Future Ready

Equipping learners for the journey ahead.

A collection of case studies from PebbleBash 2016. Edited by Alison Poot
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An introduction to future readiness

In writing the introduction to this latest collection of PebbleBash case studies the obvious first step was to revisit the conference theme - future readiness. We have adopted the idea of future readiness because it appears more inclusive than the potentially instrumental construct of employability. The world around us is changing rapidly and increasingly a learner’s chosen destination might encompass further study, advanced research, a future in volunteering or as an entrepreneur in the emergent YouEconomy, and so the idea of future readiness seems a much more valuable goal of education. However we define it I felt somewhat ill-equipped to write an introduction around this topic. And yet, on further reflection I began to wonder if I was actually rather well qualified to speak on the subject. In my early academic career I was the course leader for a very large ‘learning skills’ module at the very university where our 2016 ‘Bash is hosted, The University of Wolverhampton. This course had a single purpose, to help our learners, who were primarily first generation university students, be future ready for their studies - and I hoped, the future more generally.

It was this experience of working with hundreds of students over several iterations of the course that influenced the early designs for PebblePad - and it is those core design principles that remain evident in the creative, innovative and inspiring work presented in these case studies. The invaluable experience I gained working on “Learning for Success” now seems an age away (PebblePad is now, after all, 12 years old) and so it is my more recent experience as an employer of new graduates and placement students that gives me my most current insight into what future readiness might mean.

And yet, although I’m reasonably well versed on the characteristics, attributes and abilities that make great PebblePad employees, it’s notoriously hard to predict the future we’re preparing our learners for. For a few years around the millennium I used to chair the Learning Lab ‘Future Learning’ seminars. During that time one of our speakers predicted the imminent arrival of roll-out, flexible screens for phones and other devices - they’re yet to make a meaningful appearance but we have seen things we never imagined at that time including the incredible rise of tablet devices and other mobile technology. So with the world changing so rapidly how can a degree in software engineering train someone to build an iOS app - when iOS apps don’t even yet exist? The answer of course is in developing the skills to learn, unlearn and relearn, to research new information, to self-manage, prioritise, and regulate one’s own performance and, perhaps most importantly to network, collaborate and build successful learning relationships.

The world is increasingly complex, connected and collaborative. The currency of content knowledge is diminishing. There’s a shift from knowing that, to knowing how - and increasingly towards knowing who!

Having stated that Future Ready does not, for us, directly correlate to employability it’s important to recognise that over 70% of students report that improving job opportunities is the most important reason to go to university (Jisc 2015). But what is job opportunity? Work out of the Australian ‘Assuring Graduate Capabilities’ project offers a valuable perspective:
In the digitally disrupted economy, paid employment no longer necessarily means winning a position in a company, organisation, small business or institution. Increasingly, employment means students and graduates:

- create their own companies, startups, businesses and volunteer experiences.
- freelance in short term and part-time contacts, sometimes several simultaneously.
- connect and collaborate to create employment in new and emerging fields and roles.
- engage in a combination of all of the above, before they enrol in higher education, during their course, and beyond graduation.

So, within reason, the future is what you want it to be... if you understand your own strengths and aspirations, are self-aware and self-regulating, are able to make appropriate choices for yourself, and have the capacity to act upon those choices - or persuade others to act upon them with or for you. Andreas Schleicher of the OECD provides a beautifully succinct framework of 21st Century Skills encompassing ways of thinking, ways of working and tools for working - the major themes of our keynote Gregor Kennedy. Time and again leading employers, think tanks, and academics promote skills, experience and attributes over qualifications. It’s not that the latter are unimportant, it’s more that knowledge-based qualifications have an increasingly short shelf-life.

“Employers are passionate about what they would like to see in new employees – young people with a great attitude, great workplace skills and ideally some useful qualifications under their belt. Businesses look first and foremost for graduates with the right attitudes and aptitudes to enable them to be effective in the workplace – nearly nine in ten employers (89%) value these above factors such as degree subject (62%).”

