomy among students, who were not able to manage an open task individually.

3. Stimulating motivation with "competition notices"

During the month of January, to encourage more assiduous participation in the project, the researchers opted for a new approach. Considering that one of the problems was the lack of autonomy among the students, we organized some competition notices, asking students to choose and upload a series of work, whose typology was suggested by the researchers and by their teacher. At the end of the competition the winners would be published. In this way we could stimulate their motivation. In order to choose the winners the researchers followed particular guidelines: they would appreciate coherence related to the task, originality, personalization and meeting deadlines. Three competitions were organized over three months.

First contest: guided work linked to a particular study topic.

The first contest was launched in January. Students were asked to choose one piece of work carried out in relation to the last topic discussed in history (the fall of the Roman Empire). The choice had to be motivated by filling out the description field.

Second contest: guided work linked to a tool for studying.

The second contest was announced in February. Students were asked to choose a map they had prepared themselves. They had also to specify the reasons for their choice and also their perception about the usefulness of maps as a tool.

Third contest: a more individual work.

The third contest was launched in March. Students were asked to choose a piece of work from history and another from geography from those developed from the start of the school year, specifying the reasons for the choice in the description field.

4. Realizing the first "views".

Considering that thanks to the creation of competitions in the phase described above, students had begun to interact closely with Mahara, researchers have proposed the construction of the first views. As usual, before proposing a new task, researchers organized a new meeting in the computer lab, which lasted about an hour, in order to illustrate the technical steps necessary to do so. The specific objective of the task in question was to prepare some showcase views. These opportunities for pupils to display their work in the format(s) that they themselves desired were to have as their central theme the topics covered during the year in the course of activities carried out in the disciplines of history and geography.

5. Discussing the first views.

After reading the first view made by students, the teacher involved in the project proposed the use of Mahara as a tool to enhance traditional methods of assessment, based on the oral presentation of the lesson studied. So, over 4 hours, spread over 2 weeks, we organized some class discussions that were aimed to show to the rest of the group the work done by each student and placed in the portfolio as a "view". An audio recording was made of each discussion for later analysis.

6. Submission of the questionnaire.

During the research development, we noted some interesting aspects of the learning pathways path that we were monitoring. First of all, the ePortfolio was used by children as a tool for social contact, exchanging various information and communicating in new ways with their teachers. So at the end of the project, we decided to analyze whether this kind of work and this new type of on-line relationship with classmates could change the quality of the social environment in the class. For this reason, we proposed to detect the perception of the students about the social aspects in the class. This questionnaire was completed both by

students in the two experimental groups, and by the students of the control group, who did not use the ePortfolio.

Findings and results

We used different methods to talk about the three variables of the research described above (the attitude that students had towards each discipline, pupils' ways of studying and working within the ePortfolio, and the relationships that were formed inside the classroom and the dynamics which changed the class atmosphere)..

Regarding the first variable, the attitude of students towards subjects, we collected a lot of data from class observation and from two semi-structured interviews with the class teacher. Through the analysis of the discussions made thanks to the "view" created, we can notice the persistence of a vision of the discipline as a self-contained body of knowledge. Each topic is perceived as a unit of meaning and is studied as a whole, without extending the vision to a wider context. The possibility to use multimedia contents for the construction of views has certainly allowed a deeper exploration of concepts and the growth of motivation in carrying out assignments: even the students with learning difficulties produced work which were multimedia-rich and they enriched the text portion with audio and video materials, sometimes original and made directly by the student, other times downloaded from the Internet. In some cases, the richness of the work produced became a valuable resource for the retention of knowledge, especially for individuals who had specific difficulties in this area. Despite these positive aspects, the target we had set at the beginning of the project (a better understanding of the complexity of the general framework of the discipline), has not been fully reached).

For the second dimension analysed, pupils' ways of studying and working performed during the school year, we collected some quantitative data related to tracking, which showed how the features mainly used by the classes were those related to social and relational issues of Mahara. During the year, 137 groups were formed and 465 "views" were developed. On average, each user had about 20 friend requests accepted, Pupils built about 5 "views" and joined more than 11 groups (but there are users who are members of 68 groups). These data show that students very much appreciate the social aspects of the tool, using it as a social networking environment to exchange messages and materials the groups of friends, leaving the educational focus on the contents and learning paths in second place.

Despite the disparity between the number of messages giving social support and those giving cognitive support, we can notice different comments related to the different "views". These can be considered a sign that pupils' interest in and ability to use the tool shifted, towards the end of the year, to more mature forms of discussion and consultation.

It is not uncommon to find feedback messages on the work of others such as: " I think you could engage a little bit more", " I think you should put in some photos or a video", "You did it by yourself? If you did you are very clever!". These comments show that the activity within the ePortfolio was not confined to the construction of artifacts and to reflection on materials, but that considerable space was occupied by the reading of the others' work and consulting each other to improve the quality of products and learning.

Another important element is the care with which each student prepared their own profile and uploaded their personal presentation. Apart from setting up the text fields, the youngsters paid a lot of attention to the appearance of the pages, e.g. the colors, the pictures selected, using the profile space to present a clear self-image to classmates and teachers, focusing on those elements that were perceived as key to his or her identity. In the choice of nicknames too we can identify a certain preference for the fantastic and for the presence of an identifying element.

Regarding the third area of investigation, the change in classroom atmosphere, the CLM questionnaire described above was used. Cronbach's alpha reliability coefficient for the Classroom Life Measure was calculated to determine the reliability of this questionnaire, and the data was subjected to a t-test analysis. As far as reliability is concerned, Cronbach's alpha reliability coefficient for the two subscales adopted was 0.81 for the personal support subscale and 0.71 for academic support, suggesting that the two subscales of the Classroom Life Measure are reliable measures.The results regarding the perception of personal social support received from colleagues showed significant differences. In particular, the classes that used Mahara (M = 3.37 ES = 0.30, M = 3.16 ES = 0.49) showed a greater perception of being supported personally by friends compared to the control class (M = 2.46 ES = 0.30): see Table 1.

Groups	Mean	Sd
ePortfolio I A	3.37	0.30
ePortfolio I B	3.16	0.49

Groups	Mean	Sd
No ePortfolio I C	2.46	0.30

Table 1. Peer personal support

Groups	Mean*	Sd*
ePortfolio I A	2.98	0.56
ePortfolio I B	2.83	0.49
No ePortfolio I C	2.43	0.76

Table 2. Peer academic support

*T-Test for equality of means = .053 ($p < .05$)

The data displayed in Table 2 shows a difference not far from the statistical significance between the group who used the ePortfolio and the control (T = 0.53). These data are further confirmed through empirical observations and messages posted by the students on their wall and in views' comments.

Indeed, during the research, pupils used Mahara as a powerful new communication tool, both between peers and with the teachers. The teacher stressed this, telling us how she used the ePortfolio as a kind of alternative information repository, different from the traditional ones used in schools. For example, students contacted her using the messaging system or wrote on her personal wall in order to find out the work that they were supposed to prepare. In particular, this communicative aspect of the ePortfolio emerged during the month of February, when the school was closed for several days due to heavy snowfalls that hit the area where the school is located. In this case, Mahara was perceived as the only way to keep in touch, overcoming the physical distance that prevented students and the teacher to interact directly.

Another issue regarding the social impact of using Mahara in class concerns the way the students showed that they could support each other. In fact, they said that they helped each other, creating working groups in the afternoon after school hours. In this way they managed to overcome easily some of the technical problems that prevented them from using the tool. From the technical point of view, therefore, there was close collaboration among the youngsters, even though they continued to work individually on their choices of content to be explored in their "view" or the selection of materials to be included in their respective folders. This fact remained unchanged throughout the course of the research, even when the tasks that students had to carry out were introduced in a predominantly competitive context.

Conclusions and recommendations

At the end of the project, the researchers and teachers who participated in the research discussed the quality of the experience. In relation to the study's initial objectives, the team agreed that some points were reached, while others require further time.

The most evident results are those related to the classroom atmosphere and socialization: the questionnaire shows a significant difference in the students' perception of social and academic support. In conclusion, we can say that the youngsters, as well as the teachers, were attracted by the communicative and social aspects of Mahara, and using the tool produced an improvement in the classroom atmosphere. This is probably due in part to the fact that Mahara has a very friendly look and feel and its structure is similar to that of many social networks. Unfortunately, we cannot compare the final measure with an initial base line test, so our comparison is only related to the final situation of the two different groups of students at the end of the course.

In terms of student attitudes towards the subjects and motivation, we noticed only modest improvements, especially relating to the way they carried out their work and study. The researchers, however, believe that these changes have only just begun, so cannot be considered significant at the moment. We can put forward some possible reasons why this aspect has not improved as much as we had hoped.. First of all, the fact that not all the teachers participated in the project represented an obstacle: the project was, it should be remembered, limited to only two disciplines, and this in a phase of schooling (the Italian scuola media, or middle school) where disciplines are taught as self-contained units. In other words, materials are discussed and studied separately, with only occasional points of contact between different subjects. In the second place, the introduction of the ePortfolio occurred in a school environment that offers a well-defined study approach, based mainly on instructivist patterns. In such a situation, the tool itself has encountered difficulties in its role as a promoter of significant change. However, the growth of the involved teacher, who seems much more aware and willing to use the tool for the future, is very positive. Initially dubious, in fact,

at the end of the path she admitted that during the first weeks of work she found the project rather difficult, but she also stated at the end that she finally managed to understand the point of the entire project. Here are some of her words about the usefulness of ePortfolio: "Useful? Yes it is … to select the materials and write why you selected them. The students make general comments, but choose what is important to them". Thanks to the collection of all the cataloged work, the overall project is more evident, both for the teacher and for the students. The teacher added that she believes that such an experience could be useful to give students appropriate teaching on new media and the Internet.

