In recent years across all disciplines in the higher education sector, universities have experienced a significant emergence in the use of electronic portfolios (ePortfolios) within degree courses, with the primary focus on students capturing evidence of skills to enhance their career preparation and employability prospects. This study used a survey to explore how final year business students perceive ePortfolios as contributing to their employability. Sixty-nine students from a regional Australian university completed an online survey questionnaire. Overall results indicate that students have a strong positive perception and understanding of ePortfolios and its role in their studies and in their future career prospects. Most students noted the purpose of an ePortfolio to specifically reflect experience, skills, resume and evidence all these indicating strong links to the preparation for employment. Additionally, most students agreed that using the PebblePad ePortfolio system was easy to use and that it helped them make connections between ideas. This paper concludes with recommendations which include: address embedding PebblePad as a whole of college approach, teacher training, a greater ePortfolio emphasis beginning year one, and research employer’s perspectives on ePortfolio’s.

Keywords: ePortfolio, PebblePad, Employability, WIL

Introduction

According to Strampel and Lewis (2016), personal development plays a key role in employability which involves learning, reflection, goal setting and understanding the wider context. Growing demands from industry stakeholders requires educators to modify their courses and assessment to reflect a greater emphasis on employability in the design and delivery of their subjects.

ePortfolios are one such tool which can facilitate this demand in that in the academic context, ePortfolio activities often require students to demonstrate a range of competencies and skills, from both academic and non-academic achievements/experiences. These achieved skills are captured within the student’s ePortfolio and are used as supporting demonstrated evidence to address selection criteria. Given their potential to aid in the development of engaged, reflective, lifelong learners, and develop and showcase employability skills, ePortfolios are increasingly being used in Higher Education Institutions (HEI’s) around the
globe (Educause, 2013; Brown et al., 2015). Although there is a slow take up and acceptance of ePortfolios within industry, due to a lack of awareness and knowledge of ePortfolios, once explained, employers understand the potential in the recruitment process (Watty et al., 2016).

Many HEI’s have embedded ePortfolio pedagogy within their Work Integrated Learning (WIL) curriculum framework. WIL is acknowledged as a strategy for integrating theoretical learning with its practical application based in a workplace, profession, career or in future employment (Ferns & Comfort, 2014; Patrick et al., 2009). With the popularity of ePortfolios increasing, there is limited evidence in the growing literature to confirm their effectiveness. In particular, giving consideration to the tertiary student user, Garrett et al, (2013) have identified that the user perspectives of ePortfolios are not widely canvassed. This study aims to address gaps in the existing knowledge by exploring final year business students’ perceptions of ePortfolio’s as a tool for professional development, resulting in greater employability opportunity.

Background

In January 2013, James Cook University’s College of Business Law and Governance introduced a coordinated approach to WIL to provide a sequential and integrated framework which sees WIL experiences escalate from low risk opportunities involving observation and simulation to completion of one of three capstone WIL subjects in the final year of the degree.

In order to prepare for the final year WIL experience, students are introduced to PebblePad in their first year. Several subjects have implemented PebblePad as an assessment tool requiring students to collect, reflect and select evidence through workbooks, journals, blogs, video recordings and reflective writing, and is continued in their second year subjects. It is important to ensure that an appropriate scaffolding approach be provided to students so that they become aware of and skilled in the acts of collecting, reflecting upon and integrating evidence of learning (Watson, 2012) in preparation for their final year of study. In their third and final year of study, students generate an ePortfolio CV demonstrating relevant skills, which is a required piece of assessment in each of the three WIL subjects.

Methodology

This research project involved an online survey in 2016 of all students who completed one of the final year WIL subjects in the College of Business Law and Governance at James Cook University Townsville. At the completion of each teaching period, these students received an email inviting them to participate in the 15 minute online survey. The questionnaire was emailed to 225 students with a response rate of 24% (n=55). Each of the participants have had a minimum of two year experience with PebblePad and the ePortfolio. Participation in the survey was both voluntary and anonymous as it did not require the individual to identify themselves other than their age and gender.
Results and Discussion

Respondents were predominantly female (72%). Reflective of the gender breakdown of all participants – 63% female and 36% male. Similar gender profiles were also identified in studies conducted by Yusuf & Tuisawau (2011), Gerbic et al (2011), Gerbic et al (2009), Wuetherick & Dickinson (2015), Tubaishat, & Lansari, (2013) and Birks et al (2016). All students responded to the ‘What is your Age’ question with the majority (n=40, 72%) aged between 20-27 years. This is a similar age range found within the research across disciplines. Table 1 identifies the majority of students were enrolled in the Accounting major 24 (29%), Management 16 (19%), Marketing 10 (12%), Financial Management 7 (9%), and HRM 6 (7%).

Table 1: Responses to: Which Major or Majors are you currently enrolled in?

<table>
<thead>
<tr>
<th>Major</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>24</td>
<td>29.3</td>
</tr>
<tr>
<td>Management</td>
<td>16</td>
<td>19.5</td>
</tr>
<tr>
<td>Marketing</td>
<td>10</td>
<td>12.2</td>
</tr>
<tr>
<td>Financial Management</td>
<td>7</td>
<td>8.5</td>
</tr>
<tr>
<td>HRM</td>
<td>6</td>
<td>7.3</td>
</tr>
<tr>
<td>Sports &amp; Events Management</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>Health Management</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism Management</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>International Business</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Business Intelligence and Information Systems</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>7.3</td>
</tr>
</tbody>
</table>

The predominant WIL Capstone subject completed by the respondents was the Professional Internship 66%, followed by Multidisciplinary Project 18% and the Independent Project (15%) subjects. Social media tools students used were Facebook 42%, LinkedIn 32% and a variety used Snapchat, Twitter and Instagram. From a response rate of 108, it appears that a number of participants utilise more than one social media tool, suggesting that students are comfortable with using social media technology.
In Figure 1, participants described in their own words what they understood the purpose of the ePortfolio to be, resulting in a 70 percent response rate. A selection of comments below specifically reflect: experience, resume, evidence, work and online.

Comments included:
- An easily accessible storage system where I can store and file evidence of professional and personal achievements. An ePortfolio is an electronic collection of evidence that shows your learning over time.
- An online CV for personal use or use to acquire employment.
- Collection of experiences and documents that future employers may be interested in when deciding on whether to employ a candidate or not.

Figure 1. Purpose of an ePortfolio

Respondents were asked at which point in time during the business degree they actually begin to populate their ePortfolio. Our survey identified that the majority of students (65%), did not begin to upload evidence until their final year of study. This would reflect the nature of assessment requirements of each of the final year WIL subjects where a CV/Résumé formed part of each subject assessment. Only 14% of students began uploading evidence in their second year of study as the momentum decreased from first year (21%), where students were introduced to ePortfolio’s and the purposes for its use and application throughout their degree.

Figure 2. When students start to upload evidence into ePortfolio
Figure 3: Types of evidence uploaded to ePortfolio assets

Three most common types of evidence uploaded as identified in Figure 3 are academic related, with 85% uploading assignments, and just over one-half uploading evidence of academic achievement or certificates. This response reflects the findings of the previous question where the majority of students only began to upload evidence of their skills in their final year of study. However, diversity of evidence is demonstrated by the fact that approximately half of respondents uploaded evidence of personal and work related achievements and evidence of both soft and industry specific skills needed for employment. These results are distinctive to this college as the literature reviewed has not identified any other final year WIL subject assessment where students are to provide evidence of skills in a CV/Resume relevant to a real industry project mirroring consultants, or seek out a real job vacancy and provide a Cover Letter, Resume and address the Selection Criteria embedded/hyperlinked with the relevant skills captured in their ePortfolio. These assessment approaches are innovative and unique, and bridge the gap between subjects/courses and employment. Conventionally, students only upload skills-based evidence throughout their degree and are then left to themselves to bridge the gap employment with very little or no understanding of the process. Implementing this type of assessment, gives the student an added competitive advantage over other graduates.

Table 2 below identified the majority of students (59.62%) agreed that the PebblePad ePortfolio system was easy to use and 48% agreed that building their ePortfolio helped make connections between ideas. Similar findings are supported with Thibodeaux et al (2017), Lewis & Gerbic (2012). Respondents were most likely to disagree that building their ePortfolio helped them succeed as a student (33.3%), that they will take advantage of the
free alumni account (34.6%) or that their ePortfolio will improve their chances for future employment (34.6%).

**Table 2: Perceptions of ePortfolios**

<table>
<thead>
<tr>
<th>How strongly do you agree with the following statements?</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The PebblePad ePortfolio system is easy to use</td>
<td>59.62%</td>
<td>13.46%</td>
<td>26.92%</td>
</tr>
<tr>
<td>2. I believe my ePortfolio is important for my future career employability</td>
<td>38.46%</td>
<td>32.69%</td>
<td>28.84%</td>
</tr>
<tr>
<td>3. Using PebblePad as an assessment tool has made my learning more meaningful</td>
<td>47.06%</td>
<td>21.57%</td>
<td>31.38%</td>
</tr>
<tr>
<td>4. Building my ePortfolio has helped me to make connections between ideas</td>
<td>48.08%</td>
<td>23.08%</td>
<td>28.84%</td>
</tr>
<tr>
<td>5. Building my ePortfolio has helped me succeed as a student</td>
<td>35.29%</td>
<td>31.37%</td>
<td>33.33%</td>
</tr>
<tr>
<td>6. I will take advantage of the free PebblePad Alumni account when I graduate</td>
<td>40.38%</td>
<td>25.00%</td>
<td>34.62%</td>
</tr>
<tr>
<td>7. The ePortfolio’s as a repository of evidence of skills and abilities within my degree has improved my chances of future employment</td>
<td>38.46%</td>
<td>26.92%</td>
<td>34.61%</td>
</tr>
</tbody>
</table>

The responses indicate that the majority of students find the ePortfolio easy to use, suggesting that the scaffolded approach to implementing the program, supported with purpose built instructions, has had a positive influence on students. Reinforced by comments from students, responses demonstrate that a combination of approaches was useful, including information provided at workshops, face to face contact with and assistance from lecturing staff, and online learning sessions and support materials.

Reviewing both Q2 and Q7 reflects that a higher percentage of students are not fully cognizant that demonstrated evidence will give them improved chances of future career employment. This may explain the slightly higher number of students not wanting to take advantage of the free alumni account. The most common uses were to keep records/storing evidence and to apply for jobs. It is apparent that, within the overall course, students need to be made aware of the changing trend in the workforce where applying for positions is increasingly being done electronically. This change then presents the opportunity to electronically embed demonstrated evidence within the application, an action that is gradually becoming more supported and encouraged by employers (Rowley & Dunbar-Hall 2015; Leahy & Filiatrault 2017; Watty & McKay 2016).

Students were asked in their own words to describe how relevant they felt the ePortfolio is within their WIL Capstone subject. Predominantly more positive responses emphasised the development of Resume’s/CV’s and Covering Letters, linking skills experience to job requirements, and being able to directly identify and address selection criteria, demonstrating key areas of personal improvement when it comes to the development and presentation of required skills.

Following are a sample of positive responses.

- **Very relevant.** *I learnt a lot of what should and shouldn't be included in a resume and cover letter.*
- **I think it is relevant as the WIL subject exposes you to the real world and a big part of that world is being able to sell your skills and abilities. You need to be able to correctly build a resume and to do so you need to provide evidence of the skills they require.*
- My ePortfolio helped when I went to apply for jobs as I had all my information in one spot.
- The ePortfolio is relevant to the WIL subject as it provides ideas on how you can market yourself to employers further than just a resume and cover letter.

A small number of students felt the ePortfolio was not relevant to their WIL Capstone subject. A sample of responses include:

- Not very relevant as I am already employed in an accounting firm with a full time position for the next two years.
- There are many other ways students can showcase their stuff.
- ePortfolio didn’t really relate to my internship.
- Relevant to the assessment piece only.

**Conclusion**

It is becoming increasingly obvious in research that, over the last 15 years, the role of ePortfolio’s is becoming more dominant in HEI curriculums, particularly when embedded in WIL based subjects. This paradigm shift to ePortfolio’s is ultimately providing students with the opportunity to demonstrate and evidence a range of competencies and skills to enhance their professional development and employability.

Analysis of the questionnaire responses has demonstrated that overall it is evident that students have made the connection between ePortfolios and employability and the purpose of the ePortfolio is used to collect and store evidence, build a CV/Resume, a showcase of skills and can be used to apply for jobs electronically. In Table 2, students agreed overall with each of the statements, however, there was significant uncertainty in each statement requiring more effort from teaching staff to encourage the use of ePortfolio’s in general. The role of the lecturer in each teaching year is important in the shift to a student locus of control as the content and structure of the ePortfolio is to be owned and controlled by the learner, creating a personalised learning environment with opportunities for personal development creating a learner-centered approach. For a learner-centered approach to be successful, it must begin in a student’s first year of study and not left up to some final year teaching staff providing a range of additional practical support and encouragement verified by the high percentage of evidence (65%) being uploaded in a student’s final year of study. The use of social media amongst students is very common suggesting students are becoming much more comfortable with using and adopting new technology.

**Recommendations**

Overall, these conclusions are very positive, but there is always more room for improvement. In order to provide additional value to students and staff, the following recommendations are presented:

- To improve the response rate, surveys will be sent to the students’ one week prior completion of their WIL subject allowing time for the WIL teaching staff to elaborate on and provide feedback from previous work done in this area which informs the teaching staff on areas that need improvement.
- Implementation of PebblePad program to be embedded as a whole of College approach as opposed to just several subjects within the degree.
- Provide more training for all teaching staff into the effective use of ePortfolios emphasising the role they play in assisting and guiding the students in their future career preparations.
• Provide to the students at the beginning of their degree a greater emphasis on the value and purpose in building an ePortfolio and how they might use it after graduating.
• Conduct research with employers in understanding their perceptions of the benefits of electronic portfolios and their role in the recruitment process. Any positive outcomes would be presented to staff and students to support and enhance the use of ePortfolios.
References


The role of professional staff in the implementation of an ePortfolio system

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Abstract
In any university-wide technology related implementation key stakeholders are required to provide support. This paper describes this important role with one set of key stakeholders: the university Blended Learning Advisors (BLAs) and Educational Designers (EDs) and presents data collected from interviews with 11 BLAs and EDs across a large university-wide implementation with over 45,000 students and 5000 staff members. Data was coded for emerging themes and is presented with results suggesting that the BLAs and EDs received sufficient training throughout the implementation and this then allowed them to work confidently and successfully with academics across the four academic groups to create a successful environment for the implementation. The BLAs and EDs played an important part with the academics implementing the platform into their teaching.