CBI/Pearson Education and Skills Survey 2015

If we have a better idea of what employers are looking for, do we know what employment opportunities will be on offer? The idea of a career for life does not accord with today’s working environment. According to the US Bureau of Labour Statistics:

- Every year, more than ⅔ of the entire US labour force changes jobs.
- Today’s students will have 10-14 jobs by the time they are 38.
- 50% of workers have been with their company less than 5 years.
- Every year, more than 30 million Americans are working in jobs that did not exist in the previous quarter.

Clearly we have to recalibrate our thinking to dream not of a career, but to have the skills to adapt to a rapidly changing future. LinkedIn which has set out to provide a worldwide professional network, examined the data of over 259 million members’ profiles to determine the top 10 most popular job titles that were nowhere to be found in 2008. As you might expect there were some obvious emergent roles such as a 142x growth in iOS developers (up to 12.6k), and a 199x growth in Android developers (10.5k), but which professions saw growths of 396x (up to 6.3k) and growth of 3,360x (up to 3.3k)? Zumba Instructor and Beach Body Coach respectively!
These may not be 'graduate' destinations, but the entrepreneurial skills that led significant numbers of workers to identify and then seize new opportunities are the very skills being promoted by the world’s best business schools. And what are graduate destinations anyway? According to the Chartered Institute of Personnel and Development 58.8% of graduates are in jobs deemed to be non-graduate roles. That suggests a problem with the currency of the degree and a lack of those future ready skills and attributes so in demand by employers.

There are also well documented risks posed by automation. For a little bit of fun try the BBC’s job risk calculator listed at the end of this introduction. Importantly roles requiring employees to think on their feet and come up with creative and original ideas, for example artists, designers or engineers, hold a significant advantage in the face of automation. Additionally, occupations involving tasks that require a high degree of social intelligence and negotiating skills, like managerial positions, are considerably less at risk from machines according to the study, as are those requiring social perceptiveness, persuasion, assisting and caring for others. That sounds to me like the very kind of learners being developed through the work represented in this book.

What seems to set our collective work apart from traditional university education, or indeed traditional professional development, is our focus upon knowing how, and knowing why - above and beyond knowing what. It’s what PebblePad was designed for 12 years ago, and with your amazing input, ideas and innovation it continues to hold to the principles of learner and learning centredness over courses and content - the dominant model of the LMS.

I have really enjoyed reading these case studies, I am excited about discovering even more from the presentations that I am able to attend during the conference. Most of all I am anxious to learn as much as possible from the combined wisdom of our wonderful PebblePad community to help us ensure that our unique personal learning platform remains future ready for everything you plan to throw at it.

I wish you all a fabulous conference, and for those who were unable to make it, I hope this book will help you think of new and exciting ways to use PebblePad in your own practice, and with your own learners.

Shane Sutherland
Founder & CEO
Pebble Learning
July 2016
Selected links:

Assuring graduate capabilities
http://www.assuringgraduatecapabilities.com/employability.html

BBC: Risk of automation
http://www.bbc.co.uk/news/technology-34066941

Jisc: Technology for employability
http://repository.jisc.ac.uk/6249/3/Technology_for_employability_-_full_report.pdf

LinkedIn: 10 Jobs that didn’t exist 5 years ago
Future Ready
Pompeii by PebblePad

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The Context

‘Pompeii and the Cities of Vesuvius’ is a module in the Department of Classics, Ancient History and Egyptology at the University of Swansea. In 2015, the student body was a mixture of second and third years, with different levels of experience and attainment. The main element of their assessment was to work in groups of four to research a particular topic and, using PebblePad, to create a website that could be used to teach their peers about that topic.