The implementation of an ePortfolio in secondary school suffers from organizational and logistical difficulties which are associated with the complexity of the organization of this kind of school. It seems crucial to focus on organizational factors (time and space) for a process of sustainability in the higher school levels. However, despite the difficulties, the teachers and students involved in the project gained a better awareness of their learning process and tried out a tool for critical reflection and peer feedback that led them to create a better peer relationships and an improved classroom atmosphere.

References

1. Barrett H. (2005) The REFLECT Initiative: Researching Electronic Portfolios: Learning, Engagement and Collaboration through Technology, [retrieved 10/06/2012 from http://www.taskstream.com/reflect/whitepaper.pdf].
2. Barrett H. (2009) *Balancing the two faces of ePortfolios*, [retrieved 10/06/2012 from http://electronicportfolios.com/balance/].
3. Becta (2007). *Impact Study of Eportfolios on Learning*, [retrieved 10/06/2012 from http://dera.ioe.ac.uk/1469/1/becta_2007_eportfolios_report.pdf].
4. Bertucci A., Conte S., Meloni C. (2009). Effetto dell'utilizzo del cooperative learning su percezione di supporto sociale e apprendimento durante i primi anni della scuola elementare. *Giornale italiano di psicologia*, Vol. 38, n. 4, pp. 899 – 912.
5. Chiari, G. (2003). Cooperative learning in Italian schools: Learning and democracy. *Quaderni del dipartimento di Sociologia e Ricerca sociale*. Università degli Studi di Trento.
6. Doig B., Illsley B., Mc Luckie J. & Parsons R. (2006) Using ePortfolios to Enhance Reflective Learning and Development, in Jafari, A. & Kaufman, C. (2006) *Handbook of Research on ePortfolios*, London, Idea Group Reference, pp. 158-167.
7. Garrison, D. R., & Anderson, T. (2003) E-learning in the 21st century: A framework for research and practice. London: Routledge/Falmer.
8. Garrison, D. R., Anderson, T, & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, *2*(2/3), 87-105.
9. Giannandrea L. & Sansoni M. (2011) L'introduzione di un ePortfolio nella scuola primaria: un'esperienza con Mahara, in Atti del VIII Congresso Nazionale della SIe-L, 13-15 settembre 2011, Reggio Emilia, Italy.
10. Giannandrea L. & Sansoni M. (2011) Eportfolio in primary schools. Using Mahara to enhance learning and motivation, in *ePIC 2011. Proceedings of the 9th International Conference on ePortfolio & Identity,* London, 11-13 July 2011, Savoy Place.
11. Jafari A. & Kaufman C. (2006) Handbook of Research on ePortfolios, London, Idea Group Reference.
12. Johnson D. W. & Johnson R. T. (1983). Social interdependence and perceived academic and personal support in the classroom. *Journal of social psychology*, n. 120, pp.77-82.
13. Johnson D. W. & Johnson R. T. (1996). Meaningful and manageable assessment through cooperative learning, Edina, MN: Interaction Book Company.
14. Johnson, D. W., Johnson, R. T., Buckman, L. A., & Richards, P. S. (1985). The effect of prolonged implementation of cooperative learning on social support within the classroom. *Journal of Psychology, 119,* 405-411.
15. Millis B. (2006) Foreword to the second edition, in Zubizarreta, J. (2006). The Learning Portfolio: Reflective Practice for Improving Student Learning, Boston, MA: Anker.
16. Rossi, P. G. Pascucci, G. Giannandrea, L. Paciaroni, M. (2006) *L'ePortfolio come strumento per la costruzione dell'identità*, in Informations, Savoirs, Décisions, Médiations, Journal International des Sciences de l'Information et de la Communication, Marseille, n°25, [Retrieved 16/06/2012 from: http://isdm.univ-tln.fr/PDF/isdm25/RossiPascucciGiannandreaPaciaroni_TICE2006.pdf]
17. Rossi P. G. & Giannandrea L. (2006) *Che cos'è l'ePortfolio*, Roma: Carocci.

18. Zubizarreta, J. (2006). The Learning Portfolio: Reflective Practice for Improving Student Learning, Boston, MA: Anker.

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Learning from the Open: Web 3.0 ePortfolios

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The uses of eportfolios at institutions of higher education are proliferating. In the United States, 40% of campuses are now utilizing eportfolios (Rhodes, 2011). Participation in eportfolio learning enhances unique student engagement, critical reflection and analysis, and collaborative teaching-learning environments (Cambridge, 2010; Cambridge et al., 2009; Rhodes, 2011; Light et al., 2011, Stefanakis, 2011). Participation in eportfolios fosters communities of learning and of practice, extending classroom learning into the community and through both formal and informal pathways (Barrett, 2011; Batson, 2002; Cambridge, 2010; Cambridge et al., 2009, Oliver et al., 2009). From university system-wide implementation to individually owned sites built from publicly available web tools and platforms, ePortfolios are changing learning and assessment processes and structures in educational institutions.

Eportfolios cannot be defined either as product or process, or even as both – but rather as an integrative approach that harnesses the learner as co-creator in knowledge generation, in what Jenkins (2009) refers to as "distributed cognition" or "the ability to interact meaningfully with tools that expand mental capacities" (37). This new media literacy, or "collective intelligence" (Jenkins, 2009) fosters the ability to pool knowledge and compare notes with others toward a common goal or, in other words, makes 21st century learning visible. Eportfolios which incorporate social media capitalize on the social networking behaviors of entering students, and in support and enhancement of curricular and co-curricular meaning-making, and multi-modal communication and interaction (Oliver et al., 2009). Increasingly, eportfolio initiatives have used the tools of the open and social web to allow students and faculty to shape their own approaches and multiple interpretations to the eportfolios for visible, shared, socially constructed learning.

This paper profiles two such approaches, from two disparate US institutions of higher education (a large public research institution and a small honors college within a large urban university system).

The University of Oregon, the first of these institutions, is part of a larger network of professional schools engaged in developing eportfolio learning processes, and a member of the fifth cohort of the Inter/National Coalition of Electronic Portfolio Research (I/NCEPR). What began as a small showcase eportfolio initiative in the Arts and Administration Program in order to connect professional practice and information management, grew to an interdisciplinary learning eportfolio initiative in three professional programs (Architecture, Business, and Arts and Administration).

The vision of the AAD ePortfolio system is a comprehensive learning system that serves as a hub for the generation of dynamic learning communities among faculty, students and professionals, and centers the integration of demonstrations of excellence in academic objectives, participatory learning and professional development through digital communications.

All entering AAD graduate students are required to create learning eportfolios in a customized WordPress blogging platform. Students are provided with eportfolio templates in WordPress, which they then modify and update as they progress through the program, and which become increasingly reflective of their personal learning journey. Students post their overall learning objectives and two-year academic plan, and for each class they post learning objectives that connect the course to their larger academic and career goals. Throughout the term students post artifacts and reflections that provide a narrative and evidence for their learning and how it connects with their overall learning objectives. Eportfolios also assist students in connecting with potential internship sites and with future employers, and serve as a repository for research and work conducted during the course of their academic careers.

As an eportfolio system in a blogging environment, students have the ability to aggregate multiple web 2.0/3.0 tools that enhance their learning experience. The design of the system allows for a robust aggregation of faculty and student use, and includes instructional blogs, project blogs, and a hub that provides a point of entry to course information, faculty and student information, tutorials and eportfolio guidance. Through aggregating learning eportfolios, program resource blogs, instructional blogs, faculty and student professional portfolios in a hub or "digital commons," a community of practice is generated that supports multi-modal learning and application of communication technologies in a distributed cognition approach.

Emergent findings from our eportfolio initiative demonstrate that participation in eportfolios leads to student-centered learning and pedagogical change, while applying real world technology to the ways that student and faculty engage in learning (Bramhall et. al., 2011).

Students self-report that the value of participating in eportfolio learning in an open blogging platform includes: sharing and viewing each other's work; aggregating and archiving their own work leading to greater self-reporting of growth over time; and that the unique value of the public and visible nature of system provided unique opportunities for peer to peer learning and self-efficacy.

The ways that faculty are embedding eportfolios in their courses are hugely varied. Faculty may aggregate all their courses and instructional materials on a single instructional blog, or create a different one for each class. Participating faculty also include in their instructional blogs external resources, such as websites and web resources, diigo groups, and other web 3.0 tools – modeling the application of web 3.0 learning tools and strategies.

As part of a learning community, students are helping to guide their own educational growth and development. Because of the visible nature of the platform, students have the option to designate themselves what work they will make fully public, which has increased the peer to peer engagement. Students are able to view each other's work in the same class, and across classes. Faculty can designate that the instructional blog be viewable by just the students in the course, by all users in the system, or completely publicly available. Students and faculty maintain the greatest degree of control over visibility. So, the choice of what to make visible, or private, becomes an intentional choice with implications that become opportunities for discussion and analysis.

Students use their eportfolios in vastly different ways depending on their career and degree emphasis, which the system and the project allows and encourages. Some students focus on the extension of their professional networks, utilizing the blog feature to publish their work in the public domain. As a result, several students have been invited to be professional and guest bloggers with international associations and organizations; increasingly students are being invited to participate in a growing number of professional networks. Implications for lifelong learning are also suggested in such student self-reporting as perception of the value of engaging in learning eportfolios in a WordPress environment: importance of its use as a marketing tool and branding, personal expression, information collection, communication and distribution of work, and for job advancement. Said one student "I blog for other organizations already, and the entries can serve as writing samples for potential jobs. I use a variety of social media for research and making professional connections."