Keywords: ePortfolio implementation; PebblePad; university-wide

Introduction
A university-wide ePortfolio implementation is a major undertaking and requires support of all key stakeholders. At Griffith University the university-wide implementation occurring throughout 2017 involved all four academic groups. Each academic group: Griffith Sciences, Griffith Health, Arts, Education and Law and the Griffith Business School, have support staff involved in the planning and implementation. One group of key stakeholders are the Blended Learning Advisors (BLAs) and the Educational Designers (EDs), who work specifically with the academics to support learning and teaching across the University. The BLAs and EDs, both centrally and in each of the four academic groups (same as Faculty) thus played a major role in insuring the success of the use of ePortfolio platform.

Although university-wide implementations of ePortfolio systems are not new (Hains-Wesson, Wakeling, & Aldred, 2014; Lambert & Corrin, 2007), Griffith University developed and used a model of implementation that was innovative, to ensure robust take up of the platform. This model was developed by the central team, along with the ePortfolio Working Party, a group of key people from across the university. Key to this was the pedagogical, technical and design support provided by the BLAs and EDs across the university, for academic staff in using it with their students.

Background
Stakeholders have been encouraged to be involved in the university-wide implementation from the beginning of the adoption process. Seventy stakeholders from across the university provided written feedback on the custom resources that the initial vendors demonstrated (Blair, Campbell, & Duffy, 2017). PebblePad was the personal learning platform chosen as it met the needs of the university as is much more than an ePortfolio as it allows for a huge range of activities to be conducted through its use. An Innovators Program was developed
where academics who wished to be involved were encouraged to submit an Expression of Interest to participate in the first year of the program. The BLAs and EDs worked with and supported the academics throughout the Innovators Program, both before they taught the course(s) they wished to have involved, during and then afterwards (Campbell, Bourke, Trahar, & Nisova, 2017). They also assisted with the design and implementation of student-centred learning activities that were implemented in the various courses that the Innovators were involved in teaching. The central teaching and learning unit’s (Learning Futures) core implementation team worked with the BLAs and EDs to enable the necessary support for each academic to ensure a successful implementation across the courses and programs selected to be part of the Innovators Program. The centrally located EDs were also allocated academics to provide support to.

The Innovators Program provided participants with support and a sense of community through working together to initiate, innovate and implement the implementation program. As described by Campbell and colleagues (2017) those involved in the Innovators Program were invited to workshops and events, to advice and support as well as evaluation on implementing PebblePad through the evaluation program. Academic staff were able to co-construct learning experiences for their students with the BLAs and EDs in their academic group (Blair et al., 2017) and share these across the University. As a Community of Practice, members were provided the opportunity to learn from one another’s successes and failures.

**Literature Review**

This brief literature review focuses on the need to assist teaching staff in building their technical and pedagogical capacity for the student-centred use of educational technologies. In the context of this paper, this aspect of technology implementation is explored in terms of the role undertaken by learning and teaching support staff in enabling impactful uses of educational technologies. As suggested in a report by bodies Educause and JISC (2015) “information technology has value because it can support and extend human capacity, but its value also depends on people. People make IT work” (p.5).

Successful technical launching of an educational tool by the central information technology unit is no longer enough, now higher education must also attend to the learning activities being designed and implemented with the new tool (Fyfield & Czapinski, 2017). Success of an educational technology implementation is a partnership between technical support providers and pedagogical support staff (EDUCAUSE & JISC, 2015). Thus to insure effective use of educational technologies technical training alone is not enough. Teaching personnel must be supported in the integration of the tool into teaching (Basak, Wotto, & Belanger, 2016) and design of learning activities. To address this broader need requires not only the provision of general and discipline specific technical professional learning, it also requires a consultative approach in the design and development of course-specific learning activities. Without this comprehensive approach to the implementation of a new educational technology, the realisation of a tool’s promise may fail (Basak, Wotto, & Belanger, 2016). Teaching staff that do not receive both technical and pedagogical training and support may become demotivated to use a new technology when challenges occur, so offering capacity building training and consultative problem-solving support is ideal.

Technology can serve as catalyst for transforming the types of learning experiences for students, given their instructors are encouraged and supported by those they trust to design student-centred learning experiences. Instructors can leverage the use of technologies such as ePortfolio platforms to provide engaging learning experiences of a more personal nature (US Department of Education, 2017). When learning design is intentional and based on research in areas such as learning sciences, instructors can provide students with active learning experiences which encourage students to interact with one another, the instructor
and the content. Learning and teaching staff’s role descriptions identify the provision of this type of support as a key responsibility. In EDUCAUSE and JISC’s report “Reimagining the Role of Technology in Higher Education: A Supplement to the National Education Plan” (2017), a multitude of recommendations address enabling instructors to provide such learning experiences for their students. A few that are particularly relevant are:

- Promote collaboration between academics, instructional (educational) designers, technologists (blended learning advisors) and others to design engaging learning experiences
- Provide professional learning opportunities that address technical and pedagogical capacity building
- Support teaching personnel in connecting tools and systems to create learning experiences that leverage the functionality of many.

These recommendations and others identified support the need to provide processional learning not just to the teaching staff, but to the broader learning and teaching community including the university’s BLAs and EDs.

The professional development needs learning and teaching support staff overlap those of teaching staff, however the timing of their capacity building differs. In order to support the academics, these professionals must develop their competence with the technologies and its uses within learning design earlier so that they can provide informed support.

Thus, the following research questions were formulated:

1. What professional development did the BLAs and EDs receive in order to implement PebblePad across their academic groups?
2. What role did the BLAs and EDs play in supporting academics to implement the use of the ePortfolio platform in their teaching?

Methodology

This study was part of a larger implementation study on ePortfolios at Griffith University. However, for this paper only the BLA and ED interviews were transcribed, coded, and then analysed. The results of these interviews are then reported below. Ethics approval was gained as part of the comprehensive implementation study and an amendment was gained for the specific questions asked to the BLAs and ED members. Eleven staff members were interviewed for 40 to 60 minutes each and they were electronically recorded. The interviews were then transcribed with the transcriptions sent to the interviewee for member checking. Once this occurred the transcripts were coded for themes.

Staff were asked about a variety of aspects of the role they played in the implementation and the overall approach taken. Of relevance to this paper, they were asked about the uses of PebblePad in their academic group and how they assisted staff. They were asked about the training they participated in and which features of PebblePad they found the most useful. In addition, they were asked which aspects of the platform they liked least as well as the limitations and barriers to implementing PebblePad within courses and programs.

Data has also been gained from a survey of academic staff in Trimester 2, 2017 after staff in the Innovators Program had been using PebblePad for one or two trimesters. Eighteen of the innovators completed the survey which asked among other things if they would use PebblePad in their teaching again. The results for this is reported below.

Results
Numbers of staff and students using the ePortfolio platform climbed steadily across the trimesters with their being 5243 unique users in the system in June, 2017 (Campbell et al., 2017). By the end of Trimester 2 in October 2017, there were 9020 unique active users and by March there were 14,416 unique active users. In June, 2018 there were 20,150 unique active users. This shows an increase in staff and student use and it is across all of the Academic Groups.

All support staff interviewed directly assisted academics to implement PebblePad in courses. Staff were each allocated academics to support through the Innovators Program. Professional development for the BLAs and EDs was identified early on as extremely important and began as soon as the choice of platform was made and at least three months prior to implementation.

As reported in the interviews all the BLAs and EDs received ongoing professional development throughout the first year of implementation and in fact, this continues in the second year. Initially, some BLAs and EDs attended PebbleBash in the UK and as one reported, went “to visit a whole lot of different sites in the UK that were using PebblePad to find out what all the different kinds of learning and teaching applications were going on.” Staff built on this experience with one staff member commenting: When we came back here I basically build a whole lot of scenarios that could be done in, from a learning and teaching perspective in PebblePad so that I could understand how the different tools might work and how I could use that for other people.

Train-the-Trainer workshops at the beginning of the implementation were open to all BLAs and EDs to attend. These fortnightly advanced training sessions continued throughout the year with one staff member commenting that “the advance workshops were good, just being able to say, ‘We tried this and it didn’t work,’” was beneficial, while another stated “I find learning from others, like the workshops were really good.” Staff also commented that they learnt a lot of the functionality themselves through playing with the platform and working out how to do things in order to support staff. Staff mentioned the website “and that it sort of easily directs you off to students and staff support”.

The BLAs and EDs noticed that the student uptake of the learning and teaching activities was good, with one commenting “a lot of the activities that we’ve been designing, the ownership has been more on the students, which has been pretty good.” Having reported this, some BLAs and EDs felt that some student cohorts needed more support and they have attempted to address this in 2018 iterations of the courses.

The BLAs and EDs also created resources for their own Academic Groups. One stated they created “training resources for the students” in one group. Others across the groups stated they made videos for various academic staff in order to support them using the platform with students.

Importantly, the 18 academics who completed the survey all stated they would use the ePortfolio platform again. This indicates that the high level of support provided by the BLAs and EDs was sufficient to inspire academics to have the confidence to use the platform again. As a team, the academics, BLAs and EDs designed and implemented learning activities that are well worth repeating.

**Discussion**

The results presented indicate that the BLAs and EDs were instrumental in the institutional
ePortfolio platform implementation and that overall it was a good success. Through their knowledge and support academic staff were supported well in their Academic Groups. The advanced training of the support staff enabled them to be confident when consulting with academics. The training facilitated their upskilling in both technical and pedagogical aspects of the use to the ePortfolio platform. Provision of on-going opportunities for cross University sharing and learning, continues their learning of advanced technical functionality and complex learning designs.

One limitation of the project is the small number of BLA and EDs who were interviewed, however this is the nature of implementation at a university, in that limited numbers of staff are available to assist in support roles. It would strengthen the study to continue the data collection to become a longitudinal study with in depth interviews conducted over a number of years.

Conclusion

With the project-based funding ending as the implementation of the ePortfolio platform moves from “project” to “operational” status within the University, the learning and teaching support staff within the academic groups will become the main provider of pedagogical support. Although it made no difference to the approach, it was always known that the project had a limited lifespan through the central implementation and as such the project has investigated sustainable practices that will allow for continued success after the implementation. As an enterprise tool, the University’s Help Desk will provide just-in-time technical support. The central learning and teaching unit will evolve its support into being more strategic in nature thus providing less hands-on support of academics. Since the BLAs and EDs have played a critical part of the implementation, they are in good standing to move into the role as primary support provider.

The evaluation of change of role for BLAs and EDs would identify what is working and not working in these new methods of support. In addition, with the absence of substantial literature in the role support personnel play in capacity building (technical and pedagogical) of teaching personnel, additional research in this area would benefit the sector. Given, the limited numbers of people in these roles per university, a research project of this type would be a candidate cross-institutional research.

Acknowledgements

The authors of this paper would like to acknowledge the BLAs and EDs at [left blank for reviewing] University for their support in the university-wide PebblePad implementation. It is also important to note that on July 1st, 2018, these staff members are now called Learning and Teaching Consultant (Design) across the university due to a restructure.

References


Using Behance as an ongoing assessment tool to enhance cross-campus moderation and student’s industry networks

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David Sargent  
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Abstract

Behance is the leading online platform where graphic designers can showcase and discover creative visual work. Billed as place where the creative world can update their work in one place to broadcast it widely and efficiently, Behance is designed to remove the barriers between talent and opportunity (Behance, 2018).

In our new Bachelor of Design, Adobe Behance has been introduced as the common ePortfolio submission point for all final project assessments for the Graphic and Communication Design students. The purpose is to encourage students to build a professional portfolio over time, using works as they are created throughout their second and third year. The portfolio of works are collated over the course of a student's study and displayed publicly for ongoing comment and discovery. Students are able to leverage Behance's unique position at the epicentre of the creative community to facilitate meaningful collaboration and cross-pollination between creative individuals and organisations.

The purpose of redesigning the final assessment procedure in the Bachelor of Design is to encourage students to build their professional ePortfolio over their second and third years of study, rather than waiting until graduation to showcase their final works. This process encourages a frequency of skill and capability development over time.

By displaying the works publicly in an ongoing manner, other creatives are able to give peer review and feedback on the work as it is uploaded, and students are able to continually measure their work against an industry scale. This encourages engagement and discussion between students and also their peers on a global scale.

Companies and curated showcase websites constantly explore the work on Behance. This allows our design students an opportunity for exposure before they graduate, as well as expanded possibilities for employment.

Keywords: Behance, Design, Employability, Assessment, Skill Frequency.

Themes
Engaging students with each other and with industry

Encouraging a frequency of skill

Capability development

How ePortfolios support employability/employment.

Figure 1: Visual comparison of the traditional reach of student work and the additional networks that can be reached using Behance

Introduction

Self-promotion is a constant activity for professional graphic designers (Gomez-Palacio and Vit 2015), and for students usually begins with the development of a portfolio of work in their final year of study (Heller and Vienne 2015). However, Neil Leonard (2016) suggests students do not have to wait to begin this process. In his book "Becoming a Successful Graphic Designer" he urges design students to take the opportunity to begin generating relationships with potential employers and clients whilst still studying.

In the previous iterations of our undergraduate offerings, we discovered that graphic and communication design students were not building a public-facing graduate portfolio of work until their final trimester of study. This was due in part to a lack of confidence in their work and web development skills and also the way the final year courses were structured, with generation of the portfolio occurring as an assessment piece in their final year of study.

This meant that our students had no real industry or peer feedback on their portfolio of work outside the classroom context, and there was no direct way to offer moderation between the two campuses. We found that graduates presenting their portfolios to employers in a job interview was often the first time a non-teacher had seen the work.

In 2016, our two undergraduate offerings across two campuses were merged into one Bachelor of Design, with the final year industry portfolio course removed from the new program. As campus conveners, we wanted to ensure students would still graduate with a
portfolio or work to showcase their abilities. Concurrent to this was a desire to allow students to see each other's work across both campuses and for us to easily moderate between the cohorts without travelling an hour each way to view printed portfolios in person.

We also saw this as an opportunity to encourage our students to publish their work in an ongoing manner, and receive feedback progressively, rather than leaving it until the end of their studies.

What was also evident in previous deliveries of our discrete programs was a lack of understanding of the cohorts and cultures from the different campuses. Our goal with an online assessment tool was to share and unify cultures in one university in what had previously been a siloed program.

**Objectives of the study**

Our objectives with redesigning the assessment items within the unified Graphic and Communication Design major was to encourage a frequency of skill and capability development by requiring students to publish work every trimester. We aimed for our students to behave like emerging professionals much earlier in their university career than we had previously observed.