The Problem

I wanted to find a non-traditional means of assessment that allowed students to express themselves as creatively as possible, while still encouraging research and presentation skills, and team work. In particular, I wanted them to find ways of teaching their fellow students, because I hoped that the process of deciding how to present a topic in a way that would be useful to other students would cement their own understanding of that topic. I also wanted to encourage the students to reflect independently on their work as we progressed through the semester.

The Approach

I asked the students to create websites on specific topics relevant to the wider module. Their remit was to identify the most important issues about their topic and the relevant primary evidence, and to think about how they could transmit this information to other students. They were told to avoid the traditional essay format and to find other ways to communicate ideas.

PebblePad provided the tools for the students to both create their websites AND keep a reflective journal/blog about their efforts (their blogs were integral parts of their websites). In groups, students were able to design and format their websites, import images, and link to other websites and videos. As individuals, they had to write a minimum of four blog entries (250-500 words) which discussed their individual contributions and reflected on their learning experiences. These were ‘open’ reflections (they were not guided by PebblePad templates) because I wanted to give them the freedom to document their own interests and experiences. They were able to include thoughts about the wider course, or about using PebblePad, or both. The blogs were not formally assessed but were intended to create an additional layer of reflection.
There were certain minimum requirements for all the webfolios. They had to include the following:

- A bibliography
- Links to other sources of information (e.g. websites, articles, image galleries)
- A brief bio and photo of each student in the group
- A blog by each student

Although they worked in groups on these webfolios, each student was responsible for a particular set of pages and the grades they received were partly based on these. This meant that each team member had to contribute equally in order to receive a good grade. This, and the blog, also meant that ALL students had to learn how to use PebblePad and the basics of web design and presentation. At the end of the project, all students had to peer-review the contributions of their fellow team members. This did not have a formal impact on their final grades, but was intended to highlight any problems within particular groups.

Finally, in order to teach the students how to use PebblePad, and to support their ongoing efforts, I organized regular ‘PebblePad sessions’ with the E-Learning Co-ordinator at Swansea University. The students used these sessions to ask questions and experiment with different features of PebblePad.

The Results

The students were mostly very excited about this new assessment. The majority worked well in their groups and the final results were often impressive (which was reflected in their grades, confirmed by internal and external examiners). The websites themselves demonstrated how the majority of students had been able to use PebblePad to express their ideas, to learn a new skill, and to work effectively as part of a group. In addition, student feedback for the module revealed that the students saw the benefits of participating in a more flexible and dynamic form of assessment.

One of the best efforts can be seen here: https://v3.pebblepad.co.uk/v3portfolio/swansea/Asset/View/j5btWMjdM7ccm7tywxmlwr38csM on the Villa of the Papyri at Herculaneum. This webfolio addressed the reader well and presented information in a fun and engaging way. The use of questions and answers was particularly effective, as were the ‘interesting facts’ found throughout. Overall the webfolio was attractive and accessible, and based on thorough research.

Student feedback on the module included the following comments:

“The blogs were fun to write for the webfolio. It allowed us to give our opinions on the whole project.”

“Webfolio design was a great assessment that challenges students in different ways than an essay would.”
“I enjoyed the coursework of creating a webfolio, it was an interesting way of translating what I learned in lectures into a piece of assessable work.”

“I really liked the way in which this module was assessed. The Web project is a very effective way to get the student to learn a topic in great detail and is something different to writing an essay.”

“The blog element of the module was great because it allows you to reflect on what you’ve actually learned and keep up to date with deadlines.”

Lessons Learnt

Initially I learned that students are very reluctant to try new things, which was very surprising! None had ever created websites or kept reflective journals before, and they were horrified at the start. But I also discovered that with appropriate support and guidance, they were able to recognize the value of this new type of assessment because it was so clear that they were learning new skills.

One problem we encountered was that once they embraced the idea of creating a website, many students wanted to do more formatting than PebblePad allowed. They wanted more freedom in creating their pages and presenting their information. Ultimately they had to be a little less ambitious – which I think was a good thing because it meant they had to focus more on content. They needed to balance creativity with academic content.