At Macaulay Honors College of the City University of New York, the eportfolio initiative (http://macaulay.cuny.edu/eportfolios begun in 2008 and now including over 2,400 sites) has been designed from the start as a student-driven initiative, with the broadest possible range of decisions about content, function and design left to students' discretion. Eportfolios are not required, and specific templates are primarily presented as options for students to choose from (with "other" always included as an intentional option). Eportfolios, like at the University of Oregon, take a wide range of forms and serve a wide range of purposes. In addition to professional/career oriented eportfolios and class eportfolios, students have created eportfolios including sites documenting their travel and study abroad experiences, science and health research, cultural and artistic explorations and honors theses or capstone projects. The variety and strength of the student eportfolios is evident in the collections of awardees in the two (to date) annual Eportfolio Expos Macaulay has held (http://tinyurl.com/74gqzu9/ and http://tinyurl.com/6vax5tt)

As the Macaulay eportfolio community has grown and developed, we have also been able to incorporate the BuddyPress suite of social networking plugins in the basic WordPress multi-site framework. BuddyPress allows our students to connect with other students across campuses, classes, and years, sharing interests and intellectual pursuits. BuddyPress gives each student a profile, and linked to her profile, a list of every eportfolio for which she is a creator or one of a group of authors. Classwork, personal reflections, comments and responses all appear in the overall activity stream. In this way, the social and sharing functions, the co-authoring and interactive responses that students expect from their experiences with non-academic communities are foregrounded and valued in our academic community.

Beyond this Macaulay-specific social networking layer, the Macaulay eportfolio community also presents students with a variety of plug-ins to provide simple links to their lives and communities outside of school. Flickr photo galleries and YouTube videos are embedded into eportfolio posts, and eportfolios can include Facebook "like" buttons, as well as links to share eportfolio items on diigo, twitter, and other social networking applications.

As students have shared more of their work online with their informal social circles, with professional circles, and with academic evaluators and peers, we have seen an increase in collaboration, engagement, and serious critical attention to their work as students and as developing individuals. Since there is no formal evaluation or assessment process for these eportfolios, the main motivations which have impelled students to create, develop and continue the eportfolios have been intrinsic. The extrinsic motivations

derived from social connections and peer commenting, have served to feed and expand the students' intrinsic motivations.

Starting with the dual metaphors of "The Museum of Me" and "The Cabinet of Curiosities," the Macaulay eportfolio community has asked students to decide for themselves what should be included in the eportfolios, what forms the eportfolios should take, and which parts should be made public at which times. Over time, we have been promoting an approach that, when describing it to students, we call "your work is your badge." The concept here is that we want to couple the intrinsic motivation with the extrinsic, pushing students to see their own demonstration of their abilities (and their reflections on those abilities) as being in itself a reward, and also a formal recognition or certification. Applause from peers, positive comments or responses from outside audiences, or awards from our Expo, as badges of external recognition, provide positive extrinsic motivation. What we are beginning to see, especially through the Expo as an event, is that the extrinsic motivation can serve as a tipping point for students who are not yet fully motivated by the intrinsic factors, and can potentiate the intrinsic factors for students who are already responding to them.

The Eportfolio Expo, a spring evening when students (who have nominated themselves or been nominated by their peers) gather for cupcakes and eportfolio show and tell, was originally conceived (by the Macaulay administration) as mainly an awards ceremony—a recognition, with prizes and certificates—of the "best" of the eportfolio community. However, in even the first instance of the Expo, students immediately began using the event as a bridge between the online social interaction they had already been engaged in and the face-to-face interaction of the night itself. Students posted about the event on facebook, sending links to their eportfolios and asking classmates and friends (from all over the world) to visit their sites and to leave comments and rate them or to vote for them in the "people's choice" award competition.

On the night itself, students who had not been nominated, students who were nominated, and even a few incoming students who had not even yet started their college careers joined in the discussion, constructive critique, and sharing of ideas. After each year's expo, we have seen an increase in connections and comments among the eportfolios, and a surge in the creation of new eportfolios, and the development of existing eportfolios. Culinary/recipe eportfolios, self-challenging writing eportfolios ("demand a story of me" in which a student requested that her readers present a topic or criterion or demand, and she would write a story based on that, writing as many stories as were demanded over the course of a summer), and film criticism eportfolios were all examples of new types of work that were invented, developed and shared as a result of the Expos. Because these open eportfolios link the social and the formal, the informal and the individual, the academic and the personal, students invent new forms, get responses to those forms, and engage with a pride of ownership and self-satisfaction which sustains the eportfolios beyond the scope of assignments or school.

The convergence of formal and informal learning processes through social networking tools, and blended learning environments, however, raises unique challenges. Students demonstrate a degree of discomfort when asked to transfer skills and tools employed in informal learning to formal learning contexts- these are domains that they have traditionally kept separate, and affects how they assert their digital selves and identities in different contexts. Yet these challenges have provided a critical opportunity to engage students in discussions around managing their digital identities and digital citizenship, which has implications for a broad array of professional practices. These eportfolio projects have become a stage on which issues of privacy, control, intellectual property, resource allocation and policy issues around information technology and the future of learning generally are played out.

At Macaulay Honors College, questions of the definition of "commercial use" (which the university prohibits) have become very tangled. As students, for example, have used their eportfolios to raise funds through kickstarter to support their community service work in Nicaragua (a use which was ultimately allowed), or to install Google AdWords to make extra pocket money for themselves (a use which was disallowed), we have needed, as a community, to examine, discuss and evaluate the shifting landscape of the commercial and financial implications of the open web. When a student posted on her study abroad eportfolio a video (surreptitiously recorded) of a professor behaving abusively towards her on a train from Italy to Switzerland, we had the opportunity to discuss the ethics of surreptitious video recording, appropriate professional and academic behavior and channels for remedying abuses. In all cases, however, what was most important was the discussion. We did not (and always try not to) remove or edit or control any of the content on students' eportfolios unilaterally. Instead when a problem arises, we contact the student and open a discussion, and then open the discussion to the wider eportfolio community, so that even the issues and challenges can become learning opportunities and opportunities to develop new understanding and new policies.

At the University of Oregon, the eportfolio project received initial central support from the college's Information Technology department, but this was pulled after a short pilot phase. The question of

responsibility for resource allocation for this initiative which crossed so many boundaries and worked on so many levels was a complex one. At one point, the project at University of Oregon was almost eliminated as the university sought to manage changing student privacy policies in response to the widespread use of open source social media. As a result, an eportfolio privacy policy was adopted which is now used for the institution-wide edublogs installation. One of the most attractive features of the WordPress installation is that it gave students the greatest degree of privacy control over their digital presence; this became a critical response to a student privacy crisis that erupted on our campus.

Intellectual property and copyright are also a common issue. How to copyright these eportfolio sites, who owns instructional sites, and the kinds of information that could be shared through the public domain, are all issues that continue to be contested. Open source access and open source representation of information resulted in the administration at University of Oregon shutting down faculty advising sites and some other sites that did not "promote" or represent the officially sanctioned programmatic information. At Macaulay Honors College, a professor was not invited back to teach a seminar a second time. She requested that the class eportfolio she had used be deleted, even though she and the students had previously agreed that it should be publicly visible, because it was "painful" to see it when she was not teaching the course anymore. After extensive discussions, the professor found that her students preferred to be able to continue to see and refer to what they had learned and accomplished in the course, and she compromised by substituting her initials for her name throughout the course.

The integration of the open, social web with eportfolios, and the building of eportfolio platforms which can make use of social connections and fine-grained decisions about privacy and publicity have enabled, at the University of Oregon and Macaulay Honors College of the City University of New York, new discussions and new directions in the power of eportfolios and the role and function of eportfolios in higher education. Systems of this type allow us to see and use eportfolios as product and process, intrinsically and extrinsically motivated, connected and independent.

References

1. Barrett, H. (2011). Balancing the Two Faces of Eportfolio. http://electronicportfolios.com/balance/Balancing2.htm. [Accessed 3 March 2012]
2. Batson, T. (2002). The Electronic Portfolio Boom: What's It All About? http://www.msnc.la.edu/include/learning_resources/emerging_technologies/eportfolio/ePortfolio_boom.pdf. [Accessed 19 December 2012]
3. Bramhall, R., Cheng, N. & Hager, L. (2011). Inter/National Coalition of Electronic Portfolio Research Cohort V Final Report – University of Oregon. http://ncepr.org/finalreports/cohort5/UO%20Final%20Report.pdf. [Accessed 10 January 2012]
4. Cambridge, D., Cambridge, B. & Yancey, K. (Eds.) (2009). Electronic Portfolios 2.0: Emergent Research on Implementation and Impact. Sterling VA: Stylus.
5. Cambridge, Darren (2010-10-07). Eportfolios for Lifelong Learning and Assessment . John Wiley and Sons. Kindle Edition.
6. Hughes, Julie. (2008). Letting in the Trojan mouse: Using an eportfolio system to re-think pedagogy. Conference Proceedings. Ascilite, Melbourne, 2008.
7. Jenkins, H. (2009). Confronting the Challenges of Participatory Culture. Retrieved from http://www.digitallearning.macfound.org. [Accessed 6 March 2012]
8. Light, P., Chen, H., & Ittelson, J. (2011-11-18). Documenting Learning with ePortfolios: A Guide for College Instructors. John Wiley and Sons. Kindle Edition.
9. Oliver, B., von Konsky, B., Jones, S., Ferns, S. & Tucker, B. Curtin's iPortfolio: Facilitating Student Achievement of Graduate Attributes Within and Beyond the Curriculum. Learning Communities: International Journal of Learning in Social Contexts. December 2009. Issue 2 – ePortfolio Edition, pp 4-15. http://www.cdu.edu.au/centres/spill//journal/IJLSC_Dec_2009_eportfolio.pdf?q=centres/spil/journal/IJLSC_Dec_2009_eportfolio.pdf. [Accessed 15 March 2012]
10. Rhodes, T. (2011). Making Learning Visible and Meaningful Through Electronic Portfolios. Change. January-February. http://www.changemag.org/Archives/Back%20Issues/2011/January-February%202011/making-learning-visible-full.html [Accessed 17 March 2012].
11. Stefanakis, E. (2011). Differentiated Assessment. Hoboken: Jossey-Bass.

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On Personal Web Log Publication Tool under IMS ePortfolio Standard

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Introduction

Traditional portfolios encountered the problem of many limitations, such as data storage, search and management in practice,With the rapid progress of information technology, Using Information technology to generate or save the students' portfolios has become a universal solution.