Another objective was to share a peer review and moderation across six classes and two campuses in order to truly unify the new degree and the two different cultures.

The third objective of the study was to allow our students to graduate with an outward facing portfolio without the accompanying technology and confidence pressures we had observed in previous cohorts.

After surveying local industry perspectives and available online tools, including Carbon Made, The Loop, PebblePad, SquareSpace, and WordPress, we decided on Adobe Behance as the most user-friendly and industry-focused tool for emerging design graduates to publish ongoing work.

Behance is an online platform to showcase and discover creative work, with over ten million users worldwide (Behance 2018). Of these users, graphic design is listed as the most popular category (Kim 2017). The creative industries regularly update their work to broadcast it widely and efficiently, allowing companies to explore and access talent on a global scale. Behance also offers the opportunity to link with Adobe Portfolio, which imports content from Behance to generate an instant, free-standing and professional-level online portfolio.

**The Research Question**

From this preliminary study, we devised the research question: Can Behance be used as an assessment tool to encourage a frequency of skill and capability development in our graphic and communication design students and serve as a way to encourage peer review, cross-campus moderation and support graduate employability?

**Methods**

Critique is a ‘signature’ pedagogical approach to design education, offering students a valuable opportunity to present their own work and observe a wide range of alternative outcomes and approaches (Motley 2017).
In a traditional design classroom structure, presentations are limited to students in the same physical class, with the same teaching staff. In this case, Behance allows students to expand their reach to every other student in the course, students on a different campus, all teaching staff attached to the course, students in other institutions (local and international), and external professionals (local and international).

The Study Design

The new Graphic and Communication Design major comprises six courses, three focused on communication design and three focused on typographic design.

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>THIRD YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIMESTER 1</td>
<td>TRIMESTER 2</td>
</tr>
<tr>
<td>TYPOGRAPHIC DESIGN 1</td>
<td>TYPOGRAPHIC DESIGN 2</td>
</tr>
<tr>
<td>COMMUNICATION DESIGN 1</td>
<td>COMMUNICATION DESIGN 2</td>
</tr>
</tbody>
</table>

Figure 2: Typical major course structure for full time students

The outline and structure of each of these six courses was streamlined to allow for three assessment items in each.

These three assessment items are:

- an active sketch note tool which captures the student comprehension of lecture materials;
- an ongoing workbook or series of weekly exercises, and
- a final assessment item which synthesises the application of research, skills and knowledge delivered throughout the course.

The final assessment item was redesigned to be published to a free Behance account, set up by the student at the commencement of their major study. Working drawings, photographs, mockups and final outcomes were all collated as one assignment, worth 40% of their overall mark for the course.

The Participants of the Study

The six Graphic and Communication Design courses are offered as a major within the three-year Bachelor of Design across two campuses of Griffith University, situated a one-hour drive apart.

The courses can also be taken individually as electives by anyone in the university or as a structured minor for other Bachelor of Design students.

The demographics for the two courses we used for the preliminary study comprised mainly second-year Bachelor of Design students who are either majoring in Graphic and Communication Design or minoring in it, or students from around the college taking one or more of the courses as electives. Some international students are able to take the subject as
one of their first courses upon their arrival in Australia as they are granted credit for the foundation year.

**The Sampling Strategy**

The first two courses comprising the new Graphic and Communication Design major were delivered in their new format for the first time in Trimester 1, 2018.

Typographic Design 1 was delivered to 53 students on one campus and 62 students on the second campus. Communication Design 1 was delivered to 54 students on one campus and 62 students on the second campus.

We sampled all the students who completed the courses and uploaded their final assessment item successfully to their Behance account which amounted to a total of 231 submissions.

All teaching staff created Behance accounts so that they could “follow” the student’s and create a shared online community of folios in a public forum. Standard teaching rubrics were utilised to apply standard university assessment indicators to the work, but we also monitored student comments, likes and follows, as well as external feedback for this wider study.

In an industry context, a visual designer’s portfolio of work is the cornerstone of professional practice.

In the sample courses Typographic Design 1 and Communication Design 1, students were asked to present their work to their traditional network of classmates, but also create a Behance project page to expand their network to a wider, public audience including students from both campuses.

Students were shown exemplars of professional designers on Behance as a guide on how to approach and curate their own Behance presence.

In terms of a study variable, we see that the efficacy of the tool as a professional portfolio might weaken if the student has no intention of moving on to become a professional graphic designer, but the majority of the students who go on to complete the full major of six graphic and communication design courses would ultimately use the ePortfolio as an employability tool upon graduation. We are still in the early stages of data collection however, so the efficacy of the tool is still under study.

The study sample is taken from the first time the first two new courses (Typographic Design 1 and Communication Design 1) have been offered in this way to this cohort of students.

The efficacy of the ePortfolio as an employability tool remains to be seen with this group of students however, but it is clear that Behance works well for the majority of professional ePortfolios uploaded to the site, as industry professionals keep their Behance site up-to-date and continue to upload work on an ongoing basis.

**Results**

All students who submitted work as part of the two courses used Behance. There were no complaints or reports of difficulty uploading work or using the website in general. There was 100% response rate from enrolled students across both campuses.
The teaching staff evaluated the progress of these first offerings and whilst the sketch notes tool was modified slightly for delivery into the next two courses (Typographic Design 2 and Communication Design 2), the ePortfolio assessment item was left untouched as Behance was deemed successful as an assessment and cross-campus moderation tool.

**Key Findings**

The Behance platform allows users to view, but also to interact with others via ‘following’ their account, clicking the ‘appreciate’ button and/or leaving comments on projects in their portfolio. We found that students did view, ‘follow’, ‘appreciate’, and comment on each other’s work, however, the level of interactivity was surprisingly low. Likewise, the amount of ‘views’ recorded for projects was low, suggesting that not many looked at other students work.

While the amount of comments left was low, there were some comments left by others in the same campus cohort (21), a few cross-cohort (7), a few by local designers (3) and some by international commenters (14). Most of the international commenters seemed to be spam accounts saying ‘good work’ but some were genuine. Surprising find: there was low participation by students in one campus when compared to those based in the other campus. We theorise that this might have been caused by different levels of encouragement from teaching staff.

Lessons learnt: In future iterations, students may need more prompting to interact more in this space. First and foremost, the amount of views by fellow students should be addressed. It would be helpful to provide background information on the importance of viewing and critiquing work in terms of providing and receiving feedback and encouragement, and also to expose them to a large range of alternative design directions (Motley 2017).

**Unforeseen issues**

Some unforeseen issues occurred with students interacting in a public space. In one instance, a student left an inappropriate comment on a friend’s project as a joke. This was removed after prompting by teaching staff. In another instance, a student made a complaint about students in another class ‘copying’ their approach. Through further investigation, it was revealed that some students had seen the original students work on Behance (posted before the assignment deadline) and used it as inspiration for their own submission.

Lessons learnt: The public-facing nature of Behance needs to be better communicated to students to ensure they act appropriately. In the case of students using other outcomes as ‘inspiration’, again, this would be something given specific emphases in future iterations. Usually teaching staff and students might not see assessments submitted in other classes and campuses, so discovering this kind of copying would go undetected. The incident also revealed we had inadvertently created a self-monitoring network of students.

These examples provide opportunities to address wider learning around professional behaviour, public etiquette, and plagiarism.

**Consideration of format and audience**

Some students were able to understand the wider Behance audience and produced considered and engaging outcomes to a professional standard. Most students did not make that connection and as a result their pages did not always display their work in the best light. These students produced Behance pages similar to traditional in-class presentations which would be complimented by verbal explanation to an audience familiar with the project. Their
submissions lacked appropriate contextualisation and formatting of their work to take advantage of the Behance format and the wider audience.

Lessons learnt: In future iterations of the courses, clearer instruction needs to be provided about taking the Behance format into consideration. Students will need to be alerted to the wider audience and how they might perceive their projects, what contextual information they will need to provide on the page, and the standard they should aim for (and why).

Strengths and Limitations of the study

The research question we were working towards when developing these courses was: Can Behance be used as an assessment tool to encourage a frequency of skill and capability development in our graphic and communication design students and serve as a way to encourage peer review, cross-campus moderation and support graduate employability?

We have completed the first trimester of delivery with two groups of second year Graphic and Communication Design students across two campuses. There will be an additional two courses delivered using the same model in the second trimester of 2018 and an additional two courses over the current cohort’s third year in 2019.

The sample test subjects are due to graduate in October 2019 if they continue full-time study. We aim to complete a follow-up study of graduate employability outcomes at this point.

The study is in its infancy, with only one-third of the proposed courses delivered thus far; we were only able to test whether the assessment tool encourages frequency of skill and capability development over a short period of time. The real progress will take place over the second trimester and will be evidenced in their completed portfolios for Typographic Design 2 and Communication Design 2 in October 2018.

What we could test, however, was the peer review and cross campus moderation. Previously, there had been an underlying presumption across staff and students that the quality of student work produced on one campus was superior to the other campus. Setting up identical scenarios on both campuses and comparing the outcomes of work in a professional online setting has confirmed that the calibre is the same across both campuses. Marking and visual moderation has confirmed this observation.

Perspectives for future work

We look forward to the opportunity to continue to observe and assess the capability development of the Graphic and Communication Design students as they continue through their three years of study. We are also very hopeful that the tool will support graduate employability.

At the end of the two-year study, we will present our findings to the other majors within the Bachelor of Design and encourage adoption of a similar approach to their major assessment items within the majors of Product, Interior, and Visualisation Design.

Bibliography


Scaffolding Reflective Writing for the Portfolio of Evidence

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The ‘Portfolio of Evidence’ (PoE) is a requirement for every pre-service teacher in Australia. At the University of Tasmania (UTAS), the concept is introduced to commencing students and is then embedded across all units through assessment tasks. While the portfolio approach is generally well-aligned with teacher education, students can become over-whelmed with the perceived enormity of the task and develop the perception that the PoE is difficult and time consuming.

This paper reports on an initiative to target ‘reflective writing’ as a key to portfolio success. Students enrolled in an introductory unit called “Academic Literacies” are supported to write reflectively through a progressive workbook that breaks the process down into logical steps and culminates in a reflective report. The workbook is submitted for assessment and serves as an underpinning artefact for the student’s PoE. If a student can learn to reflect naturally and confidently on evidence, the process is likely to become more comfortable for them and consequently their PoE will become a stronger representation of their learning journey.

Keywords: Teacher Education, Portfolio of Evidence, PebblePad, reflective writing

Introduction

The Teacher Education Ministerial Advisory Group (TEMAG, 2014) stipulated that all pre-service should keep a ‘Portfolio of Evidence’ in order to demonstrate that they are ready to teach on graduation. The University of Tasmania has been working towards the use of portfolios in all Initial Teacher Education (ITE) courses in order to support students to meet this goal. Progress towards portfolio integration has been gradual, but steady progress is being made and the introduction of a portfolio platform (PebblePad) has been a catalyst for significant gain. As with any new venture, it is important to implement strategies for success and at UTAS, reflective writing has been identified an important skill for portfolio development.
Background

The pre-service teacher portfolio is a familiar device in teacher education (Darling-Hammond, 2006). Student teachers have always been encouraged to collect resources; examples of best practice, lesson ideas, teaching strategies, classroom activities and curriculum content. These resources may be sourced from other teachers while on professional experience or they could be from freely available content, for example from websites. Further, they are artefacts that the pre-service teacher creates for his or herself – assessment items, notes and recordings, teaching materials etc. In recent times, however, the portfolio has become more than simply ‘a collection’.

It is evident that the value of a portfolio lies not only with the product and the process is also significant. Oakley, Pegrum and Johnston (2014) identified that the purpose of a course based eportfolio was two-fold. It enabled pre-service teachers to build up a digital record of their learning journey mapped against graduate standards, but it also supported them to develop as reflective practitioners. The process of “portfolioing”, where students engage in a cycle of purposeful reflection and selection (see Figure 1), serves to hone advanced learning skills (Roberts, Maor and Herrington, 2016), including reflective thinking.

![Figure 1: The portfolio cycle (Masters, 2016)](image)

Reflective writing is assumed to be one of the easier types of writing in academia and pre-service teachers are required to ‘reflect’ from their very first days at university. Many students, however, have had only limited experience with this process and, without guidance or direction, struggle to move beyond superficial description (Gelfuso & Dennis, 2014). Reflective writing requires the writer to think beyond reporting. It requires a dimension of self-perception (Oakley, Pegrum & Johnston, 2014) and needs to extend into explanation, connection and interpretation (Cohen-Sayag & Fischl, 2012). These deep reflective skills can be taught, but they need support and must be practised over time (Ryan, 2011).
The use of prompts to “scaffold” writing is a mechanism to develop writing skills (Ryan, 2011). Roberts, Maor and Herrington (2016) suggest that a portfolio learning environment can be used to scaffold reflective thinking by using annotated learning tasks designed to target skills for reflection. These tasks fit together as parts of the whole, and allow students develop their reflective writing capacity as they progressively build their portfolio.

The Initiative

‘Academic Literacies’ is a First Semester, First Year foundation unit for many of the initial teacher education students in Education. It is, therefore, a logical cornerstone opportunity for portfolio training. The unit covers a broad spectrum of literacy skills, including the use of digital systems and tools used for teaching and learning, as well as more traditional skills such as academic writing. The very first assessment task in this unit is a reflective writing exercise and this seemed to be a logical place to introduce the use of PebblePad and support the development of the important skill of reflective writing for portfolio purposes.

Assessment Task 1 (AT1) requires the students to write a 750-word personal reflection on their literacies. The task description from the unit outline is:

You need to reflect on your own literacies. You should outline what you think is meant by literacies and reflect on your learning experiences. You will need to discuss the new challenges you face as new pre-service teacher, including the Faculty Numeracy and Literacy Competency tests that you have been asked to complete. You will then look to the future and identify how you can build and extend your literacies as you proceed on your learning journey.

In the most recent offering of the unit, students were asked to open and complete a PebblePad workbook instead of simply submitting a Word document for assessment. Although the actual writing task was largely unchanged from previous iterations of the unit, the workbook structure provided a scaffolding structure to help the students work through the task. The structure of the workbook is outlined in Table 1.

