A question of purpose: Community embedded ePortfolios

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Existing implementation guidelines for ePortfolios frequently assert that a thorough long-term strategy is needed. However, the implications of such a demand are not entirely clear. Research on ePortfolios is primarily focused on promoting learning, accreditation or career development of individuals. This paper makes a point for broadening the scope of analysis and design, considering the roles of potential audiences of ePortfolios early on. It is suggested that looking at ePortfolios as community-driven practices provides a fresh approach to student buy-in and motivation. The argument is conceptual in nature, linking the literature on ePortfolio uptake with research on communities. A set of recommendations and caveats about how to get community-embedded ePortfolios started stands as conclusion.

Keywords: ePortfolio, e-portfolio, communities, social networks

Introduction

E-Portfolios are intended to be platforms for lifelong learning. The benefits of ePortfolios are varied and numerous, including areas such as reflection, richer assessment, alumni networks and careers development. Accordingly, learning activities such as self-directed learning, showcasing achievements and sharing learning outcomes are frequently listed as main reasons for using ePortfolios and determine their functionalities (Abrami & Barrett, 2005). There is no shortage of ePortfolio definitions; however, the following seems to capture best the pedagogical dimension: "A Portfolio is a purposeful collection of student work that exhibits the student's efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection." (Paulson, Paulson, & Carol, 1991, p.60).

All in all, institutions of higher education bear high hopes for e-Portfolios which are frequently seen as starting points for tomorrow's learning communities. However, Tosh et al. (2005) and Carliner's (2005) report on ePortfolio evaluations show that students were only moderately convinced that their ePortfolios were helpful and only a minority of students planned to continue using them after course completion. These findings represent a serious challenge to the claim that ePortfolios are student owned and supportive of deep and reflective learning. This could be seen as a reflection of Carliner's (2005) comment in a special issue in which he criticised the discussion re ePortfolios on two points: (a) there is a noticeable neglect of 'outside the box' literature, elaborating actual activities around ePortfolios, and (b) there is a lack of research concerning the use of ePortfolios as life-long, life-wide tools beyond the boundaries of higher educational institutions.

Addressing this criticism, the paper starts out with reviewing existing guidelines on ePortfolio implementations for different stakeholders to see whether measures to increase acceptance and motivation are already included. The paper continues by examining critical success factors these measures would need to address. Looking for means to promote ongoing engagement with ePortfolios, it is then suggested to design ePortfolio activities with potential audiences in mind. Such communities might already have an online platform, e.g. open source industry communities (http://osia.net.au), or could alternatively join in on students' ePortfolio networks. Finally, the paper elaborates on potential benefits from developing ePortfolios within a community context. Although the argument presented is based primarily on a review

of the literature, main ideas of community-embedded ePortfolios are motivated by past trials and discussions about the general direction of ePortfolios at the author's home institution (cf. Waye, 2009).

Existing ePortfolio guidelines

According to their responsibilities, different stakeholders will be interested in different types of guidelines in order to inform their decisions. Students or researchers who plan to use ePortfolios as end-users will ask for best practice guidelines; educators will need support guidelines to facilitate students' use of ePortfolios; academic boards will need evaluation guidelines; and IT departments will need development guidelines. Some examples for each category are described in the following.

Best practices guidelines

Simply providing software tools in the hope students will use them correctly is unlikely to be a good strategy. According to Barrett (2007) the following ePortfolio process should be encouraged:

- Collecting materials,
- Selecting the evidence that suits the purpose most,
- Reflecting on the larger story of one's learning,
- Setting goals for future learning and
- Celebrating achievements through sharing them with an audience.

Support guidelines

Educators need to explain and demonstrate the concept as well as support the development of relevant skills and efficient processes. Hilzensauer et al.(2008) suggest that in order to use ePortfolios meaningfully, learners require a set of skills to identify appropriate tools to capture digital evidence; combine different media types such as embedding videos in HTML pages; manage access rights to different ePortfolio sections and maintain a dialogue around an ePortfolio using synchronous or asynchronous tools.

