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Abstract

Abstract: Much of the evidence and research available on the use of e-portfolios focuses on faculty and institutional perspectives and/or consists mainly of anecdotes about how useful the e-portfolio has been to learners. While it is generally agreed that e-portfolios have great potential to engage students and promote deep learning, the research that has been conducted to date focuses very little on student perceptions of value of the e-portfolio for their learning. If students do not accept the e-portfolio as a holistic means with which to document their learning in different contexts and more importantly, agree or wish to use the e-portfolio as an integral part of their educational experience, then the potential impact the e-portfolio will have on learning will not be realised. This paper highlights four themes arising out of research that is underway within an international framework of collaboration between the University of Edinburgh, the University of British Columbia and the University of Waterloo.

Résumé: La plupart des preuves et des recherches disponibles sur l'utilisation de portfolios électroniques mettent l'accent sur les points de vue des universités et des institutions ou consistent principalement en des anecdotes sur l'utilité du portfolio électronique pour les apprenants. Bien qu'il y ait consensus sur le grand potentiel de participation des étudiants et la promotion de l'apprentissage en profondeur pour les étudiants, la recherche qui a été effectuée à ce jour met très peu l'accent sur les perceptions par les étudiants de la valeur du portfolio électronique pour leur apprentissage. Si les étudiants n'acceptent pas le portfolio électronique à titre de moyen global pour documenter leur apprentissage dans différents contextes mais, avant tout, accepter ou vouloir utiliser le portfolio électronique à titre d'élément intégral de leur expérience en matière d'éducation, les répercussions que pourrait avoir le portfolio électronique sur l'apprentissage ne seront donc pas réalisées. L'article souligne quatre thèmes émanant de la recherche en cours au sein d'une collaboration internationale entre la *University of Edinburgh*, la *University of British Columbia* et la *University of Waterloo*.

Introduction

Research on student engagement with learning suggests that when students perceive that they have choices in how to learn subject matter they are more engaged and motivated to move beyond simple information acquisition to trying to gain an understanding of the subject (Entwistle, 1998; Kuh et al., 2005; LaSere Erickson & Weltner-Strommer, 1991; Marton & Saljo, 1984; Ramsden, 2003) Electronic portfolios (e-portfolios) appear to offer this opportunity for learner control and to be capable of supporting or promoting deep learning as students are able to make connections between the learning which occurs in different contexts: academic, workplace and community. Indeed, it is this recognition that learning occurs beyond the classroom that makes e-portfolios attractive to many educators. While e-portfolio use has risen in prominence over the past couple of years and many educators support the notion that they foster deep learning, it is not yet possible to say that the e-portfolio is a widely accepted approach to learning, either on the part of teachers or learners. Nor is it clear whether some e-portfolios are better than others in this regard.

Much of the evidence and research available on the use of e-portfolios focuses on faculty and institutional perspectives and/or consists mainly of anecdotes about how useful the e-portfolio has been to learners. While it is generally agreed that e-portfolios have great potential to engage students and promote deep learning, the research that has been conducted to date focuses very little on student perceptions of the value of the e-portfolio to their learning. If the e-portfolio is a tool with the "potential to alter education at its very core" (Batson, 2003. ¶ 4), then the student perspective on them needs to be explored. If students do not accept the e-portfolio as a holistic means with which to document their learning in different contexts and, more importantly, agree or wish to use the e-portfolio as an integral part of their educational experience, then the potential impact the e-portfolio

could have on learning will not be realised. At least one, and probably the most important, influence on whether students view e-portfolio as a positive part of their learning technique is the value placed in it by faculty and the institution. It is clear the approach that students take to their own learning is affected by their teachers' approaches to teaching (Trigwell, Prosser & Waterhouse, 1999). Therefore, it is important that the e-portfolio is not viewed like other forms of assessment or assignments which students are required to undertake but may feel little sense of ownership in. The e-portfolio is (or should be) part of a student-owned, student-centred approach to learning which makes it possible for students to actively engage in their learning rather than just be the recipients of information. This is consistent with constructivist theory, which argues students actively construct their own knowledge rather than simply receive it from instructors, authors or other sources (Jonassen, 1991).

This paper highlights some of the major themes arising out of research that is underway within an international framework of collaboration between the University of Edinburgh in the UK, the University of British Columbia (UBC) and the University of Waterloo (UW) in Canada.

While we conclude that much work is required before e-portfolios will be accepted by students as a useful and worthwhile activity, addressing the four emerging themes from our research: buy-in, motivation, assessment and e-portfolio technology, will help to increase student engagement.

The UBC Perspective Initiative Background

UBC's e-Portfolio Pilot Project is a campus-wide initiative that investigates the pedagogical benefits and resource implications of implementing e-Portfolios for multiple purposes and contexts (i.e., course, program, personal). This summary provides an overview of the success and challenges of the first and second years of the pilot, emphasizing lessons learned, goals for Year 3, and outlining the strategic direction of the project. In the fall of 2002, a group of UBC educators met for a Ready2Net broadcast focused on e-Portfolios. A great deal of interest was generated, and the group put together a Teaching and Learning Enhancement Fund grant to acquire UBC internal funding for a proposed pilot project. This grant, spearheaded by the Office of Learning Technology, was successful. The project is now entering its third year.