<table>
<thead>
<tr>
<th>Title</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>1. Reminder of the assignment brief</td>
</tr>
<tr>
<td></td>
<td>2. Purpose of the workbook</td>
</tr>
<tr>
<td>Getting Started</td>
<td>3. How to approach an assignment</td>
</tr>
<tr>
<td></td>
<td>4. Locate word count, due date, submission time (RF)</td>
</tr>
<tr>
<td>Planning</td>
<td>5. Breaking the task down – beginning, middle, end</td>
</tr>
</tbody>
</table>
This workbook served as a scaffold in a number of ways. Firstly, just breaking down the task into manageable steps was a support mechanism. This helped the students to locate key information in the task description and it gave them a clear starting point for their response. It then provided a pathway, with distinct stepping stones as they moved towards the desired goal.

The scaffolding mechanisms on each page of the workbook then provided in-context support for each section (See Figure 2). This text was written in second person (you/your) and provided proximate advice for completing each textbox on the page. At times, this information also included a model of the writing genre expected. The introduction page for instance, provided several opening lines such as, “I am confident that I will be able to cope with any literacy challenge presented to me at university”. This encouraged the use of first-person narrative and helped the students to consider how they might get started (often the hardest part of writing).
The Conclusion

Your concluding paragraph needs to sum up your writing and provide a ‘satisfying’ end to your work. It may be similar to your introduction but it shouldn’t be repetitive. Remember to stay in your word range (around 80, no more than 100) but have at least three sentences in your paragraph.

Try to steer clear of those wooden statements here too. Remember, obvious statements like “In concluding my essay” uses up valuable words that really don’t contribute to your story.

Write your conclusion here

Your conclusion might be a little inspirational or philosophical. It needs to come back to the focus of this reflection i.e. your personal literacies but shouldn’t include new ideas. Aim for 80 words to start, and don’t go over 100 words.

Word count: 0

Figure 2: A PebblePad workbook page with writing prompts

Another subtle scaffold in the workbook used the ‘word count’ feature in PebblePad (See Figure 2). Although word limits weren’t specified for each section, the final piece had a strict limit of 750 words. An ongoing narrative about monitoring word count and a word count display for text boxes meant that the students are more likely to balance their word count across the submission. This helped them avoid the trap of writing prolifically in the first sections and then squeezing the latter sections in order to come in under the 750-word cap.

Finally, the workbook encourages a reflection on the process and then a celebration of completion. The concept of ‘polishing’ is too often overlooked by writers, particularly when he or she is rushing to meet a deadline. This process is especially important for reflective writing because the process of reading back over a personal reflection is likely to evoke further insight and deeper thinking.

In Semester 1, 2018, 295 students completed and shared the workbook for assessment in PebblePad. This task provided a nice opportunity for the students to become familiar with and start using PebblePad in a supported way. It allowed students to get used to the ‘look and feel’ of PebblePad and become familiar with the terminology, such as asset, workbook, workspace and ‘sharing for assessment’ (rather than submitting). More importantly though, it introduced them to the genre of reflective writing. The use of first person narrative and professional reflection is an essential for skill for pre-service teachers and this format is used predominantly for assessment in teacher education for tasks such as lesson plans, units of work, reflective journals, report writing and professional portfolios.
Discussion
A digital portfolio is a very powerful device that can be used to capture learning and growth over time. It can serve as a repository for evidence, a catalyst for developing reflective skills (Oakley, Pegrum & Johnston (2014) and it can be used to scaffold complex and extended learning tasks (Roberts, Maor and Herrington, 2016). A PebblePad workbook is effective because it allows the content designer to provide in-context prompts, and the immediacy of this advice provides ‘just in time’ scaffolding for the writer. This type of support is generally appreciated by the students and, in this implementation, many commented how easy it was to use the AT1 workbook. In addition, the workbook provided each student with an artefact in their portfolio as a representation of their first reflective writing submission, along with the prompts that they used to construct it.

While providing this type of support during a writing task is likely to always improve the end product, there is a trap that educators need to be wary of. A key feature of the ‘scaffolding’ concept is that a scaffold is provided for the learner within their Zone of Proximal Development (Vygotsky, 1978) but it is then removed as a learner becomes more competent (Palinscar, 1986). It is important, therefore, that a student must ultimately progress to a level where they can write reflectively, without relying on prompts. It is imperative that every assessment task should provide some degree of freedom, where students are required to think for themselves about structure and design. Further, as students’ progress through their course, they should be enabled to respond to assessment briefs independently, without needing detailed instructions, steps or examples.

The final task in the AT1 workbook is for the students to copy the individual responses from each page and paste them into a textbox on a final submission page. While this might seem a little redundant, it actually is a very significant step. It allows the student to see their response as a whole submission. They can use this page to proof read, look for meaning and flow and check the total word count. More importantly, this step enables the student to see their response without the prompts in place. The final submission will, therefore, represent a standalone reflective writing piece for them to use as a guide for future tasks.

Conclusion
A course wide embedded portfolio of evidence is a worthy target, although this goal requires significant investment and takes considerable time. While every educator in the course can contribute by providing portfolio-based assessment tasks, the students need to ultimately take responsibility for their own collection and the reflective sense-making that goes with it. The skills for this reflection, however, should not be assumed and students need to be supported to build their capacity to think and then write reflectively.
References


Design heuristics to consider when transitioning across ePortfolio systems (Mahara vs PebblePad): Wins, losses and reflections

Michael Sankey
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In recently changing universities the author has had to transition from being a regular Mahara user to now being a regular PebblePad user. In making this transition there have been a number of insights gained as to the affordances, or otherwise, of each of these systems. This presentation will attempt to offer an unbiased view of each system, from the users’ perspective, with a view to providing advice and guidance as to the different approaches required for each system. However, as an experienced user of an ePortfolio, the author, in making this transition, has developed a suite of design heuristics that can be adopted for use by other users’ (of either system), as a way to generate, promote and maintain a significant public profile.

Keywords: Mahara, PebblePad, design heuristics, professional learning profile, public profile.

Introduction and Background

Since 2003 (15 years ago) the notion of an online professional presence, or professional learning profile (PLP), has played a significant role in my academic practice, which began in 2001. This clearly pre-dated today’s ePortfolio tools and social media sites such as, LinkedIn, Academia.edu, ResearchGate, WordPress and the like. My interest in this was predominantly spawned by the need to have a PLP accessible and shareable to the broader academic community. But more importantly, that this PLP would be associated with my connection to a recognised academic institution, one that would, by default, provide an alignment with a trusted brand (Judson, 2009) hence enjoying a level of credibility that this would bring. Unashamedly, this was driven by a belief that in presenting myself professionally online, celebrating my professional achievements and aligning this with my fields of study and my professional outcomes, new opportunities may come my way; a concept still very real today (Marshall, 2017).
The early iterations of what has now become known as my ePortfolio were a series of hand coded in HTML pages (Figure 1), made publicly available via a University of Southern Queensland (USQ) web server. This allowed this site to have a university-based URL, one that clearly linked visitors back to the institution in which I worked. This site saw many iterations over many years, particularly with the advent of tools such as Dreamweaver, allowing for more stylish editing, at least until the advent of a formal ePortfolio solution was made available.

Figure 1: An html ePortfolio circa 2007

In late 2009 USQ implemented its first version of the Mahara and within four years this had attracted some 14,450 users (currently 35,577). By this stage I had well and truly transitioned into Mahara (Figure 2) and had implemented a higher-level strategy in relation to my PLP, a strategy that clearly defined the role different professional and social media sites would play in the PLP (Sankey 2017). Importantly, there are a cornucopia of options available in the social networking space, so my ePortfolio has always plays an important mediating role across these tools (Figure 3) whilst also linking back to the institution I work in. All the tools illustrated in the figure below, along with others, all point back to my ePortfolio site and visa versa.
Figure 2 Mahara ePortfolio circa 2013.

Figure 3. Complimentary elements of my PLP

Having maintained this approach to a PLP since 2009, along with increasing the levels of social media integrations (as these tools became available), in 2016 I left my position at USQ to work at another institution. This institution did not have an approved ePortfolio tool, so I maintained my Mahara site at USQ, but branded myself according to the new institution. However, when starting at Griffith University in early 2018, this institution were/are heavily using PebblePad as their ePortfolio tool. This required me (voluntarily) to reengineer my ePortfolio into this new platform. In doing so I found that not all ePortfolios tools are created equal and that each system has their own unique idiosyncrasies.

Making this transition required me, in some cases, to rethink what I was trying to achieve with my PRP, while on the other hand, the functionality of the new system was forcing me to change the way I presented certain elements and information. In doing this, it was important to capture what these differences were, along with the considerations that underpinned the approaches taken to using each tool. These considerations have been captured below as a series of heuristics, or rules of thumb, that could be considered by others when looking to develop up their PLP with one of these tools.

Notwithstanding, the functionality of the two tools are quite complimentary although this is handled differently across the two tools. In 2017, while still at my previous institution I was involved in helping to select a new ePortfolio tool. In doing this we were required to make some comparisons
across nine different tools. At the time Mahara and PebblePad ticked most of the boxes. The comparison between these two tools is provided here.

Table 1. Comparison of Pebble Pad and Mahara

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>PebblePad</th>
<th>Mahara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>Various options for secure login and access</td>
<td>Various options for secure login and access</td>
</tr>
<tr>
<td>Integration of Social Media</td>
<td>It is possible to embed some things into an portfolio.</td>
<td>Allows feeds from popular social media sites extendable by using Embedly</td>
</tr>
<tr>
<td>Integration with LMS</td>
<td>Stand-alone OR integrated with Blackboard, D2L, Canvas and Moodle</td>
<td>Stand-alone integrated through LTI</td>
</tr>
<tr>
<td>PD /Training required</td>
<td>Training required for staff and students. user manual and help videos</td>
<td>Training required. Comprehensive user manual and many help videos online</td>
</tr>
<tr>
<td>Support</td>
<td>Support allocated for org’s; Existing resources available via Help Centre</td>
<td>Sydney based support from Catalyst</td>
</tr>
<tr>
<td>Exportable/Transferrable</td>
<td>Allows users to export as PDF only</td>
<td>Exportable</td>
</tr>
<tr>
<td>SaaS (locally?) OR ATLAS</td>
<td>Software as a service only by PebblePad</td>
<td>Self-hosted or SAS through Sydney based Catalyst datacentre</td>
</tr>
<tr>
<td>Storage</td>
<td>Local data hosting per region (e.g. Aust)</td>
<td>Full file repository. Limit set by institution</td>
</tr>
<tr>
<td>Upload formats</td>
<td>Allows most standard formats</td>
<td>Allows all standard formats</td>
</tr>
<tr>
<td>Lifetime access</td>
<td>Users transfer content to a free personal account when graduating (while institution is subscribed)</td>
<td>Depending on university policy. Otherwise transferable to MyEportfolio, which is free</td>
</tr>
<tr>
<td>Credentialing capabilities</td>
<td>Integrated with Credly and Open Badge Passport</td>
<td>Open Badge Factory plug-in</td>
</tr>
<tr>
<td>Reporting and analytics</td>
<td>Reports on progress. Basic statistics available via Pebble+ and ATLAS Admin interfaces</td>
<td>Integratable with Google analytics and feeds for dashboards</td>
</tr>
<tr>
<td>Archiving</td>
<td>Options available</td>
<td>Options available</td>
</tr>
<tr>
<td>Allows for group work</td>
<td>Options available</td>
<td>Options available</td>
</tr>
</tbody>
</table>
Fundamental to whichever tool was to be used, the PLP site needed to:

- Provide responsive mobile friendly access,
- Allow media elements to be embedded and played,
- Host supporting resources
- Link to external bodies of information (evidence) to support the claims made within,
- Be visually attractive and easily navigable,
- Serve multiple purposes, as a; perpetual online CV, record of my research, gateway to other elements of my practice, provide a collation point for blogs and posts, and a distribution point to social media platforms and research sites, and
- Receive syndicated information (feeds) from other sites (Twitter, WordPress, ePrints, etc).

To this end the following considerations in baseline functionality for design and the subsequent heuristics that follow, speak to the ease by which these elements could, or in some cases could not, be easily accommodated.

**Considerations in Mahara**

**Brief introduction to tool**

Mahara is an open source e-portfolio system with a flexible display framework. It is a user centered environment with a permissions framework that enables different views of an e-portfolio to be easily managed and shared with trusted individuals, published to group pages, or made public. Mahara also features a weblog, resume builder and social networking system, connecting users and creating opportunities for online learning.

**Consideration in baseline functionality**

Mahara is probably a more complex tool to learn than some, mainly due to the amount of functionality it affords its users. The wysiwyg editor provided plenty of options and allows for the use of tables within a design and the nuanced imbedding of images, independent of each other. The layouts are highly customizable, as are the design templates and colour schemes. The URL for pages is also customizable to a point, allowing for a greater level of personalization. Due to some of these extra features (such as tables), some sites are not as user friendly on a mobile devise as they could be, requiring some horizontal scrolling from time to time if not designed well. Importantly, Mahara
does allow the display of syndicated information from other sites, using both RSS or Atom feeds. It also allows images to be embedded amongst text and hyperlinked.

**Considerations in PebblePad**

*Brief introduction to tool*

PebblePad is a bit more than an ePortfolio and is used in different learning contexts across the education spectrum, such as for personal development planning, continuing professional development, learning, teaching and assessment. It has some nice scaffolding to help users create records of learning, achievements and aspirations with a reflective structure underpinning it. It has good communication and collaboration toolset and allows items to be shared with trusted individuals, published to group pages, or made public. Its ability to receive external feeds from social media sites is a definite strong suite.

*Consideration in baseline functionality*

An easier tool to use straight out of the box, but primarily as it has fewer editing features than some other tools. However, its design limitations work in its favor, as the resultant pages are cleaner and more mobile friendly (responsive). Restricting the use of tables is annoying but understandable, and is becoming more common. The inability to embed images into text is a frustration, but again that does aid its ability to be responsive, but that does not explain why an image cannot be hyperlinked. Probably the main feature lacking from my requirements is its inability to accept external feeds from tools, such as Twitter and WordPress, which has limited my ability to collate some of my social media activity. The navigation and collation of pages is easy, while the drag and drop design features and the ability to resize quickly also work well. Unfortunately, there is no ability to customize the url for a page or site, which leaves the user with a rather cumbersome and unintuitive address.

*Examples*

Figure 4 illustrates the look and feel of the two home pages from my ePortfolio sites, one at USQ (left) that uses Mahara and my Griffith site (right) using PebblePad. Fundamental to the design of each site is a series of simple design heuristics that have been applied to ensure the respective portfolios are meeting the requirements of a coherent PLP.
Design Heuristics for an Academic Professional Learning Profile

Heuristic 1: An academic PLP should be able to support the three main elements of academic practice; teaching, research and service. Although, a PLP is not a promotion application, the layout of the site and the naming of its tabs, or pages, should make it obvious where much of this information can be found.