I think the most important lesson to be learnt from this experiment is that students can do well when you force them to think outside the box and attempt new things. PebblePad provided the opportunity for this to happen in a structured and controlled way that allowed students to be creative, but also to reflect regularly on their work and achievements. It is clear from both the student blogs and from their end-of-module feedback that they really recognized the value of doing this.

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Students were able to learn transferable skills – research, web design, presentation skills, team work, and team management – that will help them transition to the world of employment.
- Students will be able to show these websites to future employers, thus highlighting the skills that they have learned and are ready to apply outside of university.
- In their blogs, students were able to reflect on the development of these skills throughout the module, as well as assess their academic progress. Many have said that they intend to continue keeping a reflective journal for future modules because it helped them to keep up with deadlines, formulate their own opinions, and reflect on their learning. This is an important step in their development as independent lifelong learners.
• The assessment for this module required students to step outside of their comfort zones and attempt something completely new. By acquiring the necessary skills to complete the assessment students gained confidence in their ability to face new challenges in a positive and constructive manner.

To view this case study in an electronic format please visit this link:
www.pebblebash.co.uk/2016/resources/pdf/pb2016cs01.pdf
The PUPPI Project: The Plymouth University Phase 2 PebblePad Implementation Project

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The Context

Plymouth University has been using PebblePad since 2009/10 when it began with PebblePad Classic, initially to support Nursing and as a solution for PDP. In 2013 we moved from Classic to PebblePad3. During these early years the use of PebblePad occurred largely through organic development. Staff would hear of PebblePad through word of mouth, and at that point a learning technologist would get involved to help develop ideas, work collaboratively to build templates and workbooks, and design activities. Engagement with PebblePad was making some progress, but as an institution we wanted to scale up practice and increase usage in areas not yet involved with eportfolio.

The Problem

As an institution we wanted to increase PebblePad usage and develop a wider range of uses for the system, but we had not developed a plan for how to do this in a systematic or strategic way. This case study is about the unexpected inspiration and opportunity that arose from attending a workshop in January 2015 about a new PebblePad Implementation Toolkit. At the time the toolkit consisted of a set of 16 ‘viewpoint’ cards covering four implementation phases:

1. Vision and Scoping
2. Planning and Design
3. Implementing and Supporting
4. Scaling and Sustaining

Each set of viewpoint cards had accompanying activities and discussion points that institutions new to eportfolios could use to guide and plan their implementation and rollout.

The workshop day was primarily focused on looking at how to implement PebblePad, using the Toolkit, into an institution that was new to the system. Would this approach work for Plymouth, as we had already implemented PebblePad? Could the Toolkit be used to support a Phase 2 Implementation and increase usage?

The Approach

Following the Toolkit workshop the idea of a project for the PebblePad phase two implementation was taken to the leadership team. It was vital to have senior management
backing for this project to enable the team to be given the time and resources needed and an official route to report back on the project. The go ahead was given and in March 2015 phase two began, based on the Implementation Toolkit.

The project team, PUPPI (Plymouth University Pebblepad Project Implementation), consisted of two experienced users of PebblePad that had been involved with phase one of PebblePad at Plymouth University and a Project Manager/Co-ordinator who had some knowledge of PebblePad, but more importantly had attended the Implementation Toolkit day. The rest of the team was made up of other Learning Technologists with differing levels of experience with PebblePad. The diversity of the team allowed us to draw from each other’s experiences of PebblePad and allowed us to share communication across different networks and contexts.

A series of workshops was designed around the Toolkit viewpoint cards. A timeline was built around the academic calendar, designed to ensure that there was enough time to action the activities agreed in each workshop. We ended up running four workshops, each lasting three hours, spread over a 12-month period. The final two workshops were quite close together as they focussed on implementation and evaluation.