UBC's project brings together academic staff, and administrative stakeholders to understand the requirements of implementing a university-wide e-Portfolio system. The pilots and aligned work of the Community of Practice enable UBC's educators and administrators to investigate the spectrum of uses for e-Portfolios, from preparing to enter university through to ongoing professional practice. The project has the potential to benefit a wide variety of students, including traditional undergraduate students, non-traditional students, and graduate students. Indirect benefits to UBC's learning environment have been seen through the cultivation of more reflective teachers, practitioners, and students, and the development of a diversity of ways to conduct learner-centred practice.

Project Objectives

In Year One the project, titled "Community Building and Pilot Projects", encompassed 5 pilots that investigated a wide range of contexts for and uses of the e-portfolio. The objectives for Year 1 were as follows:

Explore the value of e-portfolios in different levels and contexts, across five distinct pilot projects.

Develop a process to manage the online workflow to develop e-portfolios.

Facilitate and manage a community of practice that explores the use of e-portfolios and shares the knowledge amongst UBC and the broader community.

Year 2 of the campus-wide pilot project, titled "Deepening Community and Expanding Use", welcomed the addition of four new pilots. The objectives for Year 2 were as follows:

To provide support for the five ongoing pilots, expanding each in alignment with their stated goals.

To expand the scope of e-portfolio use by initiating four new pilots focused on unique applications of the e-portfolio: selection of non-traditional learners, e-learning professional staff competency, clinical practice, and a graduate level Masters program.

To develop and more deeply engage the e-Portfolio Community of Practice through workshops, seminars, and best practice exchange opportunities.

To increase the research component by partnering with the Faculty of Education.

To complete an evaluation of e-portfolio software choices, and select a campus-wide solution.

Year 3 of UBC's project, titled "Moving From Pilot to Program", will build upon the efforts of the two previous years, focusing on the following core objectives:

Deepen student involvement through peer mentoring, student-led workshops, and a student-organized event.

Support the ongoing and new pilots, expanding each in alignment with their stated goals.

Develop and more deeply engage the e-Portfolio Community of Practice through workshops, seminars, and best practice exchange opportunities, and align it with other course technology communities on campus (WebCT).

Link ongoing research with the campus efforts of the Institute for the Scholarship of Teaching and Learning (ISoTL).

Identify the issues of e-Portfolio software interoperability with other campus enterprise systems (SIS, WebCT, Faculty CV), and, if the maturity of the market allows, select a

campus-wide e-Portfolio solution.

Work with faculty-based and centrally positioned units to construct a long-term technology support model.