Early electronic portfolios are mostly exist in static pages, there is no accepted standard, so e-the Portfolio can't share in the different systems and the problems of inefficiency and duplication of investment in software system integration, IMS Global Learning Consortium published the IMS ePortfolio Version 1.0 in Final Specification of ePortfolio standards laid a milestone. The main purpose of the standard is to provide common standards to create a ePortfolio and shows anywhere.

The network information has been transferred from a specific media to the common users in Web 2.0 era, everyone can write what they seeing, listening and thinking to a blog. Therefore, the information in the blog have strong unique personal style, This environment provides a personal learning record and feedback mechanisms, We believe that according to the functional aspects, technical, user groups and market, blogs are very suitable starting point for development as of ePortfolio in reflection dimension.

In considering the implementation of ePortfolio, we also found that the learning management systems and blogs do not have a unified data reference model corresponding to each other. That learners and teachers must be collaboration between the two different systems. Therefore, application of blogs as ePortfolio software system for e-Learning, we should consider the integration of system information to enable teachers and learners can take advantage of the different characteristics of the system for teaching and learning activities,In the present study, we discuss the current development status of the blog and user motivation based on the IMS ePortfolio standard. Explore ePortfolio standards are directions applied to the blog by the way of system implementation.

Objective

ePortfolio has the characteristics of assessment, presentation, reflection and achievements accumulated. Organizations usually use the ePortfolio for learner self-assessment and reflection on the breadth and depth of learning and reference to the continuing education as a lack of self or directions to do in the future. In the enterprise, ePortfolio can be used as the appointment of the individual employee, performance appraisal and promotion of reference with the certified standard. These requests bring the portability and interoperability of the ePortfolio is very important to be able to exchange information in a variety of organizations.

According to domestic study, users do not have to spend a lot of time to use the blog when writing articles, and spending a lot of time to read other people's blog, that's indicates reading blogs has become one of the user's habits to access internet. The purpose of most users intends using the blog's is to record life, to express their emotions and sharing of information and compilation of the blog as a personal information management platform.

Term	Blog	Personal Website	Wiki
Article author	Individual or group	Individual	Group
Article sort	Time-series	Personal preference	themed
Technical aspects	Low	High	Medium
Update rate depends on	Individual	Individual	Group
Personal Description	High	High	Low
Knowledge representation	Unlimited	Unlimited	Specific
Security	High	Medium	High
Publishing format	RSS, Atom, RDF	None	None
Feedback mechanism	Depend on settings	Depend on design	public

Table 1. Comparison of web publication tool

In particular, the blog can present a wide range of digital content can be fully demonstrated personal professional work and learning experiences. It allows the reader feedback mechanism to improve the traditional computer-assisted instruction, lack of peer interaction, lack of social situations, so the blog can have a computer cooperative learning characteristics of software systems.

In this study, we provide a general blog standard file format for RSS-based, Allowing users does not change the existing publishing model to re-package the content of blogs to IMS ePortfolio format and sharing with other learners in a standards-compliant learning management system.

Assumptions and limitations

This study assumes that the motivation of bloggers post on the platform in order to tend to record personal learning process-based and using blog as the main tool to record lifelong learning process. The user must have the ability to use the blog for knowledge management and application. In addition, the personal motivation of using the blog may lead to this study and cannot be applied in some cases.

Summary of results

Application of RSS document format

RSS is a family of web feed formats used to publish frequently updated works—such as blog entries, news headlines, audio, and video—in a standardized format. An RSS document includes full or summarized text, plus metadata such as publishing dates and authorship. RSS feeds benefit publishers by letting them syndicate content automatically. A standardized XML file format allows the information to be published once and viewed by many different programs. They benefit readers who want to subscribe to timely updates from favorite websites or to aggregate feeds from many sites into one place.

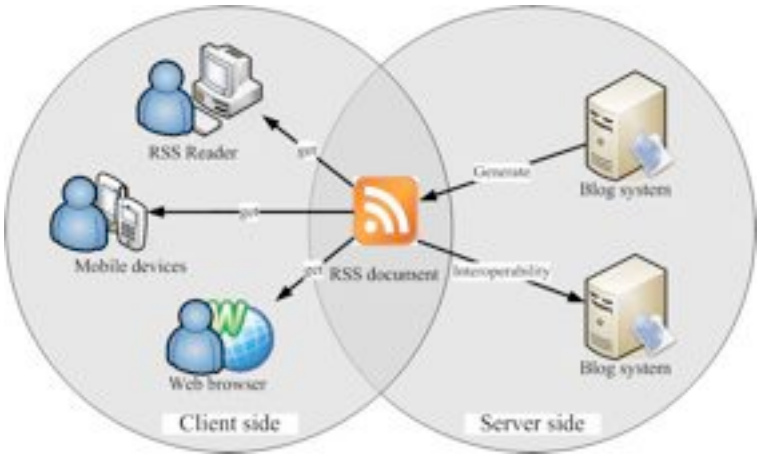

Figure 1: General RSS application model

Blogs use RSS technology to make articles published not only easy to retrieve the content by computer program, but also makes the blog with a cross-platform interactive capabilities. Our system implements an RSS-ePortfolio file conversion packaging system (hereinafter referred to RSSeP) for data acquisition, analysis, storage and reuse mechanisms in accordance with the RSS 2.0 specification.

System Requirement

In the first place, we create a blog system to send the full text of the RSS file to allow the program to retrieve the required content; Users can enter basic personal information and the RSS URL during ePortfolio packaging. And then RSSeP can export into the IMS ePortfolio specification of the zip packaged file. This file allows user to import into the SCORM standard platform which depend on the different needs of ePortfolio.

Figure 2: RSSeP System architecture

System design architecture is based on a web site with remote RSS reader functionality, we analyze RSS tags to map the IMS ePortfolio specification label according to the characteristics of data and the use of RSSeP system packaging, so the content can be applied to other systems. Both of RSS and the IMS ePortfolio are belong to the file distribution and preservation standards, so we have to understand the standard operating processes and the use of labels and then mapping their own design data access model before the system implementation.

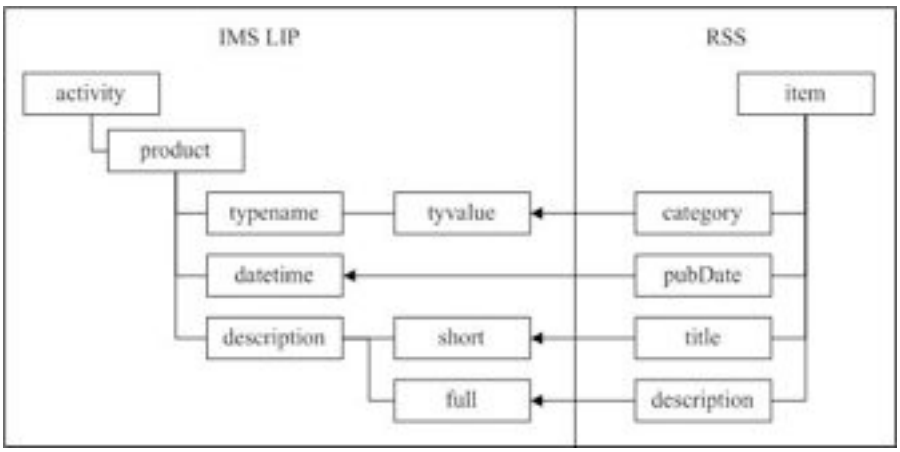

Figure 3: Data description mapping between LIP activity RSS tags

IMS ePortfolio standard exists in XML file format, but XML is not good reading, in order to allow an XML file can be displayed directly; we use XSLT to the data display format conversion. XSLT (Extensible Stylesheet Language Transformations) is a declarative, XML-based language used for the transformation of XML documents. The original document is not changed; the new document may be serialized by the processor in standard XML syntax or in another format, such as HTML or plain text. XSLT is most often used to convert data between different XML schemas or to convert XML data into web pages or PDF documents.

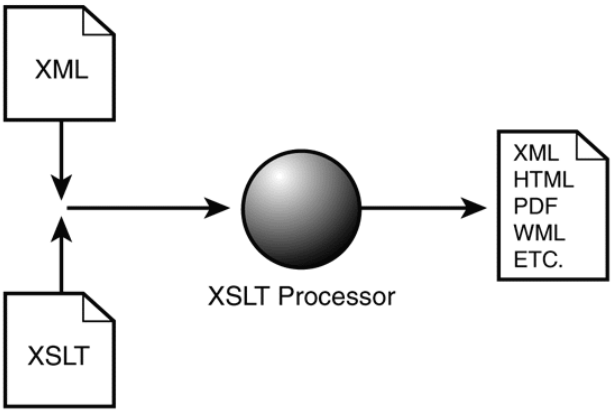

Figure 4: The XSLT transformation process

RSSeP system is now completed the three basic functions of “ePortfolio packaging”, the “ePortfolio import” and “My ePortfolio browsing”. We found that in the implementation process, the article in the blog can be released by way of RSS use RSSeP system integration. Users can export the assessment results and interactive process in general learning management system, then the users can record the information in the blog to makes ePortfolio content more complete.

Figure 5: RSSeP System prototype

Conclusion

This study proposes a ePortfolio information architecture base on personal publication tool, and implement the system and verify the feasibility of this framework,The system architecture proposed in the paper can be converted to a blog document the IMS ePortfolio Specification, and use XSLT offline browsing capabilities can solve the standards and portability support issues, Enhance interoperability with learning management platform to solve the lack of information on the nature of evidence. RSSeP system using RSS files between the IMS ePortfolio label mapping can be successfully packaging the ePortfolio-related articles in blog. XSLT style conversion can provide the feature for ePortfolio offline browsing and be stored in any storage device, enhanced usability and portability.