Workshop 1: Vision and Scoping

The cards and knowledge gained from the PebblePad Toolkit day were used as a guide for each of the workshops, with the initial workshop focussing on vision and scoping. This workshop began with an introduction to the project followed by discussions around visions for the future of PebblePad at Plymouth. Team members already working closely with existing users shared details of current practice with the rest of the team.

“\textit{The diversity of purposes for e-portfolios can lead to misunderstandings and ineffective implementation. There needs to be clarity over this at the start of the implementation}”

\textit{JISC} (2013)

Resources included in the Toolkit, such as the Touch Point Diagram, allowed us to explore a range of potential uses for PebblePad; these were then ranked in order of their importance to Plymouth University. From this activity we could identify ‘quick wins’ and spot areas that might be more challenging. We were then able to specify the ‘work streams’ or broad areas that we wanted to target with the implementation of PebblePad:

- **Curriculum Development** including CEP (Curriculum Enrichment Project).
- **Promotion** via Case Studies (current use of PebblePad) and the Website (keep it updated).
- **Plymouth University Peninsula Schools of Medicine and Dentistry (PUPSMD)** including BMBS (Bachelor of Medicine, Bachelor of Surgery).
- **Student Engagement** – Induction, HEAR, Careers, Placements, Plymouth Award, Lab work, Field work.
- **Staff Processes** such as PDR (Performance Development Review), CMALT (Certified Membership of Association of Learning Technologies), and PGCAP (Postgraduate Certificate in Academic Practice).
Project members were able to choose their own work streams, creating ownership over each area, and then began the task of plotting milestones for the next few months. These milestones included an acknowledgement of department deadlines, workloads, and busy times for the university such as assessment weeks, etc.

To ensure that this project was a success the PUPPI team needed to be upskilled and supported throughout. Less experienced team members were given four PebblePad scenarios to work through. These scenarios were based on support requests commonly received from academics. For example, a tutor in Health needs to set up a workbook with 4 pages, each page consisting of x, y and z, and then the workbook needs to be set as an auto submit resource for students. The aim was to provide these team members with real life scenarios/problems to solve to help them build their confidence with PebblePad. On completion, the more experienced members of the team talked through the tasks and shared how they would approach them.

The project coordinator also set up monthly work stream coordinator meetings. These were informal meetings to provide support to team members, discuss what was going well and not so well, and highlight any major issues.

**Workshop 2: Planning and Designing**

The aim of Workshop 2 was to develop a good communication strategy and clear roles and responsibilities within the team. This allowed the team members to juggle other workloads as we were not solely working on PebblePad. The project leader and more experienced team members provided the team with a strong expert knowledge base that could provide support and guidance in ensuring the project was organised and carried out efficiently. We also had a designated team member responsible for liaising with PebblePad about any technical issues / questions. This helped streamline the flow of information to efficiently resolve any issues encountered.

The Project Manager role ensured the team as a whole was kept on track. This was vital to feeding back to senior management on how the project was progressing, which included monthly update reports from each of the work streams. Google Docs and Trello were utilised to collate this information for each work stream, including progress to date and any blockers / challenges (AGILE). This allowed the team to monitor progress and highlight any issues that needed to be dealt with by management.

“The ePI study found that the e-portfolio implementation manager role was critical for effective implementation.”

*(JISC², 2013)*
Workshop 3: Implementation

During this workshop each work stream presented on the progress they had made and updated timelines and plotted final milestones. By this time we were aware of a range of staffing changes which could have had an impact on the project. However due to the organisation, reports, timelines and support meetings the handover process to new staff on the project was made much easier.

Workshop 4: Evaluation and Dissemination

This workshop was to look at how we could evaluate and disseminate what we had done, both in terms of the project process (this case study) and the progress on the work streams. From this meeting we highlighted things we could complete, such as writing up case studies, and where these could be disseminated, such as in our team newsletter and on our website. We also highlighted conferences in house at Plymouth University and wider afield such as ALT/CRA and PebbleBash.