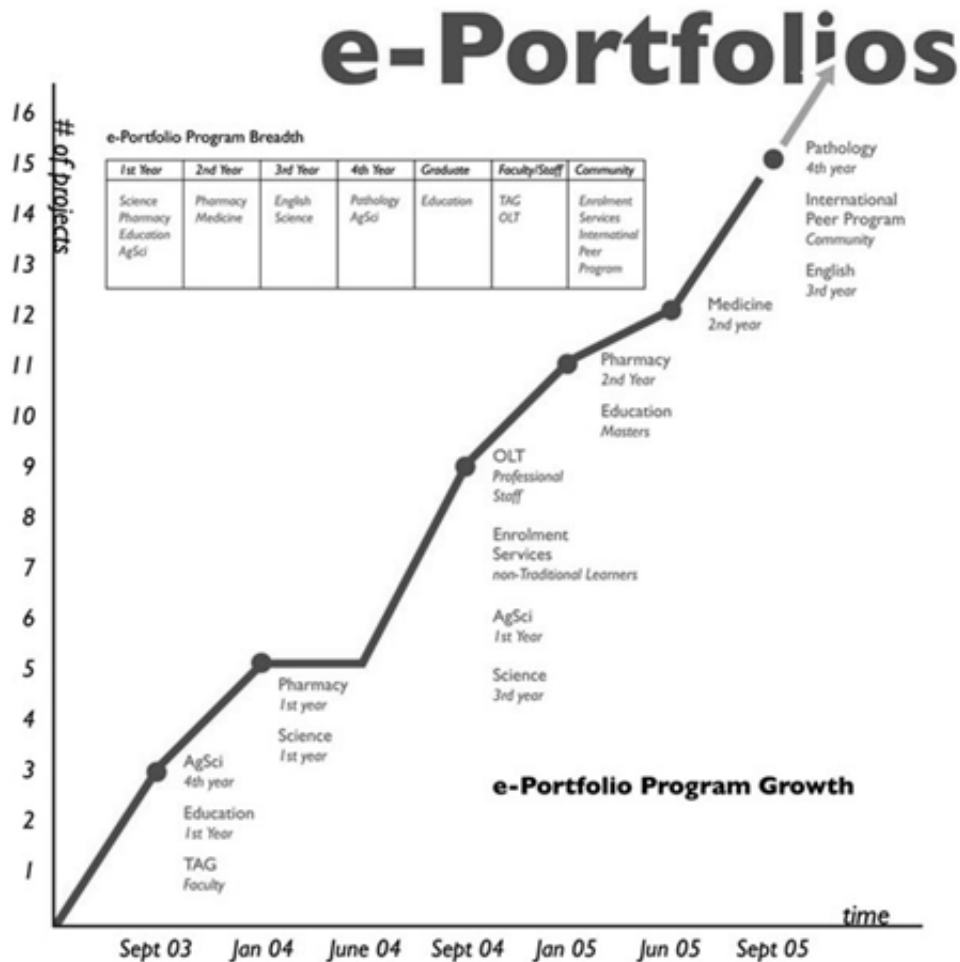


Figure 1 : The UBC e-Portfolio Context, including Year 3

The Waterloo Perspective

The University of Waterloo’s Competency Portfolio project seeks to help students to connect their learning experiences in different contexts (i.e., academic, workplace and community) to demonstrate competency in a given domain (area of study). Students learn skills in these different contexts and the e-portfolio provides an opportunity to articulate and connect their learning in many different ways. Beyond documenting skills in their domain, e-portfolios provide opportunities for students to articulate their competency in areas that are specific to their educational experience at the University of Waterloo. These include academic, workplace, valuing and research and innovation competencies that they gain because of their work at UW. The overall goal of the Competency Portfolio Project is to allow students to not only “show” but to demonstrate concretely what they know to the world.

UW Competency Portfolio Project

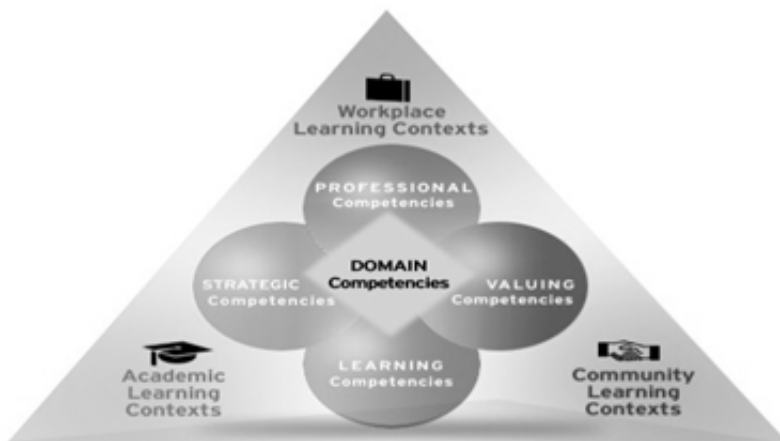


Figure 2 : UW Competency Portfolio Project

Pilot Projects

Two e-portfolio pilots were initiated in the Fall, 2004. One pilot in the School of Accountancy targeted students entering the Bachelor of Accounting and Financial Management program. In terms of professional practice, e-portfolios will provide students with a way to document and demonstrate their competency in skills which their profession has deemed to be important. Rather than a line on a resume that says a student possesses a skill, e-portfolios allow students to show examples of their work to demonstrate their competency. In the first instantiation of the e-portfolio, students documented their competency in teamwork and leadership skills. These students are continuing to develop their e-portfolios beyond the initial course, expanding the list of competencies which their e-portfolios document. Students will be followed from their academic to their co-op education work terms and back to track how their portfolios evolve over time, incorporating academic and professional competencies. It is hoped that this approach will be beneficial to students in assisting them to better integrate their various learning experiences which will make them more competitive on the job market.

The other pilot targeted students in a second-year service course in History. E-portfolios support a holistic approach to learning. Students are encouraged to think beyond simply attaining a grade in a course to thinking about how to clearly articulate what they have learned as well as to identify areas for improvement or further learning. This approach to learning implies that students will reflect on their own learning and by doing so, will be able to better integrate their various learning experiences. Making connections between the course content and assignments in HIST 200 – History and Film was pedagogically important to the instructor whose goal it was to have students take something meaningful away from a course that was, for the majority of students, a required elective. Students documented their ability to think critically in history, a key competency for the profession but also for students across the disciplines. Students from all disciplines and all learning levels (first to fourth year) use films as secondary sources for historical research in HIST 200. This pilot used e-portfolios as a way for students to reflect on and document their

critical thinking in history over the term. It also encouraged students to transfer their knowledge of critical thinking in history to other learning contexts (academic, workplace and community). In the winter term, 2005 another cohort of students was introduced to e-portfolios as a means for them to document their critical thinking skills in history.

A third pilot currently underway is helping our Distinguished Teaching Award winners to document their competencies for teaching in higher education so that they can model this holistic thinking for their students. Beyond modeling the behaviour we want our students to have, the other benefit of this project is that by sharing our expertise in teaching the dialogue around teaching and learning is increasing on our campus.

The goals of the early pilots were to:

- Review the literature on e-portfolios and investigate different e-portfolio tools;
- Develop competency categories for three domains (History, Accounting and Financial Management, Teaching in Higher Education);
- Explore the value of e-portfolios in different levels and contexts in helping students to transfer knowledge between contexts.

Our primary interest was in this last point as it is believed that e-portfolios can assist students to document their competence in the areas identified as being characteristic of UW graduates:

- a thorough and comprehensive understanding of their chosen discipline,
- an appreciation of the interdisciplinary context of their studies,
- an awareness of, and appreciation for, a diversity of viewpoints,
- critical thinking skills,
- the ability to access, evaluate, and use electronic information,
- strong interpersonal and communication skills, and
- well honed problem-solving skills (Building on Accomplishment: A Plan for the University of Waterloo's Fifth Decade, 1997).