Evaluation guidelines

The following levels of maturity provide institutions with a valuable continuum to evaluate their current usage of ePortfolios. They suggest that integration with the curriculum, feedback to and endorsement of ePortfolios are major factors to get students buy-in. Love et al. (2004) outline five levels of maturity in using ePotfolios:

- Scrapbook: students collect materials in a course centred way with no clear overarching organising principle.
- Curriculum Vitae: students' work is guided in accordance to a known template, the CV, in order to support promotions or the search for employment.
- Collaboration: students receive formative and summative feedback on their ePortfolios, allowing them to improve presentation and selection of materials.
- Mentoring: students can continuously redeem their ePortfolios in accordance to the received feedback to maximise the impact of their materials.
- Authorative evidence: students link their work to institutional standards such as problem solving taxonomies or graduate qualities.

Development guidelines

Jafari (2004) suggest three key development phases: conceptual design; software design; and implementation plan for ePortfolio projects. He emphasises the importance of considering human and computer aspects during the conceptualisation phase. Human aspects focus on issues of human-computer interaction and usability. Buzzetto-More and Alade (2008) developed the pentagonal e-Portfolio adoption model by consolidating the recommendations of existing ePortfolio implementation guidelines and propose five steps as part of the adoption process:

- Needs analysis: establishing the purpose of the system together with the evaluation criteria that can tell whether objectives have been met or not;
- System specification and prioritisation: establishing desirable features and integration needs with other information systems within the institution;

- System selection: calculating and aligning costs with the available budget and piloting
- Development: planning for additional resources necessary to support ePortfolio users and integrating the ePortfolio into the curriculum;
- Implementation and growth: training for users, rollout over various student cohorts and continuous improvement.

Although the above presented guidelines are a good starting point, Carliner's (2005) assessment of the state of ePortfolios shows that the real challenge lies in the day-to-day use of ePortfolios. If applied to concrete situation, generic guidelines need to be complemented with principles of scaffolded learning, critical reflection, student motivation and sound tool design as discussed in the next section.

Critical issues of implementing ePortfolios

Behind the use of ePortfolios is the question of whether they can advance more profound forms of learning (JISC, 2008). However, Oblinger and Hawkins (2006) remind us that technology in itself does not cause change, only people using technologies differently cause change. Hence, in order to understand how and when ePortfolios can contribute to better learning, we need to reframe the question and clarify the pedagogical intentions first, which can then be matched with the technical capabilities of the tool. For example, from a technological perspective ePortfolios enable us to store, update, share and comment upon digital information. Pedagogically they enable us to reflect about our learning, plan our development, show progress or document achievements. However, there is no automatic link between the execution of activities on a technological level (data manipulation) and the occurrence of pedagogically desirable activities (e.g. reflection and learning). Consequently, a more nuanced discussion is necessary when ePortfolios are first introduced to students. For this, educators need a clear idea of how ePortfolios are supposed to engage and support students.

Clear pedagogical foundation

While the versatility of ways ePortfolios can be used is a strength of the concept, it also represents a liability. Jafari (2004) reports that students were confused by the variety of purposes their ePortfolios had to address. Different objectives will warrant different ways of implementing ePortfolio solutions and educators are likely to use different theoretical frameworks to justify their approaches. Typical portfolio categories proposed in Abrami and Barrett (2005) comprise:

- learning portfolios (exhibiting evidence of skills and competencies as part of a program),
- assessment portfolios (selecting achievements for admission, promotion or evaluation),
- personal development portfolios (demonstrating professional growth from a long-term perspective),
- reflective portfolios (showing progress over time, based on self-appraisal).

As stated at the beginning of this section, communicating the reasons behind the introduction of Portfolios is crucial to gain users' acceptance. Students need to understand when an ePortfolio entry is mandatory, e.g. for accreditation purposes, or voluntary, for self-developmental purposes (Smith & Tillema, 2003). Once pedagogical intentions are clear, students would need a good understanding of how information is kept private or made publicly accessible as well as how to manage their portfolios in respect to different audiences.

Pedagogical foundations for *learning portfolios* are often found in Kolb's (1984) experiential learning cycle, comprising four phases: concrete experience, reflective observation, abstract conceptualisation and active experimentation. Students collect materials evidencing concrete learning experiences (phase 1 of Kolb's circle), structure and organise these materials (phase 2), create a meaningful presentation of their learning (phase 3) and revisit their presentations according to the feedback they receive (phase 4) (JISC, 2008).

Assessment portfolios face the challenge of balancing the complexity of qualitative data within them with ensuring the reliability and dependability of the assessment outcome. Much thought needs to go into the question of whether assessment is 'for learning' or 'of learning'(Barrett, 2007). Eventually, Barrett argues, formative assessment in dialogical form is more suitable to the personal and authentic orientation of ePortfolios than summative assessments, which are often based on standardised rubrics and tend to skew the individual character of ePortfolios. However, Driessen et al. (2005) expand on this to illustrate how summative ePortfolio evaluations can be implemented without having to restrict the range of the admissible evidence or imposing too many structural conditions.