Heuristic 2: Claims made within an academic PLP need to be substantiated. This usually comes from linking to fuller bodies of information, such as credentials, research works, publications, citation indexes, slide shares, social media sites, videos, etc.

Heuristic 3: Visual appeal is important, and can demonstrate a level of personalisation and care. A mixture of images that reinforce key messages (not just pretty pictures) can provide an added layer of authenticity to the site.

Heuristic 4: The PLP is not a social media site, it is a repository of substantiated practice. However, being able to link visitors to sites where they can communicate, or access more nuanced information about you allows (or leaves) the PLP site to do what it is designed to do, rather than try to make it be all things to all people.

Heuristic 5: A PLP site can also be a place that brings together much of the disparate activities that are generally associated with academic practice. It can be a host to RSS and Atom feeds, such as
from sites like WordPress, Blogger, Twitter etc. This leverages the principle of create once but use many times.

**Heuristic 6:** The work of research and publishing is fundamental to an academic. But more important is the ability to have your work read and used (cited) by others. The PLP should provide access to as much of your original work as possible, or link interested parties through to those places it can be accessed from. It should also celebrate the activities associated with that research, such as presentations and provide access to associated artifacts.

**Heuristic 7:** Visitors should feel welcomed to your site. This can be done by providing a welcome message, but more so by showing a side of yourself that is personable. This can be best achieved through the use of images of yourself interacting with others, and by making it clear how they can reach out to you if need be.

**Heuristic 8:** Where possible, the site should be set up in such a way to allow for its information to be accessed from any common computer or smart device. This requires information to be kept concise, with linking to fuller bodies of information if necessary. It also means that native functionality of the design tool needs to be respected. Trying to hack or get around flaws in a tool’s functionality usually results in a sub-optimal product, that will generally not respond appropriately.

**Heuristic 9:** The ‘tone’ of a PLP is professional and factual, but also stands as a celebration of your professional achievements. The trick is to ensure it does not become self-congratulatory. At the end of the day it is a public document, so if the lily is gilded to much the profile (and you by default) starts to lose credibility.

**Conclusion**

This paper has sought to identify some key design principles that could be applied to the development of a professional learning profile in either the Mahara or PebblePad ePortfolio tool. In doing so, there has been an attempt to offer an unbiased view of each system, from the users’ perspective, as both systems have different underlying structures and feature sets. In providing the set of design principles used to construct these sites some nine design heuristics (rules of thumb) have also been proposed. These heuristics have underpinned the development of two PLP environments at two universities and have been derived from some fifteen years of practice in maintaining a significant public professional profile.

**References**


Design heuristics to consider when transitioning across ePortfolio systems (Mahara vs PebblePad): Wins, losses and reflections

Michael Sankey
Learning Futures / Griffith University

In recently changing universities the author has had to transition from being a regular Mahara user to now being a regular PebblePad user. In making this transition there have been a number of insights gained as to the affordances, or otherwise, of each of these systems. This presentation will attempt to offer an unbiased view of each system, from the users’ perspective, with a view to providing advice and guidance as to the different approaches required for each system. However, as an experienced user of an ePortfolio, the author, in making this transition, has developed a suite of design heuristics that can be adopted for use by other users’ (of either system), as a way to generate, promote and maintain a significant public profile.

Keywords: Mahara, PebblePad, design heuristics, professional learning profile, public profile.

Introduction and Background

Since 2003 (15 years ago) the notion of an online professional presence, or professional learning profile (PLP), has played a significant role in my academic practice, which began in 2001. This clearly pre-dated today’s ePortfolio tools and social media sites such as, LinkedIn, Academia.edu, ResearchGate, WordPress and the like. My interest in this was predominantly spawned by the need to have a PLP accessible and shareable to the broader academic community. But more importantly, that this PLP would be associated with my connection to a recognised academic institution, one that would, by default, provide an alignment with a trusted brand (Judson, 2009) hence enjoying a level of credibility that this would bring. Unashamedly, this was driven by a belief that in presenting myself professionally online, celebrating my professional achievements and aligning this with my fields of study and my professional outcomes, new opportunities may come my way; a concept still very real today (Marshall, 2017).
The early iterations of what has now become known as my ePortfolio were a series of hand coded in HTML pages (Figure 1), made publicly available via a University of Southern Queensland (USQ) web server. This allowed this site to have a university-based URL, one that clearly linked visitors back to the institution in which I worked. This site saw many iterations over many years, particularly with the advent of tools such as Dreamweaver, allowing for more stylish editing, at least until the advent of a formal ePortfolio solution was made available.

In late 2009 USQ implemented its first version of the Mahara and within four years this had attracted some 14,450 users (currently 35,577). By this stage I had well and truly transitioned into Mahara (Figure 2) and had implemented a higher-level strategy in relation to my PLP, a strategy that clearly defined the role different professional and social media sites would play in the PLP (Sankey 2017). Importantly, there are a cornucopia of options available in the social networking space, so my ePortfolio has always plays an important mediating role across these tools (Figure 3) whilst also linking back to the institution I work in. All the tools illustrated in the figure below, along with others, all point back to my ePortfolio site and visa versa.
Having maintained this approach to a PLP since 2009, along with increasing the levels of social media integrations (as these tools became available), in 2016 I left my position at USQ to work at another institution. This institution did not have an approved ePortfolio tool, so I maintained my Mahara site at USQ, but branded myself according to the new institution. However, when starting at Griffith University in early 2018, this institution were/are heavily using PebblePad as their ePortfolio tool. This required me (voluntarily) to reengineer my ePortfolio into this new platform. In doing so I found that not all ePortfolios tools are created equal and that each system has their own unique idiosyncrasies.

Making this transition required me, in some cases, to rethink what I was trying to achieve with my PRP, while on the other hand, the functionality of the new system was forcing me to change the way I presented certain elements and information. In doing this, it was important to capture what these differences were, along with the considerations that underpinned the approaches taken to using each tool. These considerations have been captured below as a series of heuristics, or rules of thumb, that could be considered by others when looking to develop up their PLP with one of these tools.

Notwithstanding, the functionality of the two tools are quite complimentary although this is handled differently across the two tools. In 2017, while still at my previous institution I was involved in helping to select a new ePortfolio tool. In doing this we were required to make some comparisons.
across nine different tools. At the time Mahara and PebblePad ticked most of the boxes. The comparison between these two tools is provided here.

**Table 1. Comparison of Pebble Pad and Mahara**

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>PebblePad</th>
<th>Mahara</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>Various options for secure login and access</td>
<td>Various options for secure login and access</td>
</tr>
<tr>
<td>Integration of Social Media</td>
<td>It is possible to embed some things into an portfolio.</td>
<td>Allows feeds from popular social media sites extendable by using Embedly</td>
</tr>
<tr>
<td>Integration with LMS</td>
<td>Stand-alone OR integrated with Blackboard, D2L, Canvas and Moodle</td>
<td>Stand-alone integrated through LTI</td>
</tr>
<tr>
<td>PD/Training required</td>
<td>Training required for staff and students. user manual and help videos</td>
<td>Training required. Comprehensive user manual and many help videos online</td>
</tr>
<tr>
<td>Support</td>
<td>Support allocated for org’s; Existing resources available via Help Centre</td>
<td>Sydney based support from Catalyst</td>
</tr>
<tr>
<td>Exportable/Transferrable</td>
<td>Allows users to export as PDF only</td>
<td>Exportable</td>
</tr>
<tr>
<td>SaaS (locally?) OR ATLAS</td>
<td>Software as a service only by PebblePad</td>
<td>Self-hosted or SAS through Sydney based Catalyst datacentre</td>
</tr>
<tr>
<td>Storage</td>
<td>Local data hosting per region (e.g. Aust)</td>
<td>Full file repository. Limit set by institution</td>
</tr>
<tr>
<td>Upload formats</td>
<td>Allows most standard formats</td>
<td>Allows all standard formats</td>
</tr>
<tr>
<td>Lifetime access</td>
<td>Users transfer content to a free personal account when graduating (while institution is subscribed)</td>
<td>Depending on university policy. Otherwise transferable to MyEportfolio, which is free</td>
</tr>
<tr>
<td>Credentialing capabilities</td>
<td>Integrated with Credly and Open Badge Passport</td>
<td>Open Badge Factory plug-in</td>
</tr>
<tr>
<td>Reporting and analytics</td>
<td>Reports on progress. Basic statistics available via Pebble+ and ATLAS Admin interfaces</td>
<td>Integratable with Google analytics and feeds for dashboards</td>
</tr>
<tr>
<td>Archiving</td>
<td>Options available</td>
<td>Options available</td>
</tr>
<tr>
<td>Allows for group work</td>
<td>Options available</td>
<td>Options available</td>
</tr>
<tr>
<td>Allows for custom APIs</td>
<td>At a cost</td>
<td>Yes. No charge unless help required from Catalyst</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Australasian institutions</td>
<td>11 institutions use this tool</td>
<td>18 institutions use this tool</td>
</tr>
</tbody>
</table>

Fundamental to whichever tool was to be used, the PLP site needed to:

- Provide responsive mobile friendly access,
- Allow media elements to be embedded and played,
- Host supporting resources
- Link to external bodies of information (evidence) to support the claims made within,
- Be visually attractive and easily navigable,
- Serve multiple purposes, as a; perpetual online CV, record of my research, gateway to other elements of my practice, provide a collation point for blogs and posts, and a distribution point to social media platforms and research sites, and
- Receive syndicated information (feeds) from other sites (Twitter, WordPress, ePrints, etc).

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An easier tool to use straight out of the box, but primarily as it has fewer editing features than some other tools. However, its design limitations work in its favor, as the resultant pages are cleaner and more mobile friendly (responsive). Restricting the use of tables is annoying but understandable, and is becoming more common. The inability to imbed images into text is a frustration, but again that does aid its ability to be responsive, but that does not explain why an image cannot be hyperlinked. Probably the main feature lacking from my requirements is its inability to accept external feeds from tools, such as Twitter and WordPress, which has limited my ability collate some of my social media activity. The navigation and collation of pages is easy, while the drag and drop design features and the ability to resize quickly also work well. Unfortunately, there is no ability to customize the url for a page or site, which leaves the user with a rather cumbersome and unintuitive address.

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**Conclusion**

This paper has sought to identify some key design principles that could be applied to the development of a professional learning profile in either the Mahara or PebblePad ePortfolio tool. In doing so, there has been an attempt to offer an unbiased view of each system, from the users’ perspective, as both systems have different underlying structures and feature sets. In providing the set of design principles used to construct these sites some nine design heuristics (rules of thumb) have also been proposed. These heuristics have underpinned the development of two PLP environments at two universities and have been derived from some fifteen years of practice in maintaining a significant public professional profile.


Building Connections through Integrated ePortfolio Curriculum

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Abstract

Due to the expectations of industry to employ accomplished graduates in competitive environments, students need discipline knowledge connected with what they learn through professional development opportunities and experience. Yet curriculum in higher education tends to be compartmentalised into separate courses/units, formal or informal learning opportunities, theory versus practice, for example, so students may miss any connections between the different areas that they need for the development of their unique professional identity. ePortfolios have the potential to facilitate these connections but tend to be used in siloed ways, commonly for reflective practice and/or assessment, or accreditation requirements, or showcasing for employment. There is a need for integrated ePortfolio pedagogies across the curriculum for students, so they can ultimately develop their unique professional identity or ‘personal brand’. We present a heuristic framework that identifies four key ePortfolio uses: Developmental; Collaborative; Reflective; and Showcase that can be scaffolded (exposure, immersion, competency to mastery) across the curriculum in a program of study. We envisaged that students should experience an integration of all modalities to establish personal branding and to able to build professional connections.

Keywords: personal branding, professional identity,

Introduction

Technology is driving global interaction and integration of people, industry and government. It is essential for today’s graduates to demonstrate more than disciplinary skills; they need to demonstrate their ability to interact and integrate with other people and systems, and confident in their own personal branding.¹ Universities see ePortfolios as a significant online pedagogy and sophisticated technical system that can meet learning and industry expectations for graduates. There is a large range of ePortfolio software available to meet varying sized budget and curriculum scope, so ePortfolio use is becoming increasing common.

Established ePortfolio practices focus on four main areas: evidence of meeting discipline specific learning outcomes through assessment; reflective practice; collaboration; and showcasing. The emphasis placed on each of these purposes is different across universities depending on ePortfolio capacity and desired uses. Usually, in early stages of implementation, the focus is on one significant area, such as assessment and/or reflection. In other

¹ ‘Personal branding’ is how you present your uniqueness, qualities and attributes to others. ePortfolio packages your attributes and artefacts together in a stylish and portable format that you can share. It provides an opportunity to convey your personality, and expand the bullet points in your resume. Source: UQ Student Showcase Guide
circumstances the employability encourages the dominant use of showcasing as a stand-alone ePortfolio.

Over the years, scholars have provided different classifications purported for the types of ePortfolios based on their purpose. For example, Matthew-DeNatalie (2013) describes the Documentation or Directed Portfolio that meets discipline specific learning outcomes by using structured templates and assessment. Similarly, there is the Assessment Portfolio, used for professional development, open to external evaluation (Abrami & Barrett, 2005; Ring & Foti, 2006). The Reflective portfolio (Doig, Illsley, McLuckie & Parsons, 2006; Riedinger, 2006) is used to iterate reflection on curriculum content, personal experience, and interpretation. The Showcase Portfolio is used to demonstrate competencies and achievements (Abrami & Barrett 2005), usually as part of a capstone course or employability/career emphasis, and involves sharing with public audiences (Jones & Leverenz, 2017).

In ePortfolio use there can be a mix of institutional and user control, with students sharing assessments and learning outcomes with the educator for feedback and evaluation, while still having ownership of another private part of the ePortfolio, called their personal learning space (Poot, Pebble Learning & Austin, 2011). Similarly, ePortfolios can be used in just one course/unit or threaded through a part or entire program’s curriculum, depending on the aims and context. The structure of the learning process tends to be linear based on student progression through the program from first year to the final year, which may include a capstone component, in preparation for professional life.