Future pilots are planned in the different learning contexts. The hope is that by promoting this approach to learning in the broader learning environment and focusing on making connections between those contexts, students will take on a deep approach to their own learning and instructors will approach their course design and teaching from a constructivist perspective (Trigwell et al., 1999). It is also presumed that e-portfolios will help students to become better *bicoleurs*— that they will be able to find and use information that they find important and that is relevant to their own learning (Seely Brown, 2000).

Research Methodology

The framework for gathering the research data was mixed mode, based on use of online questionnaires for quantitative data plus simple qualitative data in the form of comments and qualitative data collected through interviews and focus groups.

Sampling

The data has come from two institutions and six different courses. While this is not a

representative sample of all of higher education it probably does provide an adequate basis for drawing conclusions which can inform those who design and teach other courses and subjects. The sample and sample size have been dictated by the limited number of locations that are using e-portfolios on an adequate scale.

Students participated in the focus groups and interviews on a voluntary basis, so the sample is non-random and may be weighted towards the more conscientious student or the student with a particular point to make.

Data was gathered from two courses at UW: History (n = 37) and Accounting and Financial Management (n = 361) and four courses from UBC: Education (n = 20); Pharmacy (n = 52); Biology (n = 24); Agricultural Sciences (n = 50). An average of 30% of all students taking part in the e-portfolio pilots provided responses.

The two surveys used can be seen at: <http://eradc.org/questionnaire/pre-use.pdf> and <http://eradc.org/questionnaire/post-use.pdf>. To ensure validity and reliability of the survey instruments, initial tests were conducted on a controlled group of learners and the results analyzed testing frequency of response, spread across the variants and the level of understanding. The survey instruments were also sent to and evaluated by experts in the field of questionnaire design both at the University of Edinburgh and UBC.

These pilots utilised four different e-portfolio type systems: The Carnegie Foundation for the Advancement of Learning's Keep Toolkit (<http://cfkeep.org>); the Open Source portfolio (<http://www.theospi.org>); WebCT presentation tool (<http://www.webct.com>); and Nuventive's iWebfolio (<http://www.nuventive.com/iwebfolio.htm>).

Although these are four different e-portfolio systems, they remain close on the e-portfolio spectrum. Essentially they are top-down, institutional-driven approaches to e-portfolios. This may have played a part in the students' experience. The e-portfolio did not feel like "theirs" but rather the institutions.

Currently, the e-portfolios themselves are being analyzed to determine how the self-reported data collected from the surveys compares to actual practice. However, that analysis is beyond the scope of this paper.

The Students' Experience ***Four emerging themes in student views of e-portfolios***

Four common themes emerged from analysis of the qualitative data obtained from focus groups and comments within the surveys: buy-in, motivation, assessment and the e-portfolio technology. These themes point to the need to have alignment between the goals of those implementing the use of e-portfolios and how the technology will be used by students to carry-out their e-portfolio work.

Using the e-portfolio was a new experience for many (78%) of the students which emphasises the need for good induction and support for these novices.

Buy-in by students:

The importance of “promoting” the e-portfolio to students cannot be underestimated. As one student pointed out about their use in a course:

I think there is a problem in how it is promoted – if I was thinking about it – how would I sell it to a student and make it seem cool and helpful – not just a chore – because it is a bit of a chore!

During the focus group sessions students identified ways which would help promote the e-portfolio to them, including: showing good example e-portfolios; highlighting the benefits; demonstrating the benefits; showing and explaining how the e-portfolio will aid their job search or developmental growth; and—perhaps the biggest one—show them yours.

Many students seemed disillusioned with how the e-portfolio was promoted to them. As one student dryly noted:

In terms of promotion the problem is the people trying to explain it have probably never used it so in a way they have no clue what they are talking about, basically. To put it frankly – after listening to them you would be like, Okay so you as an outsider who never even used it is telling us we should do this because it is the best thing since sliced bread but you have never used it – you can’t find someone who did use it – you don’t have enough information to tell us how to use it – and now you’re telling us use it and we’ll grade you on it – this kind of makes it hard for students to accept or appreciate it.

This does raise an important issue when deciding to adopt an e-portfolio. Students want and need information about its value and they want to see champions—examples from others who have used the approach. This can be difficult at the introduction of a new technology and a new educational approach—someone has to be the “guinea pig”.

In such situations how the new approach is introduced to the students is very important in order to ensure buy-in. Students have to know what an e-portfolio is, how to use one and, most importantly, how it may benefit them in order for the project to succeed. Without this, students will not view the approach as being meaningful and will not understand that e-portfolios can work to engage them more deeply in learning. The bottom line is that students need to know why their knowledge is important (Ramaley & Zia, 2005).

Figure 3 shows that only 56% of all the students surveyed indicated they were given or remembered being given an introduction to the e-portfolio. Furthermore, we can see from Figure 4 that out of that 56% who felt that they had had an introduction only 48.5% would agree or strongly agree that the introduction was adequate. In other words only 28.7% of all the students using the e-portfolio, a new experience for the majority, would say that the introduction was adequate.