References

1. A.D. Ritzhaupt and O. Singh, “Student perspectives of ePortfolios in computing education,” Proceedings of the 44th annual Southeast regional conference, March 2006, pp. 152-157.

2. Jafari, “The ‘Sticky’ ePortfolio System Tracking Chllenges and Identifying Attributes,” Vol. 39, No. 4, July/ August 2004, pp. 38-48.
3. M.N. Razavi and I. Lee, “A Grounded Theory of Information Sharing Behavior in a Personal Learning Space,” Proceedings of the 20th Conference on Computer Supported Cooperative Work, Alberta, Canada, November 2006, pp. 459-468.
4. H. Barrett, “Electronic Teaching Portfolios: Multimedia Skills + Portfolio Development = Powerful Professional Development,” Anchorage: University of Alaska Association for the Advancement of Computing in Education (AACE), February 2001.
5. L.D. Paulson, “Approach gives providers a new way to push content,” Computer, Vol. 37, Issue 5, May 2004, p 24.
6. IMS Global Learning Consortium, Inc. “IMS ePortfolio Information Model V1.0 Final Specification,” June 2005.
7. IMS Global Learning Consortium, Inc. “IMS ePortfolio Binding V1.0 Final Specification,” June 2005.
8. IMS Global Learning Consortium, Inc. “IMS ePortfolio Best Practice and Implementation Guide V1.0 Final Specification,” June 2005.
9. IMS Global Learning Consortium, Inc. “IMS ePortfolio Rubric Specification V1.0 Final Specification,” June 2005.
10. IMS Global Learning Consortium, Inc. “IMS Learner Information Package Information Model Specification V1.0 Final Specification,” June 2005.
11. P. Treuer, J.D. Jenson, “Electronic Portfolios Need Standards to Thrive,” Educause Quarterly, Vol. 26, No. 2, 2003, pp. 34-42.

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Issues Around the Declaration of Skills through the ePortfolio (A New Digital Tool)

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Key words : *declaration of competence, digital portfolio issues*

Summary. This paper presents a support system that aims to allow individuals to declare their skills, choose new career paths, the orientation of their jobs, their careers and to give them meaning. The objective of this communication is much more in a perspective of sharing of professional practice (from different situations observed from the GRH's point of view) in an evaluation process of an educational device recently developed (individual, professional support). From the construction of theoretical and empirical studies that analyze the criteria for action, methods of competency development of professional skills will be addressed. At the base: the foundation of skills and declared competency and its analysis. The licensing process can be divided between determinism individuals, organizational, as well as contextual.

Preamble

Over the past decade, considerable efforts have been invested in the development of ePortfolio technologies and usage. For further developments in this field, the main objective at this 10th International ePortfolio and Identity Conference will be to encourage discussion between researchers and practitioners on not only the theoretical aspects, but also new and innovative approaches.

This submission is expected to share the latest state of the art advances in France and practices in organizational development of "communities of practice" on the first 2100 experiments of ePortfolio.

The discussion may also be directed towards the development of the user throughout their professional development towards a sustainable employability and addressing identity practices through ePortfolio communities.

Introduction

Under the effect of internationalization, global changes in work activities and new educational policies, the necessary systems of professionalization of education today have been integrated into all education systems.

It involves students, teachers and managers of institutions, as well as the knowledge taught and training organizations. But the injunctions to the professionalization (logic skills and careers, adaptation to international standards, the new social demands and economic pressure on resources, etc..) cover very different realities, according to the training systems and countries. Educational responses vary locally, both in terms of institutions, curricula, and teaching practices

The approach that will be discussed is based on research and will revolve around the central notion of competence. It will seek to interview those involved in the training and professionalization through a practical analysis around the usage of a new digital tool (NTIC) in experiments throughout France and, in particular, the Lorraine region. In France, five regions launched experiments around the ePortfolio.

This innovative and original tool (with it's unique format) is named Lorfolio (e digital portfolio). The presentation of abilities is the subject of this new tool and experimental analysis (which is quantitative, but also qualitative).

The very notion of skills and sub-theme of technology for skills assessment via e portfolio is questionable. What will be the added beneficial value of this new tool, or its extent in educational and professional systems , Coolin, Harley, Smallwood & Wood (2011) ? In what other ways could it be used ?

The presentation of the device on July 10, 2012, at the 10th conference, in which the theme was "ePortfolio and Identity", will permit to discuss on the topic. This presentation will confront the challenges of reporting skills, potential evaluations and identities. International comparisons included the perspectives of representatives from Luxembourg, the United States and France.

Before being able to estimate competencies, it is critical to identify what those competencies are. The question of competence, or rather the notion of skills, is the subject of many debates in knowledge theory fields. This contribution is part of a lot of social sciences and educational orientation ((B.Rey, E.Loarer, V. Merle, 2012). From theoretical (N.Mohib 2004) and empirical studies that analyze the criteria for action, methods of assessment and professional skill development are addressed. At the base: the foundation of declared skills and its analysis.

Under the effect of global changes in work activities and new educational policies, the necessity of professionalized educations systems assists in the integration of all education systems.

1. Technology and analysis of competency statements (for service evaluation) in a new digital tool.

Back to the roots : the portfolios. Initially, in France, portfolios were used by artists, and in the 1980s, under the effects of departmental guidelines (1987), the first portfolios (from Canada) appeared. J. Layec, committed to an action research in 1987 with the collaboration of G. Pineau, and would then reappear in February 1987 under the PDC, (Portefeuille De Compétences) "skills portfolio", in reference to the work on learning and social mediation (Aubret, 1992) as a theoretical basis prior to the analysis of acquired experience.

The first eportfolio was seen through issues from social networking like Elgg, or Mahara... peer learning, peer assessment, communities of practice, link between ePortfolios and knowledge management systems, transparency of qualifications…

Upon the arrival of digital in the 1990's, the Porfolio reemerged as an ePortfolio.
It is defined as a set of digital services available online in a secure manner in order to :

- Capitalize the elements of one's career (training, qualifications, experience);
- Inform and update personal skills portfolio;
- Consider building projects and action plans (Archive and classify its documents, communicate all or part of the information ...).

Other works refer to the issue, including those of C. Eyssautier-Bavais (2004) who explains that the electronic portfolio (ePortfolio), emerged in the early 1990s, Barrett (2001), and has certain advantages over paper portfolios which explains its use and conservation. It is more easily revisable and modifiable than their paper counterparts. It can be posted online, in whole or in part and thus be made public, which gives greater portability and better diffusion possibilities, as already shown by Baron and Bruillard (2003).

There are now different ePortfolio markets (ePortfolios for learning, presentation, evaluation (in which the educator files the work-based assessments on a defined jurisdiction). The ePortfolio assessment (now in France called the Webclasseur, is able to be exported by following the individual's career in the Lorfolio) can allow a summative evaluation on a set of work produced throughout the learning process (Bibeau, 2008).

2. Description of the model, methodology, procedures, and tool that allow qualitative evaluations of academic and/or professional skills.

The origin of the project "e portfolio" concerns students, teachers and managers of institutions, as well as the knowledge taught through training organizations. But the injunctions to the professionalization (skill logic and career, adaptation to international standards, the new social demands and economic pressure on resources, etc…) cover very different situations according to the training systems, the countries, the geography, the politics and face to face teaching practices.

The theoretical and applied research on Lorfolio is ongoing and, since 2007, are the subject of experimentation. The approach discussed is based on a study, using theoretical but also practical research, which questioned student and professional users. Total numbers: 2100 accounts created in June 2011, 15 experimental devices, 300 professionals reached, 300 notifications).
Lorfolio will be the object of an experimental analysis (quantitative, but also qualitative) of skills claimed in the heart of this new tool.

3. Articulation between skills assessment, practice (education, training).

The first experimental results question the notion of skills and sub-theme of technology for skills assessment via e portfolio (via the corpus returned corollaries and questions among a sample of 1000 individuals).It was initially to evaluate the comprehension of the tool by users and, secondly, to see how the individuals created his/her categories of competence.

The "declared competencies" are mostly in the range of self-assessment, according to personal estimation of the individual (who score between 1 and 4). They reflect with only basic statements. In the draft of the new version one second notation is proposed by a third party (can be a validation or certified officer). For exemple, tools like Linkd in or Viadeo, allow an employer to comment or validate the self-analysis of an employee (at his/her request in a tab named « recommandations »).

Indeed, we see many differences between elements declared in the "skills" rubric (there are variations of skills such as as technical, organizational, educational, but also unsubstantiated claims from references or directories / job-training, which can be transcribed in a very diffused manner, including these few examples : Execution and interpretation of tests, advice, support, dog grooming, word, commerce, Cobol, RPG 2, washing toilets, making a caramel cake, scrubber ...). (LorfolioStatistics / Skills / Addeo June 2011).

Conclusion

The challenges and difficulties of the portfolio. The correspondance between the different perspectives and uses, addresses the challenges, dangers, friction and gray areas, but also highlights the added beneficial value of this new tool, as well as its extent in educational and professional systems.

In conclusion, and in regards to these first results obtained, it is necessary for the examination committee to further elaborate the conditions for assessing the competence of users, including a validation of acquired experience, a recognition of certification, a professionalism or even the derived risks (depending on goals) of users' self-evaluations.

To deal with any diversions, it will be necessary to decide which forms of instructional design and suitable devices are "favorable" (groups, individualized, blended learning ... and thus, the choice of online aids (functional, technical, educational). In 2011, preparation of the new decree (developed by CEN Centre Européen de Normalisation) about the europeen direction of standardization of skills began (Blandin, 2011). The big questions: how will the ePortfolio be validated, are the digital tools reliable, will the ePorfolio allow training transfers, and will the notion of skills be able to move towards a common definition accepted by all? If the approach should go through a standardization (regulation process) will there be a unique, shared reference used internationally ?. Will 2012 be the year of new validation efforts using new technologies?