Barrett and Carney (2005) comment that the different types of ePortfolio can be ‘based on paradigms that are often at odds, philosophically, with each other’ (p. 1). Constructivism, experiential learning and reflection are familiar paradigms in ePortfolio learning, but Connectivism is an increasingly recognised addition in meeting graduate expectations (Matthews-DeNatale, 2013). Siemens (2004) talks about the limitations of inward-facing and individual learning from social constructivism and purports that technology engenders Connectivism in which learning ‘occurs within nebulous environments of shifting core elements – not entirely under the control of the individual’ (online). From another perspective, Lewis (2017) sees the learning purpose of ePortfolios in the curriculum as ‘meaning making’ and Magolda and King (2004) propose students embrace the theory of self-authorship, through which they develop ‘the capacity to internally define a coherent belief system and identity that coordinates engagement in mutual relations with the larger world’ (as cited in Kehoe & Goudzwaard, p. 345). Curriculum developers face the challenge of incorporating these diverse and seemingly conflicting paradigms to encourage integrated learning and to enhance the opportunities for students to develop their professional identities (and potentially personal branding).

### Integrated Learning and Professional Identity Facilitated by ePortfolios

It is challenging for students to connect their learning from formal and informal settings, and from theory to practice, across different contexts and over time (Huber & Hutchings, 2004). University structures place barriers in making these connections or integrating learning through segmented academic and co-curricular streams, programs, faculties and disciplines and administrative processes, whereas students move across different aspects as a ‘singular self’ (Kehoe & Goudzwaard 2015, p. 344).
Educators are not familiar with the term ‘integrative learning’ and how to translate it into curriculum (Peet et al., 2011) yet facilitating the connections between various learning opportunities would benefit students. In a study with 620 students, these authors tested a six dimensional conceptual model of integrative learning as shown in Table 1. The results of the study found that students can achieve significant gains through such an approach, but more work is needed to support curriculum design.

**Table 1: Six Dimensions of Integrative Learning**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identify, demonstrate and adapt knowledge gained within/across different contexts</td>
<td>The ability to recognize the tacit and explicit knowledge gained in specific learning experiences and the capacity to adapt that knowledge to new situations.</td>
</tr>
<tr>
<td>2</td>
<td>Adapt to differences in order to create solutions</td>
<td>The ability to identify and adapt to different people, situations, etc., while working with others to create positive change.</td>
</tr>
<tr>
<td>3</td>
<td>Understand and direct oneself as a learner</td>
<td>The ability to identify one’s prior knowledge, recognize one’s strengths and gaps as a learner, and know how one is motivated to learn.</td>
</tr>
<tr>
<td>4</td>
<td>Become a reflexive, accountable and relational learner</td>
<td>The ability to reflect on one’s practices and clarify expectations within oneself while also seeking feedback from others.</td>
</tr>
<tr>
<td>5</td>
<td>Identify and discern one’s own and others’ perspectives</td>
<td>The ability to recognize the limitations of one’s perspective and seek out and value the perspectives of others.</td>
</tr>
<tr>
<td>6</td>
<td>Develop a professional digital identity</td>
<td>The ability to imagine how one will use current knowledge and skills in future roles and how one will create an intentional digital identity.</td>
</tr>
</tbody>
</table>

Source: Peet et al., 2011, p. 12

In order for students to progress towards developing their professional digital identity (Dimension 6), Nguyen (2013, p.135) suggests a shift from viewing ‘the ePortfolio as an online tool and an individual reflective process to the construct of an ePortfolios that takes on meaning as a portal, or medium’ which students can creatively and iteratively express and share their identity narrative. Such change necessitates a different view of curriculum development. Similarly, as Jones and Leverenz (2017) point out that using digital storytelling to move successfully from professional identity to personal branding requires ‘explicit guidance on how to use an ePortfolio to tell an effective story’, otherwise students may see creating an ePortfolio just as a task that they are required to complete.

While ePortfolio scholarly discussions continues to mature over time, educators are tasked with developing curriculum that embeds up-to-date ePortfolio pedagogies and practices. This can be very challenging given the broad and evolving range of desirable outcomes for students. Employability pressures on universities filters down to curriculum practices, and expectations are high that we can deliver graduates who will comfortably take their place in professional life, and adopt a leadership disposition, even in the short-term. ePortfolios platforms can be flexible and sophisticated systems capable of meeting these needs, however, it is the educators at each institution that translates new learning outcomes into curriculum for new graduates.

**New Integrated ePortfolio Curriculum Model**
We introduce a new curriculum model to support educators to use an integrated ePortfolio approach by scaffolding student learning across a program (see Figure 1). It is common practice to map ePortfolios across program through a professional learning pathway for example, and often culminate in a capstone showcase experience. Integrated ePortfolios in curriculum pushes the boundaries of linear mapping because it introduces important co-curricular elements, subjective moments of personal development, and encourages self-authorship and personal branding before the final semester or year.

The aim of this model is to facilitate the transfer of knowledge from the program to the student through partnership or collaboration between the program and student to establish professional and personal identity, and eventually for the student to take ownership of the end product. It scaffolds the four essential skills (discipline, people, learning and personal) across four learning levels (exposure, immersion, competency and mastery).

The model is based on a common program duration of four years:

- **Students in the first year (exposure)** begin to acquire the knowledge provided by the program curriculum. Other than disciplinary skills, the curriculum needs to expose students to other essential skills to be able to interact and integrate within the disciplinary field. At this stage the focus is on teaching, with the formal curriculum structuring the student’s learning.
- **In the second year (immersion)**, using the relevant disciplinary environment, the student interprets the knowledge with curriculum guidance through exercise/practice of the acquired knowledge from first year. The focus is on guidance, with the program still having some control but emphasising on student input.
- **In the third year (competency)**, after the exercise/practice, the student interprets knowledge and incorporates personal attributes in the field of study, making their study...
relevant at the personal level, and starting to ‘create the dots’ to connect professional and personal experience. At this stage the focus shifts to the student and the formal program (and educators) acts as mentor to the student.

- In the **fourth and final year (mastery)**, students not only ‘join the dots’ between professional and personal connections, and are able to establish their personal branding. The personal brand provided an opportunity for students to present a fuller and richer picture of the individual, that can be shared online and build professional networks.

### Implications for Educators in Helping Student Develop Personal Branding

Higher education institutions face challenges in scaffolding the attainment of graduate attributes for students and then personalising this learning to each student. For students to make connections with what they learn at a professional level plus taking a broader focus to add personal attributes and experience can be hard to capture. ePortfolios can be used to facilitate the connection of learning and experience for students so they are better equipped to recognise and develop their unique identity or ‘personal brand’ to be competitive in today’s workplace. Yet the main focus of today’s curriculum is heavily on the discipline skills, collaboration in group work and reflection within discipline context. The personal skills are usually left until capstone or in small pockets scattered throughout the curriculum.

The **Integrated ePortfolio Curriculum Model** is a curriculum development resource that facilitates discussion and a balanced approach to ePortfolio use in a program. To apply the model, we firstly need to get the educators on board to establish the same goal/outcome, that is, by the end of the program students would establish their personal branding in the specific profession, allowing students to build professional connection. Once the common goal is agreed upon, educators would need support in curriculum review to identify, negotiate and/or evaluate suitable placements of various activities outlined in the model. The curriculum mapping used in the Developmental portfolio would be a useful tool in providing a holistic structure of activities within courses and program.

The model also requires resources for educators and students to work together in achieving the common goal of personal branding. Guided resources in the form of information sheets can be drawn appoint at various stages of study. The definition of personal branding, its purposes and benefits need to be clarified and communicated to educators and students. This provides an opportunity for educators to collaborate with students as partners, bringing students on board by having their interest as the heart of the program.

Educators can also determine the level of personal branding to be scaffolded within the curriculum depending on the disciplinary needs. For example, in first year, ask the students to articulate their current perception of professional identity and personal branding (e.g. do you think personal branding is important?). In second year, educators guide the students with hypothetical branding purpose, target audience and goal. This acts as the practice round for students in a pre-defined scope. In third year, students prepare their exit portfolio with discipline artefacts and to establish their own purpose, target audience and goal/s of the branding. In fourth final year, students review and refine their exit portfolio, the brand to convey themselves to the industry. Educators are strongly encouraged to use one consistent assessment rubric to assess student’s development or growth in establishing personal branding.
Conclusions

In this paper, we offer a new curriculum model to facilitate integrated ePortfolio use across programs, with a particular focus on students building their digital professional identity and personal branding. The Integrated ePortfolio Curriculum Model facilitates transfer of knowledge from educators to students, and for students to make connections. Students acquire and interpret knowledge, translate into practice and make connections between professional and personal identity. The model also provided opportunities for educators to work as partners with students, emphasise on personal learning, with a useful output at the end of the study that students will be able to utilise when they graduate. The connections created between professional and personal identity can be developed into Life Long Learning process for students. Beneficial future research areas include understanding ways to embed the model in program level curriculum and developing case study exemplars that demonstrate the benefits and barriers of its use.

References


Building a scalable ePortfolio based assessment strategy to connect clinical learning experiences: Preliminary lessons

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The development of professional expertise in medicine requires a lifelong commitment to education. During university medical programs students encounter a wide variety of clinical experiences making it difficult to monitor and evaluate their development of clinical and professional competence. The use of a portfolio to collate feedback on their clinical performance can assist in making clearer connections between these experiences and their assessed performance of clinical competencies. Over the past year the University of Queensland’s medical program has instigated a project to refine their approach to assessment of student learning in the clinical learning environment which has involved planning for the adoption of an ePortfolio to manage the delivery of workplace-based assessments (WBAs). This paper outlines the design stages that have influenced this assessment initiative as well as the roadblocks that we have navigated during the early stages of this project. This provides an authentic account of our experiences and concludes with an overview of the key lessons that emerged during the educational development process.

Keywords: competency-based medical education, programmatic assessment, clinical competence, workplace-based assessment

Background and Context

Global data indicates that health care still suffers from quality and safety gaps leading to patient harm and ineffective care of patients (Jha et al, 2013). Consequently educational institutions training the doctors of the future are moving to outcomes based educational models known as competency based medical education (CBME) (Carraccio & Englander, 2013). This model of health professions education focuses on defining the required abilities needed by graduates. In Australia the Australian Medical Council provides graduate outcome statements for medical schools and the Medical Deans of Australia and New Zealand (MDANZ, 2014) have created a clinical competency framework identifying the common diagnostic and procedural requirements for the medical graduate. While assessment has always been an important element of medical education, how to design programs of assessment that enable students to demonstrate achievement of key clinical competencies, has led to greater interest in the use of portfolios (Driessen, 2017). Portfolios enable a robust transparent method for learners to collect multiple assessment items demonstrating their achievements in authentic clinical settings, gain feedback, provide opportunities for them to reflect on their learning, and develop lifelong skills essential for management of their continuing professional development (Carraccio & Englander, 2004; O’Sullivan et al, 2018).
The University of Queensland’s medical program is a four year post graduate degree (Doctor of Medicine [MD]) with one of the largest cohorts in Australia, (approximately 500 students per year). The program is also unique with a large international student cohort (approx. 40%) in part due to our partner program, the Ochsner Clinical School in New Orleans. These students complete their first two years in Australia then return for their clinical years in the US. In the clinical years (Phase 2 of the MD), students are fully immersed in the clinical learning environment across a wide number of clinical sites. This presents assessment challenges due to the variation in clinical experiences, wide variety of clinical teachers assessing our students and difficulties in tracking students’ development of clinical competence. Curriculum reviews conducted over the past five years confirmed that variation in assessment processes between courses and clinical sites, insufficient feedback to students about their clinical performance and use of multiple high stakes hurdle assessment tasks had limited our ability meet the aspirations of CBME. This provided a trigger to review our approach to assessment of medical students during these clinical years and consider using an ePortfolio to enhance the relevance of clinical learning experiences, by explicitly making connections to the desired curriculum outcomes.

Changes to the Assessment of Clinical Competence

Workplace-based assessments (WBA) which involve the assessment of what doctors actually do in practice (Swanwick & Chan, 2009) are an important avenue for assessing clinical competence. Evidence from medical education research has highlighted the importance of taking a longitudinal programmatic view of assessment in the clinical learning environment. Completed assessment decisions are more reliable and trustworthy when these highly authentic WBAs are collected multiple times from a range of assessors creating many assessment data points that include qualitative information and global judgements from clinical experts (Diijkstra et al, 2010; Schuwirth & Van der Vleuten, 2011). This approach to assessment is ideally suited to the use of an ePortfolio.

Translation of these assessment ideals to the UQ context is currently in progress and has led to the trial of an ePortfolio prior to full implementation in 2019. This paper will firstly outline three iterative stages that guided the planning of the changes to assessment of clinical competence and then outline the early experiences with the UQ ePortfolio platform. These stages included the design of a new Workplace Learning Portfolio course, development of an Assessment Roadmap and mapping of WBAs to clinical competencies.

Workplace Learning Portfolio (WLP) Course

A year-long WLP course with a programmatic assessment design will be introduced in each year of Phase 2. This course will facilitate individualised, integrated student development across the spectrum of clinical specialties and competencies, resulting in greater preparedness for commencement of internship at the completion of the medical program and lifelong professional education. A suite of WBAs were developed to facilitate common understanding of assessment instruments to be used by the complex network of stakeholders (clinicians, academic and professional university staff and students) representing ten different clinical specialties. These assessments involve direct observations of clinical practice (mini-CEX and DOPS), a global assessment of clinical performance (ITA) and a logbook (see Table 1).
Table 1: Taxonomy of WBAs

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Millers’s Pyramid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini CEX (history or examination)</td>
<td>A real-life episode of care or interaction between a trainee and a patient, observed for a short period, typically 15 minutes, and rated on a number of technical and professional dimensions on a standard rating form.</td>
<td>Does</td>
</tr>
<tr>
<td>Direct Observation of Procedural Skills (DOPS)</td>
<td>Assessment of a real life technical procedure by a supervisor using a global rating or skills checklist in a standardised form.</td>
<td>Does</td>
</tr>
<tr>
<td>In-Training Assessment (ITA)</td>
<td>A credible view of a trainee’s progress usually completed by the supervisor, based on personal knowledge or after consultation with colleagues.</td>
<td>Does</td>
</tr>
<tr>
<td>Logbook</td>
<td>A training logbook constituting a record of work experiences, training activities certified checklists of knowledge and skills and other educational activities</td>
<td>Does</td>
</tr>
</tbody>
</table>

Assessment Roadmap and Competency Mapping

In parallel with the development of the WLP course structure to support programmatic assessment an Assessment Roadmap was developed to describe the assessment pathways of different cohorts of students during Phase 2. Evidence based assessment principles that underpinned decisions regarding the choice and timing of assessments have also been defined. This ensures that the assessment instruments chosen are fit for purpose, address the “does” level of Miller’s pyramid of competence and are assessing clinical performance integrated into practice (Miller, 1990; Lockyer et al, 2017). The assessment design also highlights the importance of feedback for the promotion of learning and actively engaging students in the assessment process.