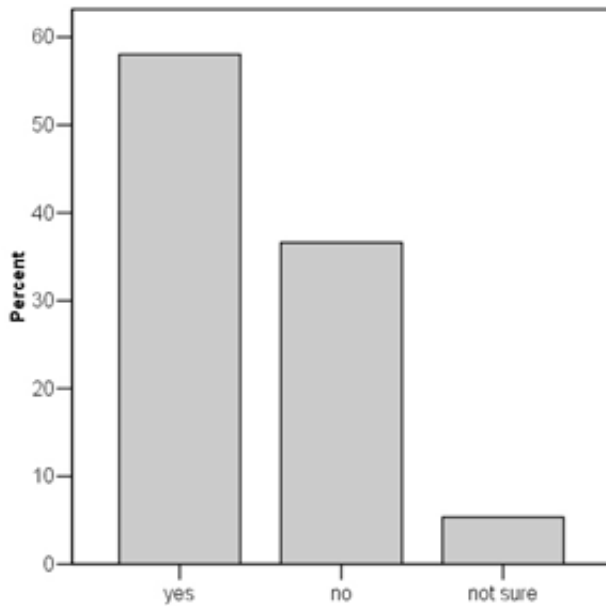


Figure 3 : Have you been given an introduction to e-portfolios?

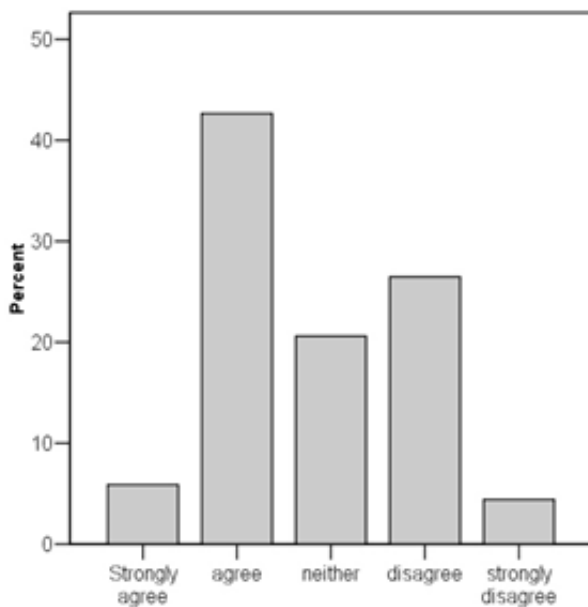


Figure 4 : Did you feel the introduction was adequate?

Assessment and e-portfolios:

All the pilot e-portfolios were assessed on their quality of work or, in other words, on how the student reflections and documentation provided evidence of the students' learning. This was a sensitive topic for the students. Challenges for them were understanding how their reflections would be assessed, and their perceived imbalance between the marks (5%) versus the time they believed would be required to carry out the work in their e-portfolio to an adequate standard. In essence, the students did not feel the balance of grades to workload was correct.

Many students voiced dejection about the percentage of the overall class grade given to

the e-portfolio versus the investment of time it took to construct their e-portfolio. Suggestions from the students included: “*really make it worth our while*” and “*make the e-portfolio a bigger component of the course, perhaps replacing some exams?*”

Helen Barrett (2005) highlights the potential problem of using e-portfolios solely as assessments:

I made the public statement this week, that high stakes assessment and accountability are killing portfolios as a reflective tool to support deep learning. Those mandated portfolios have lost their heart and soul: not creating meaning, but jumping through hoops!

This point can be seen in the following student comment:

The things we are supposed to do for it [the e-portfolio] are kind of like assignments and no offence but everybody knows, for assignments, you give them what they want – you give them what they want and they give you your mark, that’s basically the way it works.

It is not a healthy vision for the use of the e-portfolio as an instrument of educational enhancement if students view it as “just another assignment”. This suggests that they do not view e-portfolios as a deep approach to learning—as the holistic way of documenting their learning that was one of the goals of the pilots on both campuses.

From the student’s’ perspective, they did not appreciate being assessed on their reflections:

If this is my personal reflection – how can you give me 3 out of 5? You say – put in personal reflection, which we do – then we come in the next day and you turn around and say you should have mentioned this and this and this – here is the check list.

Clearly, problems exist when assessing reflection as the question exists about whether the reflections from the learner are meaningful or contrived.

Okay, take a few positives and negatives so that they get both sides and then start talking about them – it’s not exactly my way of seeing it, it’s how I interpret what they want to see and most of the time that is what they want to see and that doesn’t give me any personal reflection – it is more like a mirror reflecting back what they wanted to hear and if that is what they want they might as well give us an assignment because it is the same thing, so there is no point to the portfolio, right?

Interestingly, although unsurprisingly, when students were asked whether they would have used the e-portfolio if it had not been assessed, the majority of students responded that they would not. This brings us back to the importance of promoting the e-portfolio. In most cases the e-portfolio was not presented to the students where they could (a) see the benefits or (b) see the “what is in it for me?” factor. Clearly, it is crucial for individual instructors and e-portfolio pilot coordinators to ensure that these issues are addressed early on in implementations. Clear rubrics and scaffolding for students on *how* to reflect so that they internalize the benefits of reflective practice are clearly needed if this approach to learning is going to be embraced by most learners (Bean, 2001; Walvoord & Johnson-Anderson, 1998; Yancey, 1998).

The e-portfolio technology:

Information gathered from these students demonstrated that their experience had been

influenced disproportionately by the technology used. Many students had problems with the e-portfolio software. Issues ranged from “*lack of functionality*” to “*being too complicated*”. One of the biggest complaints was the amount of time it took to (a) learn how to use the system and (b) the amount of time they spent trying to customise the e-portfolio due to its limited functionality.