Personal development portfolios (PDP) aim to support students' progress towards their personal, academic and professional goals (Lawton & Felce, 2008). Personal development requires primarily generic study skills, also referred to as metacognition (ibid). Metacognition enables students to plan for desirable development outcomes, evaluate their progress on an ongoing basis and adapt their learning strategies if required. A discussion that goes beyond the limits of this article continues around the question of how development goals are determined, based on whose values. Whereas this might not be an issue for all disciplines, Clegg and Bradley (2006) argue development goals derived from graduate qualities or a defined set of employability skills will not necessarily match personal goals which tend to evolve over time. Hence, the productive use of PDPs requires a discussion around the suggested development goals themselves.

Reflective Portfolios focus on telling a personal story of deep learning in order to form an understanding of how lows and highs in one's journey contribute to the development of knowledge and self (Barrett, 2007). More specifically, Boud (2006) talks about reflection as a process of re-examining experiences in the face of tensions and contradictions and Mezirow (1998) makes clear that reflection is a natural part of sense-making and understanding one's own assumptions about truth, authenticity and coherence. Eventually, reflection is an integral part of a social-constructivist view on learning, leading to the realisation that knowledge is socially constructed and not given or discovered (ibid). However, Barrett (2007) cautions that assessing reflection is counterproductive if students cannot be reassured that reflection happens in a safe and non-judgemental environment. Boud (2006) escalates this point further and highlights an inherent contradiction in assessing reflection. He argues that assessment requires demonstrating knowledge whereas reflection essentially involves acknowledging the lack of knowledge.

To reiterate, ePortfolios can be used for a wide variety of purposes. Starting without pedagogical foundations can result in the late recognition of lacking functionalities and emerging contradictions between expected benefits and actual results on the ground. More confident and knowledgeable users in combination with a proliferation of purposes are likely to amount to a set of functional requirements that defeats the capabilities of 'one-size-fits-all' ePortfolios solution (Steel, Ehrmann, Long, Atkinson, & McBeath, 2008).

Long term vision

Challis (2005) reported that students were reluctant to engage with their ePortfolio unless they could see near-term benefits and expect to access their work in the long-term future. Similarly, Cohn & Hibbitts (2004) question whether the expenses on ePortfolios in time and financial resources are justified if learners and institutions only perceive them as an episodic add-on. Rethinking ePortfolios as lifetime personal web spaces is a pre-condition to developing a sense of ownership among students (ibid). This sense of ownership or 'being in control' of one's ePortfolio provides students with the time necessary for authentic self-development planning and the trust required for critical reflections, knowing that they will remain private.

Paulson et al. (1991) claim that Portfolios provide students with a chance to assume ownership of their learning unseen in other teaching methods. Portfolios are based on students' perceptions of how they see themselves progressing in their areas of choice. As such Portfolios are different from institutional records which accumulate students' achievements towards the award of a degree. If ePortfolio activities are mandated and specified within course requirements, chances are that they are seen as just another form of assessment, effectively owned by the institution (Barrett, 2004). The tension of using ePortfolio for learning or for assessment has already been discussed at the end of the previous section and in order to prevent confusion among students it might be appropriate to keep personal spaces for reflection and learning spaces for assessment two separate entities. Typical assessment spaces that exist alongside ePortfolio implementations are learning management system, many of which include already extensive monitoring and reporting functionalities.

Lifelong, self-directed ePortfolios require learners to be in charge, be it as authors, deciding what to include, or as administrators, deciding who has access. There is a risk that institutions may be held responsible for the material students disseminate via their ePortfolios. Hence, Heinrich (2008) sees an externally hosted ePortfolio as a more adequate solution because (1) students' affiliation with an institution is only temporary, (2) life-long / life-wide learning should not be affected by course boundaries, (3) learners need to be sure that private information cannot be accessed by their instructors, (4) learners need to feel free to use their ePortfolios for the purposes they see fit, rather than institutionally sanctioned ones. However, if students get ePortfolio services from an external provider, then this requires a sustainable business model, including services not readily available somewhere else,

in order to ensure the endurance of the service provider (Jafari, 2004). Another critical factor for life-long e-Portfolio is their dependence on the current technologies and one cannot assume that a particular technical platform will be sufficient for all times. Hence, interoperability and portability standards such as Leap2A are crucial for users to move between providers and products (Grant, 2009).