The future of the project with current staffing and work streams was discussed. With the pending implementation of Flourish and the HTML5 version, the focus of this project was bound to change. It was important, however, that work streams that had made progress were supported to continue as much of the practice was still in the early days of implementation.

The Results

By broadly following but adapting the Toolkit cards to fit our institution context (we already had PebblePad) we have established a project team with defined project roles, organised and carried out 4 dedicated workshops, and produced work streams as areas to focus the PebblePad implementation. From these work streams various PebblePad instances have been initiated:

- **Curriculum Development and Promotion**
  A new staff development workshop, Embedding PebblePad in the Curriculum, has been promoted through the university teaching, learning and quality committees, both Faculty and School wide. The website has been updated. PebblePad has also been promoted through the CEP projects by our education development team.

- **PUPSMD**
  BMBS have successfully rolled out a Portfolio Analysis (providing evidence that the medics’ professionalism skills are developing) for years 1 to 3 with around 250 students using the system. In the future they are looking to roll it out for clinical logs and across the dental school.

- **Student Engagement**
  A student competition around ‘My life at University’ was developed and implemented. The aim was to raise awareness of PebblePad and to try to engage students in its use outside of the curriculum. Two winners have recently been notified.
• **Staff Processes**
  A CMALT template has been created for any of the Plymouth TEL team to use for their CMALT application. Discussions are ongoing with PGCAP leads and we have created mock-up workbooks and templates for use on their course.

• **Research**
  PUPPI project interim findings were presented at the AAEEBL annual Conference in 2015 and the finished project submitted to multiple conferences in 2016.

• **Benchmarking**
  An initial scoping exercise to outline the existing practice and to identify new areas for future focus.

• **Help and Support**
  New staff and student help and support documents have been created on the Digital Learning Environment.

• **Infrastructure/Technical**
  Single sign on was successfully implemented for our PebblePad installation along with a new landing dashboard. We also implemented a Data island to populate workspaces with users and rolled out PebblePocket across the institution.

Through upskilling the PUPPI team we have been able to further support our faculties outside of this PebblePad project, encouraging staff to attend the workshops and actively use PebblePad in their teaching and learning.

**Lessons Learnt**

• Having a dedicated project team, agreed by management, with allocated time and resources, really helped to drive the project forward.

• A project leader was vital to keep the team on track through organising and preparing meetings, and collating actions and documents (via Google Docs and Trello).

• Having two experienced PebblePad users in the team enabled everyone to get off to a solid start with these users being able to share details of existing practice.

• The logistics of getting the whole team together were difficult – a whole day is not advisable. Any project also needs to factor in the time taken to arrange and prepare for the workshops. The plan was to cover a set of cards per session, however we needed to meet beforehand to pick out key aspects and pre-plan before meeting with the wider team.

• Time management and prioritising tasks was essential for the process to work. Careful consideration needed to be given to how much time was allocated to tasks. This was especially the case where we all had other workload and project commitments.

• Despite the feedback to management, the project would have benefited from more publicity around the implementation process itself rather than a focus on information about what PebblePad is.

• The project itself will be transformed into the next phase of PebblePad implementation involving the new HTML5 version. We will take the lessons we have learnt from this experience forward to this next phase
In Brief – Using the PebblePad Implementation Toolkit to support PebblePad innovation.

- By using the framework you can ensure a strategic approach to implementation where there is buy in from all stakeholders and support is planned in all the required areas from the outset.
- Nothing is forgotten; following the prompts given in the Toolkit viewpoint cards ensures you have a plan for all stages of the implementation.
- The applicability of the Toolkit is not restricted to just those institutions who are new to implementation. It can be adapted to work where previous practice has developed organically and where original implementation has been less structured.

References


To view this case study in an electronic format please visit this link:
www.pebblebash.co.uk/2016/resources/pdf/pb2016cs02.pdf
Using PebblePad for clinical assessment within an Operating Department Practice Programme: Considering the results of an empirical evaluation of student perspective and the potential for CPD

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The research presented in this case study was conducted as part of a Post-Graduate Certificate in Academic Practice within the Learning Enhancement and Academic Practice Department at the University of Hull.