For instance, many students who created e-portfolios either believed the systems did not have the functionality to make items public or private, or indeed the system actually was not able to do this. Therefore, for most students everything was public to the rest of the course and the instructor leading to concern over the visual appearance of their e-portfolio. This focused the students’ attention onto improving appearance over content. As one student noted, “*If this is my e-portfolio that everyone can see then I want it to look good and to represent me*”. The consequence of this challenge was that many students spent more time battling with the technology trying to customise their e-portfolios than actually using it for its intended purpose. As some students astutely observed,

I wonder that although the web site does start to look better the more time we spend on them, what about the content? Sometimes it seems like people spend more time making it look pretty rather than working on the reflection behind it .
Once you get into the e-portfolio, the more you use it and the more you come back to it, you grow more and more dissatisfied with it – you want to find ways to make it better.
Confidentiality is a concern – is there a way to publish it and control access?
Only having one view is really frustrating and stressful as we need to create our best one as everyone can see it .
Have good access control would increase my motivation to work on it.

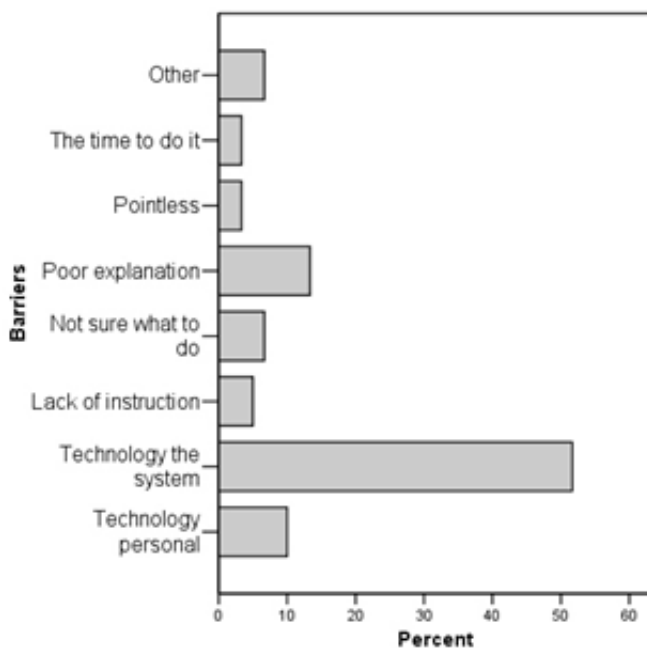


Figure 5 : Barriers found when using the e-portfolio

These comments reflect the need to provide clear guidelines about how the e-portfolios will be assessed, that it is content and not “look and feel” that matters. This also reinforces that technology is being used for a purpose (to enhance learning), rather than just for technology’s sake (McNeely, 2005).

When the students were asked what barriers they faced when using the e-portfolio they clearly highlighted the e-portfolio system itself as being the most significant (Figure 5). The biggest technology-related problems reported included: lack of control; lack of features, and the previously mentioned lack of access or permission controls.

It was interesting how some students' perception changed when asked before and after using the e-portfolio which type of system they would prefer, the two options were:

- A system that is highly structured and guides me through all I need to do.
- An open system giving me more control over the whole process, layout etc.

While the e-portfolio is a new experience the majority (80.5%) of students preferred a highly structured system.

Table 1: *Before using the e-portfolio and after using the e-portfolio: system preferred*

	Highly Structured	Open
Pre-use	80.5%	19.5%
Post-use	59.8%	40.2%

It is clear that as students' comfort level relating to what was expected and their skill with using the technology rose, they began to experiment with the tools. This, in turn, led to many deciding they would prefer an open system where they would have more control. It seems reasonable to assume that this trend would continue and the more widespread e-portfolios become, and more students use them, the more they will demand flexible, open systems which give them control.

Analysis of responses from the pre-use survey showed that 28% of those to whom the e-portfolio was not a new concept preferred an open system compared to 16% of students for whom it was new. This highlights the need for systems to be extremely flexible—they need to be adapted and re-shaped as the student gains skills and confidence. There is no technical reason for the technology not to be able to provide what students want.

Control over access to the e-portfolio

Control over access to digital objects and the ability to create different “views” of them were deemed important by the students. Lack of this functionality meant that many students did not, by and large, treat these e-portfolios as their own. They were assignments that everyone could see.

I think there are things you want to keep private but it might be good if you could create a group for your close friends to share some reflections and then an outside ring which is for everyone else and it could have things like your resume.

In one course, due to instructors being able to freely access the content, students did not experiment with their e-portfolio or put up information and reflections that might not be

their best work—they were afraid it would cost them marks!

Motivation – “what is in it for me?”

Motivation for use often requires a strong element of “what is in it for me?” Identifying added-value in use of the e-portfolio will increase the likelihood of student engagement. As one student noted:

The thing about reflecting I have realised recently, I have been writing a journal on my internship for the past couple of months, you just realize the growth you've made – it's like, when you're in the process of going through some sort of growth you don't recognize it at the time because it is slow but then when you look back on things that is when you actually realize what's changed and how different you are.

This student was able to identify why for him or her, using the e-portfolio was worthwhile. The likelihood that this student, and others who gained this awareness, will continue to use the e-portfolio beyond the requirements of the course are much higher than for those who did not recognize reflection as important to learning.