Flexible designs

At least two reasons can be put forward for the need of flexible designs: different levels of digital literacy among end-users and increasing demands for customisable ePortfolios.

Like with other software-applications, technical skills play an important role in learners' uptake of e-Portfolios: "E-Portfolios are about people, rather than technology. The tools have to be unobtrusive, supportive and flexible enough to accommodate the diverse needs and preferences of learners" (JISC, 2008, p.10). The high expectations of generation Y's familiarity with technology have been shown to be unfounded and there is no evidence that current student cohorts need substantially less support than previous ones (Kennedy, et al., 2007). Given that intuitiveness of an application is a very subjective experience, user friendliness and user acceptance of ePortfolios are two of the most problematic requirements to satisfy: "users are known to quickly become frustrated and simply abandon a confusing application" (Jafari, 2004). Another reason to pay attention to the intuitiveness of usage is the fact that learning the tool should not become an overwhelming concern for students. Robert and Dennis (2005) found that novice users struggled to benefit from powerful but complex communication technologies, because too much cognitive load was imposed by the tool itself which limited users' ability to focus on the actual processes the tool was meant to support.

However, technical skills are likely to improve over time as the ePortfolio is used more frequently. Students gain confidence and tools need to accommodate more sophisticated or individualised representations. This sort of customisation requires more flexible ways to include multi-media, varying means of navigation and choice of design themes for selected audiences (Tosh, et al., 2005). With different audiences in mind, learners should be able to create multiple ePortfolios from the same digital repository.

One way to balance the lack of sufficient digital literacy skills and the need to customise are design templates. Most ePortfolio tools support the use of templates to scaffold the process of reflecting or showcasing. While scaffolding is a proven measure to support students, an essential characteristic of scaffolds is their ability to fade if no longer needed (Pea, 2004). A similar logic applies to ePortfolio templates, which need to be modifiable in order to avoid unnecessarily restrictive structures that could impair the unfolding of reflective processes. If use of e-Portfolios becomes an exercise in ticking boxes of a 'skills-checklist' (Barrett, 2007), the opportunity to promote self-directed and independent learners is lost.

Why community embedded ePortfolios?

Existing guidelines depict the progression from personal collections of learning evidences to public displays of ePortfolios as unproblematic, neglecting the fact that it may take considerable time before students can actually benefit from their ePortfolios so that learners may drop out of the process or feel little inclination to get started. Moreover, the previous section has shown what critical issues in ePortfolio implementations emerge from a lack of pedagogical detail, missing assurances for students with regards to long-term access to their data and too rigid functionalities in software tools. These issues reduced motivation and acceptance of ePortfolios as student-driven, lifelong learning tools.

To overcome these issues it is suggested to shift the focus from ePortfolios as tools and methods aimed at promoting an *individual's* learning or career development to a focus on the potential *audiences* of ePortfolios. This requires a broadening of scope of analysis and design by taking advantage of the vast literature on communities and their influences on individual actions. In the following it is hoped that looking at ePortfolios as community-driven practices provides a fresh approach to address student buy-in and motivation.

In itself, referring to communities as promotional devices of educational purposes is not new. Community-embedded ePortfolios represent an amalgamate of Wenger's (2003) communities of practice and Kazmer's (2005) idea that knowledge is shaped by learners' membership in multiple overlapping communities. The benefit that comes with considering communities is primarily based on their purpose giving nature. Wenger (2003) argues that throughout the life histories of individuals, learning is

motivated and shaped by communities. All communities have their own culture of practice, which defines the relevance of problems as well as the legitimacy of solutions (ibid).

Figure 1 represents the idea of an ePortfolio as an information and interaction hub addressing multiple audiences. In concrete terms students might (1) start using their ePortfolio to document the progress of a group research project, (2) continue to share this experience with their entire class, (3) submit parts of it to their tutor for assessment and (4) include a summary of the research in their application for an upcoming placement. Students may even (5) use their ePortfolio to organise and document their involvement with extracurricular community services.