In addition, a curricular taxonomy termed MedTags, was developed to map the clinical competencies being assessed by the WBAs. This will contribute to the production of meaningful, comparable and longitudinal assessment blueprints and enable students to track their development of clinical competence. The taxonomy includes nine components that incorporate all the clinical competencies identified by MDANZ (2014): history, examination, clinical reasoning, clinical communication, clinical management and procedural skills, social and cultural competence, professional practice, medical ethics and law, and reflective practice.

WBA design in preparation for using an ePortfolio

To improve the consistency of assessment information the current assessment tools were redesigned to fit a rubric format with four levels of achievement (unsatisfactory, borderline, competent and proficient) and one descriptor per criteria being assessed. Each criteria was then mapped to the most appropriate MedTag component. Figure 1 illustrates an example of the In-training assessment instrument (ITA) mapped to the clinical competencies and MedTags. A database of assessments was then developed to assist in visualizing the coverage of assessments across the nine MedTag components. We could therefore identify
all instances of assessment related to history and its constituent clinical competencies and build a comprehensive map of assessments across Phase 2 is available for review by stakeholders.

<table>
<thead>
<tr>
<th>Phase 2 ITA</th>
<th>MedTag Components</th>
<th>MedTag Component detail</th>
<th>Unsatisfactory</th>
<th>Borderline</th>
<th>Competent</th>
<th>Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct in the professional environment</td>
<td>Clinical Communication</td>
<td>Interacting professionally with patients</td>
<td>Displays rude and/or inappropriate behaviour (e.g., lack of respect/responsiveness to patients)</td>
<td>Displays inappropriate behaviour (e.g., lack of respect/responsiveness to patients)</td>
<td>Shows appropriate, courteous, and attentive behaviour to patients</td>
<td>Displays great respect in interaction with patients</td>
</tr>
<tr>
<td></td>
<td>Social/Cultural competence and literacy</td>
<td>Demonstrating cultural respect and sensitivity</td>
<td>Demonstrates limited consideration of patient’s cultural and personal circumstances</td>
<td>Demonstrates limited consideration of patient’s cultural and personal circumstances</td>
<td>Considers and respects patient culture and personal circumstances</td>
<td>Demonstrates exemplary consideration of patient’s cultural and personal circumstances</td>
</tr>
<tr>
<td>Initiative and engagement</td>
<td>Professional practice skills</td>
<td>Professional conduct and obligations</td>
<td>Does not participate in the learning activities</td>
<td>Participation in the majority of the learning activities</td>
<td>Participation in all learning activities</td>
<td>Participation in all learning activities</td>
</tr>
<tr>
<td>Communication with professional colleagues</td>
<td>Professional practice skills</td>
<td>Interacting professionally with colleagues</td>
<td>Displays rude and/or inappropriate behaviour (e.g., lack of respect/responsiveness to patient and/or medical colleagues)</td>
<td>Displays inappropriate behaviour (e.g., lack of respect/responsiveness to patient and/or medical colleagues)</td>
<td>Shows appropriate, courteous, and attentive behaviour to patients and/or medical colleagues</td>
<td>Displays great respect in interaction with patients and/or medical colleagues</td>
</tr>
</tbody>
</table>

**Figure 1:** The Phase 2 ITA WBA mapped to the MedTag curricular taxonomy

ePortfolio Platform at UQ: Current Trials in the MD

During 2017 UQ provided access to the enterprise ePortfolio system Chalk & Wire. The central eLearning team provided the initial training and support to the academic staff and students as well as configuration and deployment of one of the WBAs (ITA). Professional development and ongoing support for the professional staff (approx. 50) who were situated across three clinical schools (School of Clinical Medicine in and surrounding Brisbane, Rural Clinical School and the US Ochsner Clinical School) was provided by the Faculty ePortfolio Project Officer. The web-based ePortfolio system integrates with the Learning Management System (Blackboard) which enables students to login to their ePortfolio through links embedded in their enrolled courses which open to specific WBAs in their ePortfolio.

The ePortfolio system was trialed during semester 2, 2017 offering a staged introduction to its use, initially with a small number of clinical sites in Phase 2. Retro-fitting the assessment processes that had been used previously to administer the former paper-based ITA provided our first challenge. Initial interviews revealed a multitude of methods to collect assessment data from clinically-based assessors across 17 different clinical sites raising issues about the integrity of the current assessment process. This review also revealed insufficient opportunities for students to monitor, receive and store rich feedback about their progress, leading to questionable learning value for students. A one size fits all electronic conversion to the ePortfolio proved to be elusive. Consequently we trialed two different methods for the delivery of electronic WBAs in two courses in 2017: an administrator
driven and a student driven assessment process. The student driven process was found to be the preferred method because it reflected the desired educational strategy for the future WLP Course where students are to be responsible for managing their assessment pathways. An abridged version of the ITA was also implemented in the preclinical years (Phase 1) providing an opportunity to gradually expose students and staff to the interface in readiness for their move to Phase 2 WLP courses and full implementation in 2019.

Progressing from the trials to planning for WLP course implementation with many different WBAs was logistically challenging. The complexity of using multiple WBAs across many different clinical sites necessitated development of use case scenarios to encompass a wide range of stakeholder requirements: students, administrative staff, course coordinators and clinicians responsible for managing the overall quality of the assessment program. Development of the use case scenarios has assisted us with the educational design process and translating assessment principles into realistic actionable activities. This strategy enabled us to identify areas of risk and develop strategies to overcome the limitations of the ePortfolio system.

The next focus for the trial after expanding the system to as many clinical sites as possible in 2018 was interpreting and analyzing the reports with the collected assessment data. The ePortofio, with its curriculum mapping capabilities, enables reporting of student performance data across all clinical sites and medical specialties as well as analysis to view achievements across the clinical competency outcomes set (see Figure 2).

![Figure 2: Report showing overall achievement levels for each of the competency components for listed students.](image)

Students could also view their performance across each clinical competency, showing overall ratings data and their assessor’s feedback from each WBA. Figure 3 illustrates a sample student’s view.
This cycle from development, to trial, to data reporting, has been a crucial element of our planning for the full implementation of the ePortfolio system for Phase 2 WLP courses in 2019. For the remainder of 2018 we are focused on enhancing our use of the system to not only to manage the WBA process but also to maximize the data reporting capabilities from the perspective of all users and implementation of further training for stakeholders.

Lessons from the coalface

The optimal solution for implementing an ePortfolio system for WBAs would be to design from the ground up, but this is an unrealistic expectation. It is important to understand the context of any educational development and be ready to adapt and make compromises. While a technological tool such as an ePortfolio can open up new opportunities for students to connect their learning experiences with achievement of competencies, the practicality of introducing a new system can be challenging. It is prudent to learn from the experiences of others so we provide the following advice for those embarking on this journey. We consider that it is very important to:
1. Understand your context and clearly articulate the processes that are required to manage the assessment program prior to considering how the ePortfolio will be utilized.
2. Develop user case scenarios either prior to the selection of the ePortfolio system or in the early stages of configuration of an enterprise ePortfolio.
3. Develop common assessment instruments spanning all years of the educational program to enable demonstration of progressive achievement.
4. Recognize that alternative strategies may be required to capture assessment data to suit a range of clinical contexts. This may include methods to enable transfer of traditional paper-based assessments into the ePortfolio.
5. Include a significant amount of time to trial and test the ePortfolio system especially when using new assessment tools. A simple design which is mobile friendly is optimal when working with a multitude of assessors who have competing responsibilities as clinicians.
6. Training of staff and students is a significant resourcing issue when they are spread across a wide geographical area. This needs to include both the educational rationale and technical aspects of using an ePortfolio.
7. It is likely that the introduction of the ePortfolio tool will prompt a significant change in cultural practices related to assessment and cause disruption in expectations surrounding assessment responsibilities. In our case this will continue to require a cultural shift to empower our students to take greater responsibility for their learning and achievement of clinical competency.

**Conclusion**

Educational development requires an understanding of the disciplinary context and cultures in order to manage the obstacles that will emerge. It is important to consider first the pedagogy and rationale for using an ePortfolio system, apply educationally sound principles to the design of the assessment tools, engage stakeholders in initial trials and be willing to change plans and adapt to changing circumstances while continuing to support the users as they navigate these changes.

**References**


The role of professional staff in the implementation of an ePortfolio system

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Abstract
In any university-wide technology related implementation key stakeholders are required to provide support. This paper describes this important role with one set of key stakeholders: the university Blended Learning Advisors (BLAs) and Educational Designers (EDs) and presents data collected from interviews with 11 BLAs and EDs across a large university-wide implementation with over 45,000 students and 5000 staff members. Data was coded for emerging themes and is presented with results suggesting that the BLAs and EDs received sufficient training throughout the implementation and this then allowed them to work confidently and successfully with academics across the four academic groups to create a successful environment for the implementation. The BLAs and EDs played an important part with the academics implementing the platform into their teaching.

Keywords: ePortfolio implementation; PebblePad; university-wide

Introduction
A university-wide ePortfolio implementation is a major undertaking and requires support of all key stakeholders. At Griffith University the university-wide implementation occurring throughout 2017 involved all four academic groups. Each academic group: Griffith Sciences, Griffith Health, Arts, Education and Law and the Griffith Business School, have support staff involved in the planning and implementation. One group of key stakeholders are the Blended Learning Advisors (BLAs) and the Educational Designers (EDs), who work specifically with the academics to support learning and teaching across the University. The BLAs and EDs, both centrally and in each of the four academic groups (same as Faculty) thus played a major role in insuring the success of the use of ePortfolio platform.

Although university-wide implementations of ePortfolio systems are not new (Hains-Wesson, Wakeling, & Aldred, 2014; Lambert & Corrin, 2007), Griffith University developed and used a model of implementation that was innovative, to ensure robust take up of the platform. This model was developed by the central team, along with the ePortfolio Working Party, a group of key people from across the university. Key to this was the pedagogical, technical and design support provided by the BLAs and EDs across the university, for academic staff in using it with their students.

Background
Stakeholders have been encouraged to be involved in the university-wide implementation from the beginning of the adoption process. Seventy stakeholders from across the university provided written feedback on the custom resources that the initial vendors demonstrated (Blair, Campbell, & Duffy, 2017). PebblePad was the personal learning platform chosen as it met the needs of the university as is much more than an ePortfolio as it allows for a huge range of activities to be conducted through its use. An Innovators Program was developed
where academics who wished to be involved were encouraged to submit an Expression of Interest to participate in the first year of the program. The BLAs and EDs worked with and supported the academics throughout the Innovators Program, both before they taught the course(s) they wished to have involved, during and then afterwards (Campbell, Bourke, Trahar, & Nisova, 2017). They also assisted with the design and implementation of student-centred learning activities that were implemented in the various courses that the Innovators were involved in teaching. The central teaching and learning unit’s (Learning Futures) core implementation team worked with the BLAs and EDs to enable the necessary support for each academic to ensure a successful implementation across the courses and programs selected to be part of the Innovators Program. The centrally located EDs were also allocated academics to provide support to.

The Innovators Program provided participants with support and a sense of community through working together to initiate, innovate and implement the implementation program. As described by Campbell and colleagues (2017) those involved in the Innovators Program were invited to workshops and events, to advice and support as well as evaluation on implementing PebblePad through the evaluation program. Academic staff were able to co-construct learning experiences for their students with the BLAs and EDs in their academic group (Blair et al., 2017) and share these across the University. As a Community of Practice, members were provided the opportunity to learn from one another’s successes and failures.

**Literature Review**

This brief literature review focuses on the need to assist teaching staff in building their technical and pedagogical capacity for the student-centred use of educational technologies. In the context of this paper, this aspect of technology implementation is explored in terms of the role undertaken by learning and teaching support staff in enabling impactful uses of educational technologies. As suggested in a report by bodies Educause and JISC (2015) “information technology has value because it can support and extend human capacity, but its value also depends on people. People make IT work” (p.5).

Successful technical launching of an educational tool by the central information technology unit is no longer enough, now higher education must also attend to the learning activities being designed and implemented with the new tool (Fyfield & Czaplinski, 2017). Success of an educational technology implementation is a partnership between technical support providers and pedagogical support staff (EDUCAUSE & JISC, 2015). Thus to assure effective use of educational technologies technical training alone is not enough. Teaching personnel must be supported in the integration of the tool into teaching (Basak, Wotto, & Belanger, 2016) and design of learning activities. To address this broader need requires not only the provision of general and discipline specific technical professional learning, it also requires a consultative approach in the design and development of course-specific learning activities. Without this comprehensive approach to the implementation of a new educational technology, the realisation of a tool’s promise may fail (Basak, Wotto, & Belanger, 2016).

Teaching staff that do not receive both technical and pedagogical training and support may become demotivated to use a new technology when challenges occur, so offering capacity building training and consultative problem-solving support is ideal.

**Technology can serve as catalyst for transforming the types of learning experiences for students**, given their instructors are encouraged and supported by those they trust to design student-centred learning experiences. Instructors can leverage the use of technologies such as ePortfolio platforms to provide engaging learning experiences of a more personal nature (US Department of Education, 2017). When learning design is intentional and based on research in areas such as learning sciences, instructors can provide students with active learning experiences which encourage students to interact with one another, the instructor...
and the content. Learning and teaching staff's role descriptions identify the provision of this type of support as a key responsibility. In EDUCAUSE and JISC's report “Reimagining the Role of Technology in Higher Education: A Supplement to the National Education Plan” (2017), a multitude of recommendations address enabling instructors to provide such learning experiences for their students. A few that are particularly relevant are:

- Promote collaboration between academics, instructional (educational) designers, technologists (blended learning advisors) and others to design engaging learning experiences
- Provide professional learning opportunities that address technical and pedagogical capacity building
- Support teaching personnel in connecting tools and systems to create learning experiences that leverage the functionality of many.

These recommendations and others identified support the need to provide processional learning not just to the teaching staff, but to the broader learning and teaching community including the university’s BLAs and EDs.

The professional development needs learning and teaching support staff overlap those of teaching staff, however the timing of their capacity building differs. In order to support the academics, these professionals must develop their competence with the technologies and its uses within learning design earlier so that they can provide informed support.

Thus, the following research questions were formulated:

3. What professional development did the BLAs and EDs receive in order to implement PebblePad across their academic groups?
4. What role did the BLAs and EDs play in supporting academics to implement the use of the ePortfolio platform in their teaching?