It would seem that the ability to customize, and to create an e-portfolio that students can call their own and that represents them as a learner and as a person, is one of the critical features of any system. As many students noted:

Customization – a lot of effort goes into personalizing something and I for one like it when you can personalize something and show it off and if you could some incorporate some kind of personal webpage into the e-portfolio so you can show it off it would promote it a lot better.

What we have been given has been boring and restrictive – we need something that allows us to be more creative. An e-portfolio might cause me to look like everyone else - using generic templates etc. How will I stand out?

It may well be the case that the present generation of template-driven e-portfolios will turn out to be too restrictive for many students as they gain skills in gathering and presenting their work and experiences. Further research on this topic would be of value.

Many of the elements for engagement are there

Analysis of the data gathered from students before they used the e-portfolio indicates that a majority of students thought that the e-portfolio would help them progress through their course, and this is despite introductions which were perceived as poor (Figure 6).

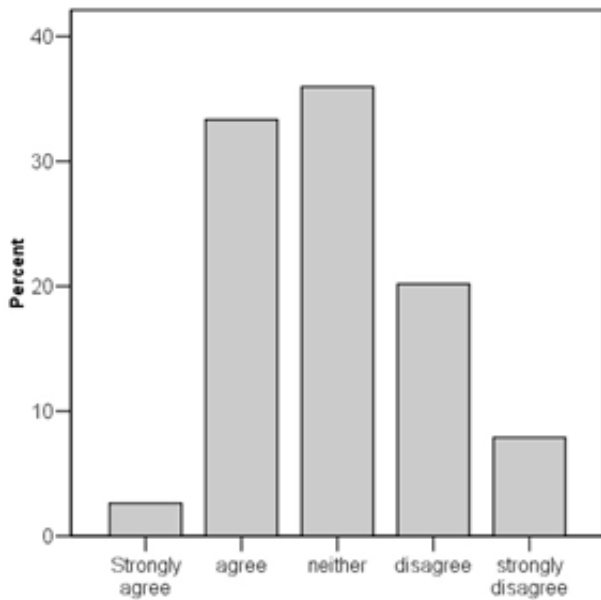


Figure 6 : Do you Think an e-portfolio will help you progress through this course?

However, the data gathered from them after they had used the e-portfolio show a markedly negative shift, with most students indicating that the e-portfolio had not helped their progression through the course (Figure 7). This is clearly a cause for concern.

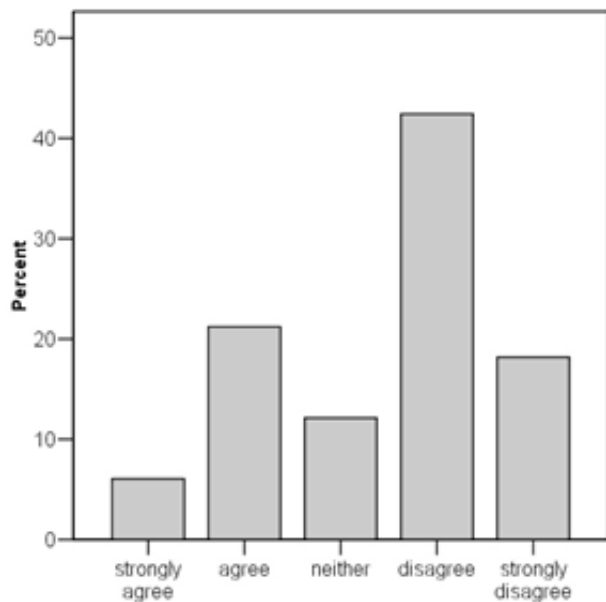


Figure 7: Do you think the e-portfolio helped you progress through this course?

Despite this, the majority of students did feel that they had collected good evidence to demonstrate that they had achieved specific learning outcomes in their course (Figure 8). This relates back to the way the e-portfolio was used in the class and the low motivation of the students as a result. The students thought they had achieved one of the e-portfolio goals, but they did not feel that it had had much effect on their performance in the course, and did not understand the reasons for gathering this information.

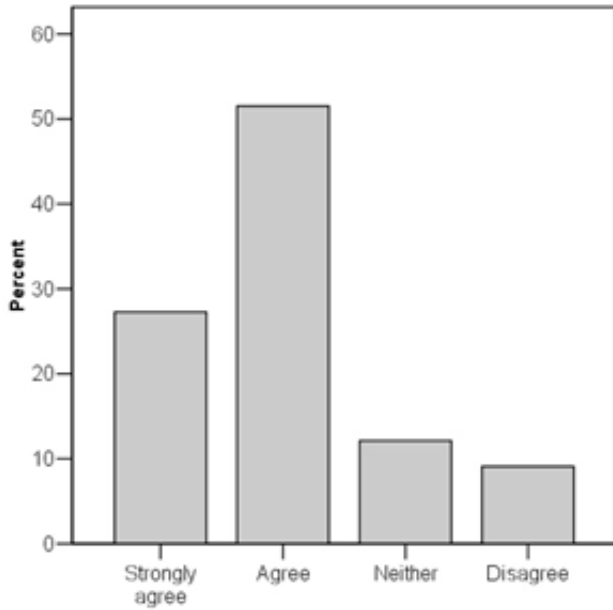


Figure 8 : In using an e-portfolio I felt that I compiled good evidence which showed I achieved specific learning outcomes during this course/program

The majority of students did not feel that the e-portfolio was a hindrance when completing their course (Figure 9). This is a positive finding as the students did not feel that using the e-portfolio interfered with their course. In the pre-use surveys, despite the poor introduction, they thought an e-portfolio would help them on their course and they felt that they gathered good evidence throughout the course that could be used to demonstrate their abilities. Students simply need to see the added-value, be motivated and have access to a better e-portfolio tool. If students believe there is something in the process for them it will greatly enhance their experience of the e-portfolio and increase their engagement.