The Context

In 2005 the Higher Education Funding Council for England (HEFCE) outlined their strategy to assist the sector in embedding elearning into educational activity; a move which sought to bring higher education up to speed with contemporary shifts in technological use. Ten years on and the concept of technology enhanced learning (TEL) has evolved from niche practice to a routinely embedded function, seeking to use elearning to enhance student-centred, constructivist pedagogy (Stefani, Mason & Pegler, 2007). This case study explores how clinical eportfolios, as an extension of TEL, can be valuable for undergraduate health professional education and continued professional development (CPD).

In 2013 the University of Hull Operating Department Practice (ODP) programme re-validated, with a shift from the DipHE to a BSc(Hons) degree to meet the changed requirements of the curriculum (CODP, 2011). Changes to the clinical assessment strategy saw the introduction of PebblePad for developing a competency assessment eportfolio to replace the current paper-based portfolios. The clinical portfolio forms an element of summative assessment to be met each semester, as assessed by a clinical mentor. Each portfolio consists of a series of 6 themed learning outcomes which are broken down into performance criteria for which the student must demonstrate their competency. During re-validation and in line with the transition to using PebblePad, the ability for students to be assessed via a range of methods (written/observed/discussed) was introduced, replacing the requirement to provide a formal written statement for each performance criterion. Six reflections, based upon the learning outcome themes, were also added to the portfolio to enhance students’ ability to reflect and apply theory to practice. The eportfolio was designed as an auto-submit workbook within PebblePad and included a combination of student and assessor only fields. Whilst developed to be accessed during clinical placement, students were also encouraged to utilise the feedback panel to engage in dialogue with their mentor outside of placement hours, further enhancing the flexibility of assessment.
The Problem

The new style eportfolio was introduced to two student cohorts, first year and second year. With anecdotal evidence suggesting a positive response to the new electronic format, the ODP team felt that a small scale study would be beneficial to explore the response to the change in more detail and identify areas which require additional support or adaptation to better embed PebblePad within the programme.

For this case study two focal aims that align with the ‘future ready’ theme will be explored. These focal aims are:

1. To provide an empirical account of the experience of student ODPs using the PebblePad eportfolio for clinical assessment.
2. To explore whether use of the eportfolio encourages students to engage with wider facilities of PebblePad in developing their CPD Portfolio.

The Approach

A quantitative approach consisting of a questionnaire including Likert scale points was used to examine how the ODP students perceived the use of the PebblePad eportfolio and its impact upon their attitude towards developing their CPD portfolios. To allow for richer evaluation of the results, opportunity for qualitative feedback was also provided in the form of free-text boxes. Prior to commencement of the study, ethical approval was obtained via both the Faculty of Education and the Faculty of Health and Social Care research ethics committees at the University.

At the point at which the questionnaire was distributed, both cohorts of students had completed almost 3 semesters using the new PebblePad eportfolio for their clinical assessment. While the first year students had only ever had access to the eportfolio, the second year students had used the paper-based portfolio in their first year.

The Results

Across the two cohorts there was a total response rate of 66.7% (30 from a possible 45), consisting of 17 first and 13 second year students.

The student experience

From a broad consideration of the data, use of the eportfolio was positively received with 100% of both cohorts either agreeing or definitely agreeing that overall they were satisfied with their PebblePad experience. Notable positive qualitative feedback included:

“Good change [I] think it will help progress practice.”

“Overall I am satisfied with PebblePad as it is really handy for mentors and academic supervisors to keep track on student progression.”
“Pebble is a supportive move to me as it removed my written amount for placement, which allowed more time to learn the job role [and] spend [time] on my academic writing and studies.”

“Once you get to know how everything works it is easy and beneficial to [use] it. It stores all of your work in one place and is an excellent reference material for future.”