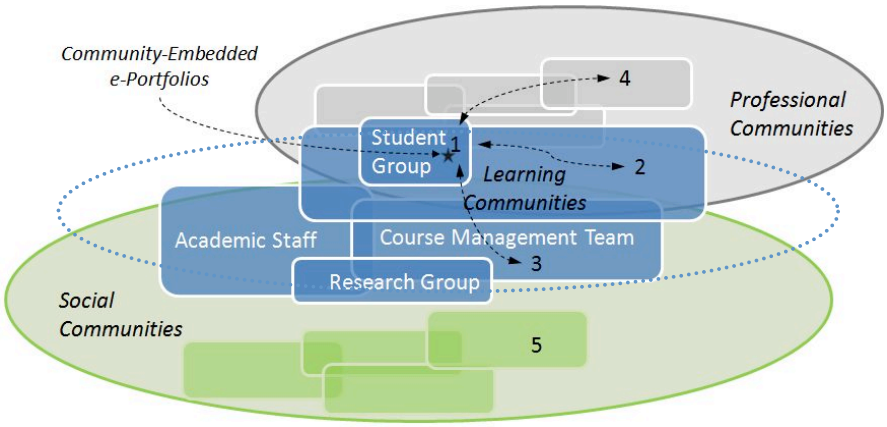

Figure 1: ePortfolios as information and interaction hubs

Wenger (2003) suggests that to know something implies to belong and interact with a knowing community. E-Portfolios are not meant to be read by passive readers but can be set up as starting points for ongoing conversations (depicted as two-way arrows). In this sense, communities as audiences have an important function as critical friends, moderators or verifiers during the ePortfolio construction process. However, this requires some thought re what could make participating in ePortfolio development attractive to communities outside the university. One answer could be to engage in long-term, collaborative agreements with organisations representing aspects of students' future professions, e.g. computer science students could engage with open source developer communities and nursing students could maintain links with organisations from age or rural health care areas.

An immediate benefit of community-embedded ePortfolios for students is the opportunity to reach out and connect with prospective employers before graduation. Motivation through getting feedback from outside the university could be another potential benefit. Students can already imagine themselves as members of professional communities and perceive the larger implications of working in their areas of study (Wenger, 2003).

However, communities cannot be designed or engineered directly; neither can they be easily deployed for one's own purpose (Evans & Powell, 2007). Hence, a pre-condition for embedding ePortfolios into community practices is to understand 'What kind of interactions define practice within communities?' and 'What motivates people to participate in communities?'. The first question helps to understand the *potential* benefit of communities on ePortfolio development and the second question will help to clarify under what condition these benefits are most likely to be actualised.

Practices in communities

In this section we look at the influences communities can have on individual practices. Activity theory argues that communities produce a catalytic effect in that they expand activities beyond the realm of personal experience (Engeström, 1987). Taking personal development planning as an example, there is a difference between defining personal goals in isolation or clarifying personal goals within the context of a community. This goes as far as forming an identity as an aspiring practitioner of that community through comparing oneself with established experts.

Forming identities
Forming an identity as a learner or as a professional is a lifelong process. Identities are developed in a multiplicity of ways, depending on historical, institutional and sociocultural forces (Gee, 2000).

Communities are sources of these sociocultural forces and enable a dialogue with others through which individuals learn how they are perceived and whether their identity defining values align or clash with community defining values. In this context e-Portfolios are excellent tools to capture milestones of one's own development as well as the feedback received. Haggis (2004) argues that forming a learner identity is crucial to overcome problems and continue learning in the face of setbacks. Very much in line with Barrett's (2004) notion of ePortfolios as celebrations of learning, Haggis (2004, p.347) continues that in the long run learning leads to much more than the acquisition of skills: "people talk of finding out, reaching up, learning how to rise above tragedy, developing lateral thinking, taking away prejudice, getting answers, understanding, expanding the mind, and experiencing joy".

Networking and sharing
Networking is a fundamental activity in communities denoting the exchange of resources (e.g. information, advice) or social support (e.g. friendship, buy-in) (Podolny & Baron, 1997). By transferring the idea of networking to community-embedded e-Portfolios one can argue that ePortfolios are repositories of resources which upon publishing open up an opportunity for social interaction, either in form of feedback, encouragement or potential leads to employment. Moreover, a well-researched phenomena is "the strength of weak ties" (Granovetter, 1983) referring to people who are members in multiple networks and can therefore function as bridges or disseminators of information between different communities. For example, the availability of a placement or a scholarship might not be known to a student's immediate circle of friends but by sharing his or her career plans with a wider audience, someone who is only remotely known by the student can help out and facilitate the information. Kazmer's (2005) study showed that students frequently shared knowledge with their different communities (workplaces, social world, institutions). As such, ePortfolios could even be interpreted as advertisements for the institutions to which the students belong and open up new forms of getting the word out about a particular study program. A note of caution might be in order; simply hooking up with a community is not enough to access their knowledge and skills, attention needs to be paid to incentives and motivations for becoming active in communities.