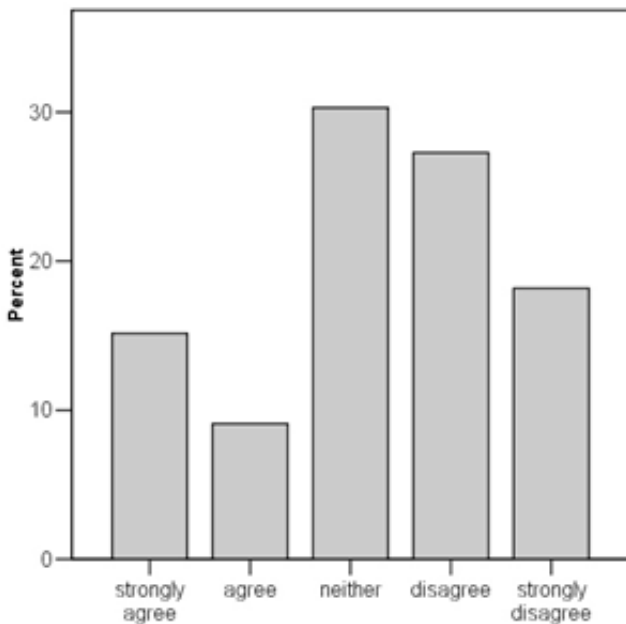


Figure 9 : Building the e-portfolio interfered with my completing this course/program

Minor themes emerging from the student responses

One theme emerging from the student views is perhaps that the e-portfolio should not be a compulsory, assessed activity. Making the e-portfolio mandatory automatically raises barriers and relegates it to yet another “assignment” for many students.

However, if the decision to adopt e-portfolios is presented as a *carrot not stick* students may be enticed to use the service. To do this it is necessary to (a) have a system that is inviting and engaging and (b) sell the e-portfolio to the student so that they can really see a benefit in using it. As one student noted:

It would be cool if every course mentioned it but didn't push it – this way students would all be hearing about it and would maybe start thinking, perhaps I should use it.

This is ubiquity of use, like email or Virtual Learning Environments (VLE).

While one “carrot” presented to students was that their e-portfolio would help them find employment, most students participating in this research were sceptical that an e-portfolio would do this. However, one student at UBC did highlight how developing his e-portfolio aided his job search:

In the majority of job interviews I have had I get asked a series of reflective type questions. Things like: Can you tell us about a time when you have been faced with a potential problem – what did you do and how did you deal with this? I have always found these types of questions very difficult but now that I have been thinking much more about what I am learning and how. I am thinking in a different way, I am starting to make connections and this in turn helps me deal with these sorts of questions in job interviews .

A few students at UW also made similar observations. This suggests that if others were to view their e-portfolios this way, rather than concerning themselves with the final *product* it would provide them with a real purpose. It can be argued that the process a student undergoes while creating their e-portfolio will eventually prove of greater benefit than the final e-portfolio product, which acts as little more than an enhanced resume. The knowledge gained through engagement in the reflective process, the awareness that can arise from thinking about personal growth and development could prove invaluable in a job-seeking situation.

During one focus group session the students highlighted and discussed the subject of e-portfolios for employment and reached some very interesting conclusions:

For me I almost think that if the employment aspect was taken out it would be a more useful for my learning – because I feel that this isn't necessarily an exercise in reflection on my growth, considering my growth as a learner – because I don't want to start with the initial process, where I learned, where I started – I want my webpage to be the good finished product. This is essential, an electronic expanded resume for a lot of us, and I think if I had a separate e-portfolio for my learning it would look very different.

This highlights why, if you are looking for long term student engagement, it is not ideal to have an e-portfolio with only one purpose and one interface. E-portfolio systems used for personal development must allow students to create multiple views depending on which purpose they are dealing with at any one time. It also highlights one problem of promoting the e-portfolio as an employment tool: we found students were pre-occupied with the look

and feel and less so about the content.

Conclusion

Electronic portfolios are increasingly becoming a part of students' higher education experience. This trend looks set to spread beyond *early adopters* to encompass many, if not all, of the higher education institutions. For the e-portfolio to be considered a successful learning tool, students will need to actively engage with their own e-portfolio.

This paper introduced four emerging themes that need to be addressed in order to make using an e-portfolio a more rewarding experience for many students: buy-in, motivation, assessment and e-portfolio technology.

Although more research is required, the results of this study show that an institution, or more specifically a course, really needs to identify the learning outcome of using the e-portfolio and ensure that the e-portfolio is aligned with the rest of the course. This goal then needs to be explained clearly to the students, and perhaps has to be better understood by faculty and support services. Students need to know why they are doing this and what is in it for them.

Failure to get students enthused and engaged with their e-portfolio will result in the e-portfolio becoming another hoop to jump through, something that will be left at the campus gates upon graduation.

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