References & bibliography

1. Aubret, J. et Gilbert, P. et Pigeyre, F. (2002). Le management des compétences. Paris, Dunod.
2. Aubret, J, (1992) (année). Pratiques de formation Analyses « Reconnaissance et validation des acquis : le portefeuille de compétences ». Formation permanente université de Paris Vincennes VIII – 122 p
3. Baron, G-L. et Bruillard, E. (2003) : Les technologies de l'information et de la communication en éducation aux USA : éléments d'analyse sur la diffusion d'innovations technologiques in Revue française de pédagogie. Volume 145, 2003. pp. 37-49. http://www.persee.fr/web/revues/home/prescript/article/rfp_0556-7807_2003_num_145_1_2983
4. Bennaghmouch, S. et Gangloff-Ziegler, C. (2003), La place de l'ePortfolio dans la décision de recrutement : complément ou substitut au diplôme ?, contribution, Université de Haute Alsace.
5. Bernaud, J.-L. (2009). Evaluer les compétences individuelles en situation de travail, Revue française de gestion , 12/1999, n° 126, p. 120-128
6. Bernaud, J.-L., Bideault, A. (2005). Les déterminants de l'attractivité face à une démarche de conseil en orientation. Carriériologie, 23 pages.
7. Bernaud, J.-L. (2004). Les dispositifs et processus d'accompagnement psychologique dans le développement de la carrière. In Bernaud, J.-L. (2004). La personne et son développement : l'approche différentielle. In Pellois, C., Vivier, J., Aubret, J. & Boutinet, J.-P (Eds). Bilan de compétences et mutations : l'accompagnement de la personne, Bern : Peter Lang, 248-258.
8. Belisles, R. Boutinet, J-P. (2009). Demandes de reconnaissance et validation d'acquis de l'expérience. Pour qui ? Pour quoi ?, Ed PUL Presses universitaires de Laval, 259 pages
9. Cherqui-Houot, I. Puissant-Grosjean, L., Sonntag, M. (2010). Trois situations de déclaration de compétences : dispositifs et enjeux. 2d Congrès International AREF 2010. Actualité de la recherche en éducation et en formation, Université de Genève, 13-16 septembre 2010. https://plone2.unige.ch/aref2010/communications-orales/premiers-auteurs-en-c/Trois%20situations%20de%20declaration.pdf/view
10. Cherqui-Houot, I. Nkeng, P., Triby, E. (2006). Usage des TIC en VAE : faut-il craindre l'accompagnement à distance ? Actualité de la formation permanente, n°199, 77-86.
11. Cherqui-Houot, I., Nkeng, P., Pagnani, I.,Zapata, A. (2007). La construction de nouvelles compétences, parcours de re-co-naissance. Prairat, E. (coord) La médiation : Explorations, usages, figures. Questions d'éducation et de formation, PUN
12. Coolin, K. Harley, P. Wood, S. & Smallwood, A. (2009) Leap Ahead Lifelong Learning Network. ePortfolio / eSystems strand. ePortfolios ans lifelong Learners.University of Nottingham 2010.

13. Coolin, K. & Harley, P. Learner-Centred Strategies for Informing Institutional Take-up of ePortfolios. Retrieved 30.10.09 from http://webapps.nottingham.ac.uk/elgg/ciepdproj/files/181/817/Track-6_kirstie_coolin_abstract.doc
14. Coolin, K. Wood, S & Smallwood, A. (2009) Report on the CePD-led XCRI stand for the Leap Ahead Lifelong Learning Network (LLN).
15. Durat, L. et Mohib, N. (2009). « Le développement des compétences professionnelles au regard de l'engagement dans l'agir ». Questions Vives, 10, 25-40.
16. Eyssautier-Bavais, C. : Le portfolio en éducation : concepts et usages. Colloque Tice Méditerrannée, Nice, France, 2004 - isdm.univ-tln.fr
17. Francois, P.-H. (2000). Orientation, vie professionnelle et conseil individuel. In : Bernaud, J.-L. et Lemoine, C. (Eds). Traité de psychologie du travail et des organisations. Paris, Dunod, 15-93.
18. Francois, P.-H. (2008) Sentiment d'efficacité personnelle et développement des compétences en milieu organisationnel. Colloque : Autour des compétences – Université de Rouen. 21-23 mai 2008.
19. Gauthier, P-D. et Jezegou, A., 2009, Persister dans la publication de son ePortfolio ? Étude menée auprès d'un groupe d'étudiants de l'enseignement supérieur. Revue internationale des technologies en pédagogie universitaire / International Journal of Technologies in Higher Education, vol. 6, n° 1, p. 6-17.
20. Gaudron, J.P. et Croity-Beltz, "Bilan de compétences (BC) : états des recherches sur les processus psychologiques en jeu", Psychologie du travail et des organisations, vol. 11, n°2, juin 2005, p 101-114
21. Gaudron, J-P., Bernaud J-L., & Lemoine C. (2001). Evaluer une pratique d'orientation professionnelle pour adultes : les effets individuels du bilan de compétences. L'orientation Scolaire et Professionnelle, 30, 485-510.
22. Gelpe, D. (2006). Adaptation au changement et développement professionnel : quels en sont les freins et les ressorts motivationnels ? In C. Lévy-Leboyer, C. Louche & J.-P.
23. Ibms, P, et Sonntag, M, (2007) « La Valorisation des acquis de l'expérience. Enjeux et responsabilité partagée » in Revue Performance N°32 Janvier/février 2007, p 3-11.
24. Joras, M. (1995), Le bilan de compétences, Ed. Que sais-je?
25. Jorro, A. 2006, Les formes de la reconnaissance professionnelle dans la démarche du portfolio. In Figari, Rodrigues, G., Alves, P., Valois, M.P., Evaluation et compétences et apprentissage expérientiels : savoirs, modèles et méthodes, 17ème colloque de l'ADMEE-Europe, Lisbonne, Edition Educa, p 143-151.
26. Jorro, A. (2009), Perspectives de recherches en évaluation, PU du Mirail, Les dossiers des sciences de l'éducation.
27. Jisc, (2008) HEFCE, Effective Practice with ePortfolios. http://www.jisc.ac.uk
28. Layec, J. Aubret, J. (2006), L'Auto-orientation tout au long de la vie : le portfolio, l'Harmattan
29. Laine, A. (2005), VAE, quand l'expérience se fait savoir » L'accompagnement en validation des acquis – Erès - -256 pages.
30. Le Boterf, G. (1999). L'ingénierie des compétences. Paris : Les Editions d'Organisation.
31. Le Boterf, G. (2008). Repenser les compétences. Paris : Les Editions d'Organisation.
32. Le Boterf, G. (2009). Développer les compétences au travail, Coll. dir. Dominique Bouteiller et Lucie Morin. Montréal : Editions HEC Montréal.
33. Le Boterf, G. (2006), Ingénierie et évaluation des compétences, Edition des Organisation.
34. Le Boterf, (2005), Quelle ingénierie de la professionnalisation des individus acteurs de leur professionnalisme ?, Education Permanente n° 164, Que sont les formateurs devenus ?, septembre, PP197-209.
35. Lemoine, C. (2005). Se former au bilan de compétences. Paris : Dunod.
36. Lemoine, C. (1996). Objet ou analyste de son bilan. Carriérologie, 6, n°2, 13-24.
37. Lhotellier, A. (2000). Tenir conseil. Paris : Seli Arslan Levy-Leboyer, Claude (1992). Le bilan de compétences. Paris : Ed. des Organisations.
38. Loarer, E. (2008) Evaluer l'intelligence logique : Approche cognitive et dynamique. Paris, Ed. Dunod. 493 pages
39. Mayen, P. (2007). Le conseil en VAE, entre préoccupations des personnes et confusions des systèmes de certification. Actes du congrès de l'AREF-AECSE, 30 août-1er septembre 2007, Strasbourg.

40. Mayen, P. (2008). Un cadre théorique et méthodologique pour une recherche sur l'activité de personnes ordinaires dans des parcours de VAE in Symposium : reconnaissance et validation des acquis de l'expérience. XX° Colloque de l'Admée-Europe, Genève, 9-11 janvier 2008. Université de Genève.
41. Magnier, J. (2001). Expérience, connaissances : une conquête des candidats à la validation des acquis professionnels. Éducation Permanente, n° 146, pp. 143-150.
42. Michel, S. et Ledru, M. (1991). Capital compétence dans l'entreprise, une approche cognitive. Paris : ESF.
43. Merle, V. Formation professionnelle : un nouveau compromis social à construire" in Education Permanente, n° 129, décembre 1996,
44. Merle, V. La validation des acquis de l'expérience dans le travail social : un risque ou une nouvelle chance ? in Informations sociales, n° 135, octobre 2006.
45. Mohib, N. (2005) Thèse en Sciences de l'éducation - Université Louis Pasteur, Strasbourg. Dispositifs de formation et développement des compétences professionnelles : la question de l'engagement dans l'agir professionnel.
46. Mohib, N. (2004). Evolution et développement de la notion de compétence dans les champs de pratiques et de recherches. Workpaper. Laboratoire des sciences de l'Education. Université Louis Pasteur, Strasbourg.
47. Puissant- Grosjean, L. (2011). La VAE : un apprentissage « à partir » de la pratique, « par » ou « à » la pratique ? Colloque international et pluridisciplinaire en science de la formation, éducative et sociale. Université Lumière Lyon 2, 23-24 octobre 2009. Revue Canal psy, n° 96, 14-17.
48. Rope, F. (1999). La validation des acquis professionnels, entre expérience, compétences et diplômes : un nouveau mode d'évaluation. Raisons éducatives n° 1-2, pp. 203-225.
49. Ripon, A. (1998), L'appropriation des bilans de compétences, Revue européenne de psychologie Remoussenard, P. (2007). Mesurer les compétences ou produire de la connaissance sur les situations de travail ? Enjeux épistémologiques, in « usages de la compétence en éducation et formation » coll. Action et savoirs Paris, L'Harmattan, 27-47
50. Savickas, M L. (2011). Career Counseling. Ed.Amer Psychological Assn
51. Sonntag, M. (2007). Controverses au cœur de la notion de compétence in Talbot M. et Bru M. (Ed.), Des compétences pour enseigner. Entre objets sociaux et objets de recherches (pp. 105-117). Rennes : PUR.
52. Sonntag, M. (2004), Communication sur « La légitimité au cœur de l'action et de la compétence », 7ème Biennale de l'éducation et de la formation, APRIEF – INRP, 14 Avril 2004, Lyon.
53. Weiss, J. (2000) : Le portfolio, instrument de légitimation et de formation in Revue française de pédagogie. Volume 132, 2000. pp. 11-22. http://www.persee.fr/web/revues/home/prescript/article/rfp_0556-7807_2000_num_132_1_1029