Reflecting critically
A third activity that is expanded by being embedded in communities is reflection. Earlier, it had been argued that reflection is looking back in order to re-examine past experiences with the aim of understanding them more clearly and learning from them. However, re-examining past experiences by oneself bears the risk of simply reinforcing the patterns of interpretation that lead to problematic situations in the first place. Fruitful reflection requires 'critical reflective lenses', found in the norms and values hold in communities different to the ones that usually influences our worldview (Brookfield, 1995). This suggests that the communities to which students present their ePortfolios should include a variety of viewpoints in order to create the conditions for *critical* reflection.

Motivation in communities

It could be assumed that in practice students would engage with communities based on a mix of extrinsic (e.g. grades) and intrinsic motivators (e.g. community interests). However, in this section motivation is discussed within the limits of voluntary participation. Voluntary participation raises the question of 'Why do otherwise time-poor people invest resources and time in providing free information to online communities?' Research on this subject found that a primary source of motivation was community interests, that is, every community requires a minimum of ongoing contributions to remain viable (McLure Wasko & Faraj, 2000). The same study noted 'generalised reciprocity' as a reliable motivator; contributors found it only fair that if they received help when needed, then these favours should be returned to others in the community. These findings underline the importance of understanding purpose and nature of communities to ensure that the potential content of ePortfolios matches the community's interest.

Whereas pro-social behaviour is certainly a strong motivator, Lampel and Bhalla (2007) drew attention to the role of status seeking and self-presentation as drivers of community interactions. 'Status' is defined as an individual's standing in a group based on prestige or deference and has important consequences for how easily intangible resources (e.g. strategic information not yet published) can be accessed (ibid). Or put differently, requests from high status members are seen as more legitimate than requests from newcomers. Status-seeking behaviour plays also a role for cross-community collaborations, where status sentiments of individuals in both communities can benefit from having visible links with academics as experts or communities as representatives of a given cause respectively. In this context, academics have an influential part in facilitating the integration of students into existing communities of practice.

As a corollary this would also address the problem reported by Tosh et al. (2005) about the lack of ePortfolio adoption by academics themselves. Hence, if academics are involved in setting up community-embedded ePortfolios, then this would provide the hands-on experience they need to motivate students. Later on, staff could expand the use of their ePortfolio to engage with teaching communities, capturing and sharing learning and teaching methods, or researcher communities, showcasing their achievements and the impact of their findings (Challis, 2005).

Conclusion and outlook

Oblinger and Hawkins (2006) argued that asking whether technology makes a difference to learning is asking the 'wrong' question and oversimplifies the phenomena of learning. Technology is already making a difference to people's live, hence the question raised in this article has been how to use ePortfolios in ways that overcome problems of uptake and motivation and the argument put forward was that technologies such as ePortfolios support learning only as good as we use them to ensure that learning is social, active and transferable to real world situations.

The first part of this paper gave an overview of existing ePortfolio guidelines and showed that motivational issues or user acceptance were only insufficiently addressed. Open questions remained as for the pedagogical rational of concrete ePortfolio activities, long-term access to ePortfolios after graduation and the level of hardwired scaffolding for processes such as reflection and showcasing of achievements. In response to the above described situation it has been proposed to embed ePortfolios with the practices of communities that could benefit from students reflections and achievements.

The second part of this paper outlined the changes that could be achieved by adopting this strategy:

- The social component of community-embedded ePortfolios could turn out to be a major attractor, boosting general acceptance levels among students who are already used to various forms of social networks.
- E-Portfolio activities would be driven by community interests rather than by assessment rubrics, which would contribute to the longevity of student's engagement with their ePortfolios. Whereas assessment rubrics cease to be relevant after graduation, involvement in communities might continue. (Although *community-embedded ePortfolios* would favour formative assessment practices, this is not to negate the need of *assessment ePortfolios* for high-stakes decisions such as recognition of prior learning or registering as a practitioner in a given profession.)