**Methodology**

This study was part of a larger implementation study on ePortfolios at Griffith University. However, for this paper only the BLA and ED interviews were transcribed, coded, and then analysed. The results of these interviews are then reported below. Ethics approval was gained as part of the comprehensive implementation study and an amendment was gained for the specific questions asked to the BLAs and ED members. Eleven staff members were interviewed for 40 to 60 minutes each and they were electronically recorded. The interviews were then transcribed with the transcriptions sent to the interviewee for member checking. Once this occurred the transcripts were coded for themes.

Staff were asked about a variety of aspects of the role they played in the implementation and the overall approach taken. Of relevance to this paper, they were asked about the uses of PebblePad in their academic group and how they assisted staff. They were asked about the training they participated in and which features of PebblePad they found the most useful. In addition, they were asked which aspects of the platform they liked least as well as the limitations and barriers to implementing PebblePad within courses and programs.

Data has also been gained from a survey of academic staff in Trimester 2, 2017 after staff in the Innovators Program had been using PebblePad for one or two trimesters. Eighteen of the innovators completed the survey which asked among other things if they would use PebblePad in their teaching again. The results for this is reported below.

**Results**
Numbers of staff and students using the ePortfolio platform climbed steadily across the trimesters with their being 5243 unique users in the system in June, 2017 (Campbell et al., 2017). By the end of Trimester 2 in October 2017, there were 9020 unique active users and by March there were 14,416 unique active users. In June, 2018 there were 20,150 unique active users. This shows an increase in staff and student use and it is across all of the Academic Groups.

All support staff interviewed directly assisted academics to implement PebblePad in courses. Staff were each allocated academics to support through the Innovators Program. Professional development for the BLAs and EDs was identified early on as extremely important and began as soon as the choice of platform was made and at least three months prior to implementation.

As reported in the interviews all the BLAs and EDs received ongoing professional development throughout the first year of implementation and in fact, this continues in the second year. Initially, some BLAs and EDs attended PebbleBash in the UK and as one reported, went “to visit a whole lot of different sites in the UK that were using PebblePad to find out what all the different kinds of learning and teaching applications were going on.” Staff built on this experience with one staff member commenting:

When we came back here I basically build a whole lot of scenarios that could be done in, from a learning and teaching perspective in PebblePad so that I could understand how the different tools might work and how I could use that for other people.

Train-the-Trainer workshops at the beginning of the implementation were open to all BLAs and EDs to attend. These fortnightly advanced training sessions continued throughout the year with one staff member commenting that “the advance workshops were good, just being able to say, 'We tried this and it didn't work,' was beneficial, while another stated “I find learning from others, like the workshops were really good.” Staff also commented that they learnt a lot of the functionality themselves through playing with the platform and working out how to do things in order to support staff. Staff mentioned the website “and that it sort of easily directs you off to students and staff support”.

The BLAs and EDs noticed that the student uptake of the learning and teaching activities was good, with one commenting “a lot of the activities that we've been designing, the ownership has been more on the students, which has been pretty good.” Having reported this, some BLAs and EDs felt that some student cohorts needed more support and they have attempted to address this in 2018 iterations of the courses.

The BLAs and EDs also created resources for their own Academic Groups. One stated they created “training resources for the students” in one group. Others across the groups stated they made videos for various academic staff in order to support them using the platform with students.

Importantly, the 18 academics who completed the survey all stated they would use the ePortfolio platform again. This indicates that the high level of support provided by the BLAs and EDs was sufficient to inspire academics to have the confidence to use the platform again. As a team, the academics, BLAs and EDs designed and implemented learning activities that are well worth repeating.

**Discussion**

The results presented indicate that the BLAs and EDs were instrumental in the institutional
ePortfolio platform implementation and that overall it was a good success. Through their knowledge and support academic staff were supported well in their Academic Groups. The advanced training of the support staff enabled them to be confident when consulting with academics. The training facilitated their upskilling in both technical and pedagogical aspects of the use to the ePortfolio platform. Provision of on-going opportunities for cross University sharing and learning, continues their learning of advanced technical functionality and complex learning designs.

One limitation of the project is the small number of BLA and EDs who were interviewed, however this is the nature of implementation at a university, in that limited numbers of staff are available to assist in support roles. It would strengthen the study to continue the data collection to become a longitudinal study with in depth interviews conducted over a number of years.

Conclusion

With the project-based funding ending as the implementation of the ePortfolio platform moves from “project” to “operational” status within the University, the learning and teaching support staff within the academic groups will become the main provider of pedagogical support. Although it made no difference to the approach, it was always known that the project had a limited lifespan through the central implementation and as such the project has investigated sustainable practices that will allow for continued success after the implementation. As an enterprise tool, the University’s Help Desk will provide just-in-time technical support. The central learning and teaching unit will evolve its support into being more strategic in nature thus providing less hands-on support of academics. Since the BLAs and EDs have played a critical part of the implementation, they are in good standing to move into the role as primary support provider.

The evaluation of change of role for BLAs and EDs would identify what is working and not working in these new methods of support. In addition, with the absence of substantial literature in the role support personnel play in capacity building (technical and pedagogical) of teaching personnel, additional research in this area would benefit the sector. Given, the limited numbers of people in these roles per university, a research project of this type would be a candidate cross-institutional research.

Acknowledgements

The authors of this paper would like to acknowledge the BLAs and EDs at [left blank for reviewing] University for their support in the university-wide PebblePad implementation. It is also important to note that on July 1st, 2018, these staff members are now called Learning and Teaching Consultant (Design) across the university due to a restructure.

References


A New Concern: Ethical Decision Making in Students’ Secondary Use of Data from their ePortfolios

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Abstract

Familiar areas of ePortfolio use by students include assessment, reflection and evidencing professional competencies. With an increasing emphasis on graduate employability across higher education, students are also encouraged to showcase their professional identity to virtual audiences not necessarily known to them, through social media and online settings. Despite the benefits of this wider use, there can be unintended consequences for the ePortfolio user and others they work with, including vulnerable groups like children, patients or clients. Current ePortfolio literature discusses ethical issues for the user, such as privacy and protection of data in an online environment, but as yet, has only limited discourse about privacy, consent and confidentiality of secondary use of others’ data. In response, this paper provides samples of ethical decision making scenarios that students may face in using ePortfolio information in social media or other online platforms to raise awareness of the issues for educators and students.

Keywords: ePortfolio, digital ethics, consent, privacy, confidentiality

Introduction: Problem Definition

EPortfolios provide students with opportunities to reflect (Stefani, Mason & Pegler, 2007), collaborate (Beresford & Cobham, 2011), and participate in ‘real world’ experiences and evidence competencies (Beetham, 2005; Wetzel & Strudler, 2006). EPortfolios are also used for formative and summative assessment purposes (Fawns & McKenzie 2010) in which the students share their assessment responses within a closed environment with the educators. Yet ePortfolios are also considered a personal learning space allowing sharing with others, while still controlled by the student (Poot, Pebble Learning & Austin, 2011). An increasing emphasis on graduate employability across higher education also encourages students to showcase their professional identity to potential employers.

The ease of use and popularity of social media and other online platforms creates further opportunities for students to share parts of their professional (and sometimes personal) lives
with virtual audiences, not necessarily known to them. Despite the benefits of this wider use, there can be unintended consequences for the ePortfolio user and others they work with, including vulnerable groups like children, patients or clients. Current ePortfolio literature discusses ethical issues for the user, such as privacy and protection of data in an online environment but, as yet, has only limited discourse about privacy, consent and confidentiality of secondary use of others’ data.

An Australian multi-universities research project looking at this issue is underway. The results of a systematic scoping review of the literature as the first phase of the project found a dearth of literature and guidelines for students in using secondary data from the ePortfolio. This paper seeks briefly to contextualise this problem to raise awareness and highlight potential scenarios to begin a discussion about addressing these issues in higher education.

Problem 1: Repurposing assessment

The development of ePortfolios has moved beyond a simple repository of reflections, to the development of an online personal learning system capable of showcasing assessments to a wider audience. This means that there is a greater potential for sharing images and other material relating to vulnerable populations. Uploading and sharing are now instantaneous and may move beyond the intended audience to anyone on the World Wide Web (Kift et al., 2007). Therefore, privacy and confidentiality of vulnerable populations requires ethical decision making by students. However, they may find it difficult to differentiate ethical considerations between submitting an assessment task and repurposing data for an outside or wider audience as Scenarios 1 and 2 demonstrate.

Scenario 1: Sharing links for job applications

A secondary pre-service teacher in the last semester of university was looking for a teaching job. She was sending out her ePortfolio via a link in her job applications, as well as to potential educators who may assist her in securing a full time position. Her ePortfolio contained evidence and annotations of how she has met the Graduate level of each of the seven standards of the National Professional Standards for Teachers. While she had taken care to remove the names of the primary schools and children with whom she worked, she kept in photographs and short video clips of her working with children to demonstrate how she had met these national standards. Whomever has the link can click to find photos and videos of children, which puts the confidentiality and privacy of the child at risk. Although the pre-service teacher removed student names and school names, she left photos and video of students whose parents had not given consent for their images to be used in this way. The student was compelled by the University to remove the videos and photos where children could be identified.

Scenario 2: Repurposing data

A similar situation exists when health care students attend inter professional international placements. Students document their experience for the purpose of assessment and this often results in the use of photos and other images. Students would be expected to adhere to the same principles of consent during international placements in asking permission to take photos. Certainly many people in the host country who are benefiting from the care provided during the placement would most likely to agree to having a photo taken by the student for assessment purposes. However, there is an expectation from the institution and national funding bodies that students working with international communities will take photos to document their experiences and such photos will be provided for use in marketing. In these cases, the location and the institution will be named with no images pixelated. However, it is unlikely that the purpose or re-use of these photos would be discussed with those in the photo.
Problem 2: When is consent adequate?

These scenarios bring us to the issue of consent. Consent is a fundamental ethical requirement of all students required to undertake work integrated learning with vulnerable populations. Ethical conduct means that consent to provide care or for the use of material related to children is always accessed from the person if they have capacity, or by an appropriate caregiver, or in the case of children by their parent or guardian.

Scenario 3: Following institutional policies

A final year midwifery student posted a photo of herself holding a baby she had helped birth on a university hosted website. The photo was intended as a mechanism to recruit other mothers to support her in completing the requirements for her midwifery qualification. The student had gained written consent from the mother for this image to be used.

The local hospital where the mother had birthed the baby had a policy that no photos of babies could be posted by staff or students on social networking sites. The hospital deemed this internet site to be equivalent to social networking and the student was in breach of the hospital policy. The student was compelled by the University to remove the photo.

Academics and workplace assessors are responsible to ensure students conduct themselves in line with appropriate professional codes and institutional policies. However, Scenario 3 raises a key question as to whether the current professional codes of ethics are sufficient to support students in making decisions with online ePortfolios. Whilst the student in Scenario 3 had followed the guidance offered by the professional code, the institutional policy of the students’ placement meant she had acted inappropriately. These differing positions mean that students are receiving conflicting messages, which may impact their ethical decision making in developing an online presence.

Problem 3: Privacy and confidentiality in an online environment

Students working with vulnerable populations would also be expected to complete case files, case notes or care plans where personal information is captured. Whilst there is an expectation that students would remove personal data such as names, addresses and the name of the institution for assessment purposes, there may still be instances where vulnerable populations could be identified. One such example would be schools that specialise in complex conditions or learning needs or health care students caring for those with rare conditions that only a few people may be diagnosed with in a geographical area. Consent may be given by the person and/ or parents in these scenarios as often they wish to help the student learn. They may also agree for the information to be used more widely as they wish to help others in a similar situation. Although consent could be provided the privacy and confidentiality of those involved might not be guaranteed. Scenario 4 places the institutions involved and the learner at risk of permitting wide access to potentially sensitive material (Cowper & Crompton, 2010).
Scenario 4: Student reflection on a live legal case

Students undertaking legal training may be involved in pro bono practicum work with marginalised and disadvantaged clients. This provides valuable experience in the practical aspects of the law as well as providing students with an opportunity to reflect on disadvantage and issues of social justice. Student reflections may include video or audio recordings of a legal case. This gives rise to the risk of video image, audio or written material being shared online either within or outside the university environment that may influence the outcome of a case if a member of a jury should view it and be able to identify the client. Clear guidance needs to be developed to support students and teachers in the use of audio visual sensitive material and gaining informed consent for its use.

Student reflections may also include incidents or poor practice in institutions in which they are placed. Indeed, with many of the public enquiries in health care, registered professionals in the UK now have a legal duty of candour where things have gone wrong or if there are concerns with an organisation or colleagues (CQC, 2015). In this context, students may see it as appropriate to share their concerns with their tutors via assessment or with colleagues using social media platforms. According to McCarthy, McCarthy and Trace (2016), academics should uphold their duty of care by meeting with the student to confirm the students’ interpretation of the events and to offer support. They should then meet with the clinical staff directly involved, the clinical placement co-ordinator and program leader to discuss concerning incidents and highlight the need for suitable support and opportunities for students to debrief. However, there is limited guidance in the literature that supports a student’s decision making in these cases.

Implications for ePortfolio practice and conclusions

Students are not always aware of the risks associated with online presence or the sharing of sensitive information (Razavi & Iverson, 2006). Although professional and institutional guidelines are provided for de-identification of data, students are not always aware of how to maintain confidentiality or how much information to disclose when using an electronic platform (Martin, 2012; Ross, 2014). This suggests that all students working with vulnerable communities will need to know how to document evidence that will not compromise confidentiality prior to any placement.

For example, providing examples of appropriate and inappropriate materials to use in a portfolio relative to the discipline norm could be provided. Further, understanding how to maintain the privacy and confidentiality of the clients to whom the student is referring needs to be offered. This might be the guideline for the use of images where only the backs of children or their hands might be seen. For audio recordings, a checklist might be developed to enable students to be able to identify when places are named or when accents might identify a person. Engaging students in reflective practice, templates could be designed that provide students with clear guidance on what to include and how to de-identify the information used.

Ensuring students have been advised of all institutional policies and how these inter-relate with professional guidance is certainly an area for further development to avoid issues such as Scenario 3.

Whilst expecting students to comply with written instructions, guidance is a necessary part of protecting the wellbeing of the students and the reputation of institutions, enabling students to develop their own decision-making framework is also essential in a digital environment. This is particularly relevant when we consider the potential of the repurposing of material as part of
course requirements used for showcasing to future employers or to support ongoing professional accreditation. The key consideration is whether consent to use the material at the point of assessment is sufficient when students are using ePortfolios, or should we be asking clients from vulnerable populations for the option to use their experience or image in the future for potentially repurposed circumstances.

References