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Annexes

Monday 9 July 2012

8:30	Registration and welcome coffee - Riverside Room		
9:30	S11A: Reflections on Mobile Devices Workshop (1) Thompson Room Using "Free" Online Tools for ePortfolio Development **Helen Barrett**, Independent consultant, USA	S11B: Workshop: in Search of the Open ePortfolio Mountbatten Room Chair: **Don Presant** In Search of the Open ePortfolio - Workshop **Don Presant**, Learning Agents, Canada	S11C: Open session Nuffield Room
10:30	Coffee Break - Riverside Room		
11:00	P1: Opening Plenary Session Council Chamber Chair: **John Harrison** **Serge Ravet**; welcome message **Dana Bostrom**, Association of American Medical Colleges, USA: PESC's Progress in electronic portfolio standards **Doug Belshaw**, Mozilla Foundation, Open Badges **Jonathan Dempsey**, Digitary- Authentication of Academic Achievement Online		
12:30	Lunch Riverside Room Thematic tables are meeting points for delegates desiring to address a specific issue. Suggest a theme and join a theme using the panel situated next to the registration desk.		
13:30	S12A: Reflections on Mobile Devices Workshop (2) Thompson Room mPortfolios: Supporting Reflection using Mobile Devices **Helen Barrett**, Independent consultant, USA	S12B: Open Badges Workshop (1) Mountbatten Room Chair: **Carla Casilli** Introducing Open Badges **Carla Casilli**, Mozilla Foundation, USA	S12C: Workshop Nuffield Room Chair: **Cyri Jones** Exploring the Intersection of e-Portfolios, Social Learning Networks and Mobile Devices to Support Deep Learning and Transitions from Classroom to Practice **Cyri Jones**, Capilano University and Zen Portfolio Networks
15:00	Coffee Break - Riverside Room		
15:30	S13A: Reflections on Mobile Devices Workshop (3) Thompson Room Tell your Story in Digital Video created with mobile devices **Helen Barrett**, Independent consultant, USA	S13B: Open Badges Workshop (2) Mountbatten Room Chair: **Serge Ravet** Open Badges Competition **Carla Casilli**, Mozilla Foundation, USA Open Badges and Mahara ePortfolios **Richard Wyles**, Totara Learning Solutions Ltd, New Zealand How can we use Open Badges to create purposeful education; motivating learners, recognising achievements and opening up new opportunities? **Tim Riches**, DigitalME, UK	S13C: Pebblepad Workshop Nuffield Room Chair: **Colin Dalziel** Effective Assessment of Portfolio Activities. **Colin Dalziel**, Pebble Learning, UK
17:00	S14A: Open Session Thompson Room Personal data ecosystems and e-portfolio **John Harrison**, PIB-d, UK	S14B: In Search of the Open ePortfolio: panel and group discussion Council Chamber Chair: **Don Presant** In Search of the Open ePortfolio - Expert Panel and Plenary Discussion **Don Presant**, Learning Agents, Canada	
18:00	End		

ePIC 2012

The 10th International Conference on ePortfolio & Identity

London
9-10-11 July 2012

Tuesday 10July 2012

8:00	Registration and welcome coffee - Riverside Room				
9:00	S21A: Healthcare track Council Chamber Chair: **Suzanne Gough** Fitness to practice, Shipman and evaluating the role of ePortfolios **Lola Loewenthal,** Imperial College Healthcare NHS Trust, UK Tracking progress in construction of subject knowledge and epistemological beliefs using Patchwork Text Assessments **Alfredo Gaitan, Joseph Adonu, Maja Jankowska,** University of Bedfordshire, UK ePortfolio & learning styles in Nursing Education **Kirsten Nielsen[1], Niels Henrik Helms[2], Birthe D. Pedersen[3] -** 1: University of Southern Denmark/VIA University College, Denmark; 2: Knowledgelab, University of Southern Denmark; 3: Research Unit of Nursing, Institute of Clinical Research, Faculty of Health Sciences, University of Southern Denmark An eportfolio connector for US & Canadian trainees **Dana Bostrom,** Association of American Medical Colleges, USA	S21B: Identity construction Thompson Room Chair: **Bruno Kappes** Reflecting on a Predicament of Professional Identity **Carolyn Harkness,** Australian Catholic University, Australia Implications of identity negotiation research for the design of the TRAILER e-portfolio **José Janssen, Adriana J. Berlanga, Peter Sloep,** Open Universiteit Nederland, Netherlands, The Gender Differences in ePortfolio Use in Higher Education **Ilona Buchem,** Beuth University of Applied Sciences Berlin, Germany Constructing Digital Myself: Authenticity, Folio Thinking, and the Representation of Self **Janice Ann Smith[1], Shoji Kajita[2]** 1: Three Canoes LLC, USA; 2: Kyoto University, Japan	S21C: Implementation Mountbatten Room Chair: **Allison Miller** Research Towards e-Portfolios In The Work Place: Regional Initiatives **Ronald Lievens, Charissa Freese, Ton Wilthagen,** ReflecT, Tilburg University, Netherlands, The From bottom-up to top-down: ploughing a middle furrow through the institution **Sandra Winfield, Kirstie Coolin, Mike Leam** University of Nottingham, UK Technical and pedagogical feedback on the deployment of a regional ePortfolio. Models of the uses, analysis and perspectives **Samuel Nowakowski, Nathalie Issenmann, Isabelle Houot, Armelle Brun,** Université de Lorraine, France ePortfolios in companies **Dries Pruis, Lex Polman,** Kenteq, The Netherlands	S21D: Teacher Education Nuffield Room Chair: **Thomas Strasser** E-Portfolios in Initial Teacher Education in Singapore: A Peek into the Artefacts **Stefanie Chye, Mingming Zhou, Woon Chia Liu, Caroline Koh,** National Institute of Education, Singapore How do trainee teachers use e-portfolios? **Jeanette Marie Mills** University of Bedfordshire, UK Integrative Knowledge ePortfolio: Building Teachers' Professional Identity **Liliana Barro Zecker,** DePaul University, USA Design and implementation of an ePortafolio learning strategy aimed at teachers training: making sense of the process of learning **Andrea Ximena Castaño Sánchez, José Miguel Jimenez, Ángel Pío González-Soto,** Universitat Rovira i Virgili, Spain	S21E: JISC Workshop Riverside Room Chair: **Lisa Gray** Using the JISC e-Portfolio Implementation Toolkit: Making implementation work **Gordon Joyes[1], Lisa Gray[2], Ros Smith[3] -** 1: University of Nottingham, UK; 2: Joint Information Systems Committee, JISC; 3: GPI Solutions
10:30	Coffee Break - Riverside Room				
11:00	P2: Plenary Session Council Chamber **Diana Laurillard** *Education as a Design Science* **Barrie Hopson** *Helping People Become Architects of their Own Future* **Gillie Bolton** *Reflective Writing for Reflective Practitioners*				
12:30	Lunch Riverside Room Thematic tables are meeting points for delegates desiring to address a specific issue. Suggest a theme and join a theme using the panel situated next to the registration desk.				
14:00	S22A: Healthcare Council Chamber Chair: **Harry Owen** Championing CPD for New Graduates **Paul Askew,** Chartered Society of Physiotherpy, UK Benefits of eFolio Thinking Across Several University eLearning Psychology Courses **Bruno Kappes,** University of Alaska Anchorage, USA MAINPORT: an ePortfolio supporting the CPD and Lifelong Learning of Specialist Physicians **Jennifer Gordon, Craig Campbell, Sandra Canniff,** Royal College of Physicians and Surgeons of Canada, Canada CPD Syd and Ms Peg: using virtual identities to support learning and development in physiotherapy **Gwyneth Owen, Nina Paterson,** Chartered Society of Physiotherapy, UK	S22B: Eportfolios Beyond Institutions Thompson Room Chair: **Agnieszka Chrząszcz** Into the Void: Change as a Catalyst, presenting new opportunities to embed ePortfolios into Community and Lifelong Learning **Kirstie Coolin,** University of Nottingham, UK Exploring the issues of person centric portfolios beyond the institution and across multiple institutions and frameworks. **David Sowden,** University of Hull, UK Social Capital: Determining a Student's e-portfolio Net Worth **Cindy P. Stevens, Michael Dunlop,** Wentworth Institute of Technology, USA Portfolio information: personally or institutionally managed? **Simon Grant,** University of Bolton, UK	S22C: Implementation Mountbatten Room Chair: **Samuel Nowakowski** On personal web log publication tool under IMS e-Portfolio standard **Kuo-Chun Hsu[1], Cheng-Han Kuo[2] -** 1: Kun Shan University, Taiwan, Republic of China; 2: Kun Shan University, Taiwan, Republic of China A Moveable Feast: Narratively deconstructing the transition of paper riches to the ether **Dianne Conrad** Athabasca University, Canada Learning from the Open: Web 3.0 Eportfolios **Lori L. Hager[1], Joseph Ugoretz[2] -** 1: University of Oregon; 2: City University of New York The Cloud and ePortfolio as a Driver for Dynamic Learning Enviornments **Thomas Kirkham,** University of Leeds, UK	S22D: Parallel session Nuffield Room Chair: **Ilona Buchem** A 4-phase-model for the long-term use of e-portfolios **Klaus Himpsl-Gutermann,** Danube University Krems, Austria Using the ePortfolio as a tool for student retention in postsecondary education **Louise Sauve,** Télé-université / SAVIE, Canada e-Portfolio: DIY for your professional development **Agnieszka Chrząszcz[1], Alessandro Nistico[2], Marek Snapka[3], Karolina Grodecka[4] -** 1: AGH-University of Science and Technology, Poland; 2: Euridea, Italy; 3: RPIC VIP, Czech Republic; 4: AGH-University of Science and Technology, Poland A model for embedding reflective learning in ePortfolios in higher education **Mary Ryan, Michael Ryan,** Queensland University of Technology, Australia	S22E: Open Badges Workshop (3) Riverside Room Chair: **Carla Casilli** Open Badges Clinique **Carla Casilli,** Mozilla Foundation, USA
15:30	Coffee Break - Riverside Room				