The main purpose of introducing the concept of community-embedded ePortfolios has been to suggest a shift in defining the benefits of ePortfolios. Rather than emphasising their value as personal repositories of evidence-based learning achievements, ePortfolios could be promoted as platforms for student-driven networking around those achievements. However, making audiences a focal-point of ePortfolio processes has implications for what universities will see as core or desirable requirements for their ePortfolio solutions. Although major players such as PebblePad (www.pebblepad.co.uk) or Mahara (www.mahara.org) support the sharing of assets or views, more advanced features that would allow learners to manage and visualise communities are still missing. The appeal of social networking applications such as Ning (www.ning.com) or Elgg (www.elgg.org) could be a source of inspiration.

Finally, the three critical issues of implementing ePortfolios are equally relevant for *community-embedded ePortfolios:*

- First, a thorough consultation process with all major stakeholders is needed to see whether communities are accepted as crucial components of an institutional ePortfolios strategy;
- Second, access management needs to make provisions for community members external to the university. This might be particularly challenging if an ePortfolio solution is hosted by the university itself rather than a commercial hosting service.
- Third, students are used to the intuitive and self-explaining interfaces of facebook (www.facebook.com) and other web 2.0 applications. Consequently, we can assume that learning technologies will be held to similar standards of usability.

Whether or not the here suggested view of ePortfolios has a future remains to be proven by real-world implementations. However, emphasising the role of communities is hoped to be a valuable contribution to the ongoing need to refine ePortfolio practices in order to make a positive difference to students' learning experience.

References

Abrami, P. C., & Barrett, H. (2005). Directions for research and development on electronic portfolios. *Canadian Journal of Learning and Technology, 31*(3), 1-15.

Barrett, H. C. (2004). *Differentiating Electronic Portfolios and Online Assessment Management Systems.* Paper presented at the Society for Information Technology and Teacher Education International Conference 2004, Atlanta, GA, USA.

Barrett, H. C. (2007). Researching electronic portfolios and learner engagement: The REFLECT initiative. *Journal of Adolescent & Adult Literacy, 50*(6), 436-449.

Boud, D. (2006). Creating the space for reflection at work. In D. Boud, P. Cressey & P. Docherty (Eds.), *Productive reflection at work: learning for changing organizations* (pp. 158-169): Routledge.

Brookfield, S. (1995). *Becoming a Critically Reflective Teacher.* San Francisco, CA Jossey-Bass.

Buzzetto-More, N., & Alade, A. (2008). The Pentagonal E-Portfolio Model for Selecting, Adopting, Building, and Implementing an E-Portfolio. *Journal of Information Technology Education, 7*.

Carliner, S. (2005). Commentary: Assessing the Current Status of Electronic Portfolios. *Canadian Journal of Learning and Technology, 31*, 3. https://doi.org/10.21432/T2VC8K

Challis, D. (2005). Towards the mature ePortfolio: Some implications for higher education. *Canadian Journal of Learning and Technology, 31*(3), 49-58. https://doi.org/10.21432/T2MS41

Clegg, S., & Bradley, S. (2006). Models of personal development planning: Practice and processes. *British Educational Research Journal, 32*(1), 57-76.

Cohn, E., & Hibbitts, B. (2004). Beyond the electronic portfolio: a lifetime personal web space. *Educause Quarterly, 27*(4), 7-11.

Driessen, E., Van Der Vleuten, C., Schuwirth, L., Van Tartwijk, J., & Vermunt, J. (2005). The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. *Medical Education, 39*(2), 214-220. https://doi.org/10.1111/j.1365-2929.2004.02059.x

Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit

Evans, M., & Powell, A. (2007). Conceptual and practical issues related to the design for and sustainability of communities of practice: the case of e-portfolio use in preservice teacher training. *Technology, Pedagogy and Education, 16*(2), 199-214.https://doi.org/10.1080/14759390701406810

Gee, J. (2000). Identity as an analytic lens for research in education. *Review of Research in Education*, 99-125. https://doi.org/10.3102/0091732X025001099

Granovetter, M. (1983). The Strength of Weak Ties: A Network Theory Revisited. *Sociological Theory, 1*, 201-233. https://doi.org/10.2307/202051

Grant, S. (2009). LEAP2A: A specification for e-portfolio portability and interoperability Retrieved 13 Apr 2009, from http://newsletter.alt.ac.uk/e_article001402921.cfm?x=b11,0,w

Haggis, T. (2004). Meaning, identity and 'motivation': expanding what matters in understanding learning in higher education? *Studies in Higher Education, 29*(3), 335-352.