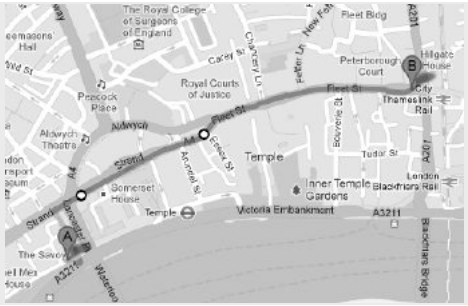
Tuesday 10July 2012

16:00	**S23A: Healthcare (Workshop)** **Council Chamber** Chair: **Jennifer Gordon** **Putting the Patient at The Heart of Physiotherapy Student Education: Supporting Development and Life Long Learning Using ePortfolios** **Claire Hamshire, Deborah O'Connor** Manchester Metropolitan University, UK **Supporting Healthcare Workforce Development Using Simulation and ePortfolios** **Suzanne Gough, Claire Hamshire, Deborah O'Connor,** Manchester Metropolitan University, UK	**S23B: Parallel session Thompson Room** Chair: **Lorella Giannandrea** Chair: **Esther Linley** **ePortfolio as a tool for reflexivity and skills' communication: learn how to communicate skills** **Gilles Merminod,** University of Lausanne, Switzerland **"It's your spell-checked version of yourself": Student perceptions around (re)presenting self through eportfolio.** **Lyn Lewis, Philippa Gerbic,** AUT University, New Zealand **Developments of Social Recognition System by e-Portfolio and e-Passport to Promote Social Participation** **Yoshihiro Tatsuta[1], Junichi Yamanishi[2], Tomio Saku[3] -** 1: National Institute for Educational policy of Japan(NIER), Japan; 2: University of Toyama; 3: Civic Learning Community by Internet	**S23C: Implementation Mountbatten Room** Chair: **Ronald Lievens** **An Implementation of a learning portfolio** **Ryuichi Matsuba[1], Shin-Ichiro Kubota[1], Makoto Miyazaki[1,2], Junko Nemoto[1], Toshihiro Kita[1], Katsuaki Suzuki[1], Hiroshi Nakano[1]** 1: Kumamoto University, Japan; 2: Hosei University,Japan **Mighty Mahara!? The role of self-organized learning within the context of Mahara ePortfolio.** **Thomas Strasser[1], Gabriele Kulhanek-Wehlend[1], Harald Knecht[2] -**1: Vienna University of Education, Austria; 2: Mighty Mahara!? The role of self-organized learning within the context of Mahara ePortfolio. **UK DARE (Digital Academic Records Exchange): A Service for Secure Authentication of Academic Achievement Online** **Jonathan Patrick Dempsey -** Digitary, Ireland	**S23D: Assessment Nuffield Room** Chair: **Stefanie Chye** **ePortfolios and Assessment: Design for an Authentic Program Evaluation** **Judith Simons Gold** Marygrove College, USA **Collecting, Selecting and Reflecting –Supporting student judgements in the portfolio process?** **Romy J Lawson, Darrall G Thompson** University of Technology Sydney, Australia **Competence Based Assessment Considerations within ePortfolio System** **Aleksandrs Gorbunovs, Atis Kapenieks, Ieva KudinaRi**ga Technical University, Latvia **VAB: an ePortfolio used to record and assess competences of adult students (online presentation)** **Achilles Kameas, Konstantina Polymeropoulou, Anthi Karatrantou, Konstantinos Togias** e-CoMeT Lab, Hellenic Open University, Greece	**S23E: Networked Identities (1/2)** **Riverside Room** Chair: **Serge Ravet** The objective of this session is to set-up the framework of the open textbook *Networked Identities*. After an introduction of the abstracts received to date, we organise the discussion of the different topics of the book in small groups.
17:00	**S24A: The French Challenge** **Council Chamber** Chair: **Serge Ravet** During this session, the French Ministry for Higher Education and Research will present a White Paper on ePortfolio in Higher Education to a panel of experts. Participants are invited to join the session to contribute with their experience and ideas to the implementation of ePortfolios into the French Higher Education System. **Ten Key Ideas for ePortfolio Implementation in Higher Education** **Jean Heutte,** Mission numérique pour l'enseignement supérieur (MINES), Ministère de l'Enseignement supérieur et de la Recherche, France	**S24B: Parallel session Thompson Room** Chair: **Esther Linley** **Google Sites ePortfolio for integrative learning and holistic development of trainee Operating Department Practitioners: an examination of conscience** **Barbara Anne Nicolls, Shane Roadnight, James Ellis,** Buckinghamshire New University, UK **Mahara in secondary school. The introduction of an ePortfolio to foster oral skills and socialization** **Lorella Giannandrea, Marilena Sansoni,** University of Macerata, Italy	**S24C: Open session Mountbatten Room**	**S24D: Open session Nuffield Room**	**S24E: Networked Identities (2/2)** **Riverside Room** Chair: **Ilona Buchem** Continuation of session S23E
18:00	**End**				
19:45	**Social Dinner party with the Jane Parker Trio**				

PUNCH TAVERN

Social Dinner

If you have booked for the social dinner with the Jane Parker Trio, you must have a **D** printed on your badge. The party starts at 19:45, at at the Punch Tavern, 99 Fleet Street, 15 minutes walk from the conference venue.



Wednesday 11 July 2012

8:00	Registration and welcome coffee - Riverside Room			
9:00	**S31A: Assessment** Council Chamber Chair: **Carolyn Harkness** **Assessing existing skills and knowledge through eportfolios** **Allison Miller,** Vanguard Visions Consulting, Australia **„PIPE – Portfolio International Profile in Engineering" – General and specific challenges of introducing ePortfolios for assessment and accreditation in didactic-remote disciplines** **Katharina Kilian-Yasin, Franziska Mueller,** Pforzheim University, Germany **How Can We Assess, Visualize and Scaffold Informal Language Learning? A case of informal English learning among Japanese college students** **Yoshikazu Ishibashi,** Yamagata University, Japan **Collecting, Selecting and Reflecting – Supporting student judgements in the portfolio process?** **Romy J Lawson[1], Darrall G Thompson[2] -** 1: James Cook University, Australia; 2: University of Technology Sydney, Australia	**S31B: Self-Directed Learning** Thompson Room Chair: **Dianne Conrad** **ePortfolio for Developing Students' Autonomy and Responsibility** **Olga Smolyaninova, Ludmila Smolyaninova,** Siberian Federal University, Russian Federation **JAISTEP portfolio system that facilitates student's self-regulation by showing learning goal and educational intention embedded into research activity** **Tomohiro Nabeta[1,2], Taisuke Ogawa[1], Mitsuru Ikeda[1,2]** 1: Japan Advanced Institute of Science and Technology, Japan; 2: Center for Graduate Education Initiative **An ePortfolio as a general learning tool** **Beat Keller, Dominik Fankhauser** Bildungszentrum Gesundheit und Soziales, Switzerland **Digital European Language Portfolio - Adult Learner's Mean of Technologically Assisted Self-Directed English Acquisition: Transformation of Learner's Identity** **Ināra Bojāre,** Daugavpils University, Latvia	**S31C: Parallel session** Mountbatten Room Chair: **Aleksandrs Gorbunovs** **Learning Scenarios with Integrated ePortfolios. EPortfolios are nice to have but do cause inconvenience…** **Stefanie Karin Brunner, Birte Heidkamp, Petra Muckel** University of Oldenburg, Germany **An Integrated ePortfolio Plan for a Large Research University** **Jeffrey D. Keith, Danny R. Olsen, Tom Mallory, Kirsten Thompson, Tonya Tripp, Nathan Walton, Richard Swan** Brigham Young University, USA **Flexible use of eportfolios – from dissertations to volunteering** **Robert Chmielewski,** University of Edinburgh, UK **Issues In Relation to the Declaration of Skills Through the ePortfolios** **Laurence Puissant Grosjean,** LISEC, France	**S31D: Workshop** Nuffield Room Chair: **Agnieszka Chrząszcz** **Mapped: your professional development with e-portfolio** **Agnieszka Chrząszcz,** AGH-University of Science and Technology, Poland
10:30	Coffee Break - Riverside Room			
11:00	**P3: Plenary Session** Council Chamber **Eportfolio futures** A round table with Richard Wyles (Mahara, New Zealand), Shane Sutherland (PebblePad, UK), Allison Miller (Vanguard Visions Consulting, Australia), Lisa Gray (JISC, UK), Carla Casilli (Mozilla, Open Badges, USA), Eric Rousselle (Discendum Oy, Finland), Serge Ravet, Europortfolio, (France).			
12:30	**Lunch and Open Sessions** Riverside Room Thematic tables are meeting points for delegates desiring to address a specific issue. Suggest a theme and join a theme using the panel situated next to the registration desk.			
14:30	**P4: Closing Plenary Session** Council Chamber Chair: **Serge Ravet** Panel and plenary discussion to review the conference outcomes and plan future actions.			
15:30	**Closing cocktail** Riverside Room Join us around a glass of Prosecco.			