Heinrich, E. (2008). Contrasting approaches: Institutional or individual ownership in ePortfolio systems. In *Hello! Where are you in the landscape of educational technology? Proceedings ascilite Melbourne 2008*. http://www.ascilite.org.au/conferences/melbourne08/procs/heinrich.pdf

Hilzensauer, W., Prokoph, M., & Ulrich, M. (2008). MOSEP-More self-esteem with my e-Portfolio Retrieved 05.05, 2009, from http://www.eife-l.org/publications/eportfolio/

Jafari, A. (2004). The" Sticky" ePortfolio System. Tackling Challenges & Identifying Attributes. *Educause Review*, 7.

JISC (2008). *Effective Practice with e-Portfolios: Supporting 21st century learning* (Vol. 2009). Bristol: Higher Education Funding Council for England (HEFCE).

Kazmer, M. (2005). Community-Embedded Learning *The Library Quarterly, 75*(2), 190-212.

Kennedy, G., Dalgarno, B., Gray, K., Judd, T., Waycott, J., Bennett, S., Maton, K., Krause, K.L., Bishop, A., Chang, R. & Churchward A. (2007). The net generation are not big users of Web 2.0 technologies: Preliminary findings. In *ICT: Providing choices for learners and learning. Proceedings ascilite Singapore 2007*. http://www.ascilite.org.au/conferences/singapore07/procs/kennedy.pdf

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, N.J.: Prentice Hall.

Lampel, J., & Bhalla, A. (2007). The Role of Status-Seeking in Online Communities: Giving the Gift of Experience. *Journal of Computer-Mediated Communication, 13*(1).

Lawton, M., & Felce, A. (2008). *Personal Development Planning (PDP) using ePortfolio.* Paper presented at the CIB W89: International Conference in Building Education and Research, Sri Lanka.

Love, D., McKean, G., & Gathercoal, P. (2004). Portfolios to webfolios and beyond: Levels of maturation. *Educause Quarterly, 27*(2), 24-38.

McLure Wasko, M., & Faraj, S. (2000). "It is what one does": why people participate and help others in electronic communities of practice. *Journal of strategic information systems, 9*(2-3), 155-173. https://doi.org/10.1016/S0963-8687(00)00045-7

Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly, 48*(3), 185.
Oblinger, D., & Hawkins, B. (2006). The Myth About No Significant Difference: Using Technology Produces No Significant Difference. *Educause Review, 41*(6), 14–15.
Paulson, F., Paulson, P., & Carol, A. (1991). What Makes a Portfolio a Portfolio? *Educational Leadership, 48*(5), 60-63.
Pea, R. D. (2004). The Social and Technological Dimensions of Scaffolding and Related Theoretical Concepts for Learning, Education, and Human Activity. *Journal of the Learning Sciences, 13*(3), 423-451. https://doi.org/10.1207/s15327809jls1303_6
Podolny, J., & Baron, J. (1997). Resources and relationships: Social networks and mobility in the workplace. *American Sociological Review*, 673-693. https://doi.org/10.2307/2657354
Robert, L. P., & Dennis, A. R. (2005). Paradox of richness: a cognitive model of media choice. *Professional Communication, IEEE Transactions on, 48*(1), 10-21.
Smith, K., & Tillema, H. (2003). Clarifying different types of portfolio use. *Assessment & Evaluation in Higher Education, 28*(6), 625-648. https://doi.org/10.1080/0260293032000130252
Steel, C.H., Ehrmann, S.C. & Long P.D. (2008). Creating community engagement around the concept of ePortfolios: An innovative planning process. In *Hello! Where are you in the landscape of educational technology? Proceedings ascilite Melbourne 2008*. http://www.ascilite.org.au/conferences/melbourne08/procs/steel.pdf
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, 31*(3).
Waye, V. (2009). Embedding Eportfolios in a Law Program. *Australian ePortfolio Symposium 2009*, from http://www.eportfoliopractice.qut.edu.au/docs/Presentations/Embedding%20E-portfolios%20in%20a%20Law%20Program.pdf
Wenger, E. (2003). Communities of practice and social learning systems. In D. Nicolini, S. Gherardi & D. Yanow (Eds.), *Knowing in organizations: A practice-based approach* (pp. 76-99): ME Sharpe Inc.

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Please cite as Voigt, C. (2009). A question of purpose: Community embedded ePortfolios. In *Same places, different spaces. Proceedings ascilite Auckland 2009*.
https://doi.org/10.14742/apubs.2009.2164