When asked to respond to the statement ‘I found the transition from the paper-based portfolio to the PebblePad eportfolio easy’, 50% of second year respondents strongly agreed, 28.6% agreed, and the remaining 21.4% of responses were neutral.

Within the 2nd year cohort 78.6% agreed or definitely agreed that the eportfolio offered increased flexibility when compared with the paper version. It is important to consider, however, the extent to which changes to the assessment options also impacted on the perception of increased flexibility. The qualitative feedback indicated that this was a contributing factor, with comments including “Observations are a good addition” and “PebblePad allows you to have discussions with your mentor rather than having a piece of written work for everything”.

To explore this issue further, reports were extracted from within PebblePad’s assessment area, ATLAS, which provided an overview of the range of assessment options used by students. The reports indicated that the alternative assessment methods of observation and discussion were used by the majority of students with a notable decrease in the use of written evidence to support clinical assessment. Comments such as “PebblePad allows you to have discussions with your mentor rather than having a piece of written work for everything” suggest that, for the students, the introduction of PebblePad and the new assessment options were closely tied. It is, therefore, difficult to say if the perceived flexibility was related to the eportfolio, to the assessment options, or a combination of the two. Although, notably, one student did comment positively on the flexibility of the eportfolio itself, stating, “[It can] be accessed by both mentor and student when not together”.

The most notable negative feedback related to access to devices to log in to PebblePad while on placement. 14.3% of second year students stated that they definitely disagreed with the statement ‘The PebblePad portfolio is easy to access when I am on placement’. From the perspective of the first year cohort access seemed to be less of an issue which may be attributed to them not having had any experience of other methods of portfolio assessment. Qualitative feedback further reflected the issues around access on placement with most comments being in relation to having access to a computer or issues with connectivity. One student also commented on restrictions on the use of personal devices.

The issue of accessibility raises a complex dichotomy. Whilst there is an assumption of portability attributed to the use of digital technology such as eportfolios (Stefani et al, 2007), it may also be argued that portability, in reality, is much more complex due to the resources required to make digital files useable. This situation may be remedied with the government initiative to ensure availability of open Wi-Fi within all NHS buildings (Press
Furthermore, a cultural shift may be required in which the use of digital devices is not perceived, or assumed to be perceived, negatively within clinical practice; something identified as a potential barrier in a pilot study trial of tablet personal computers for student nurses on placement (Bogossian, Kellett & Mason, 2008). During this study some students felt that the use of a digital device was either perceived as unnecessary or that staff would think they were not working. By altering the negative perception towards the use of digital devices within health care placements we can support the advancing changes with technology; thus preparing for a ‘future ready’ workforce of health care professionals where ICT is already beginning to show growth in areas such as patient record keeping.

**Developing CPD portfolios**

In relation to the use of PebblePad for CPD it was positive to note that 100% of first year students and 64.3% of second year students indicated that they either agreed or definitely agreed that PebblePad would make it easier for them to manage their CPD portfolio. Further, 94.1% of first year students and 78.6% of second year students indicated that they intended to use their PebblePad account to maintain their portfolio. This suggests a positive response to PebblePad more generally and also demonstrates that students were considering the benefits of using the system post-qualification and outside the remit of an educational programme. In considering the theme of ‘future ready’ it was interesting to note that one student stated “…it is the future so sure why not?”

However, whilst the initial response in relation to CPD was positive, the question of whether students had already begun to use PebblePad to develop their CPD portfolio presented a different picture. By contrast to those who planned to use it, only 17.6% of the first year students and 21.4% of second year students had already started to use their account for this function. This may be attributed to the limited time outside of study and may be something which the academic team can start to incorporate into the programme in order to promote a ‘future ready’ attitude towards the use of technology to maintain a record of CPD.

In relation to the use of eportfolios within higher education, Jenson and Trevor (2014) acknowledged their own naivety in thinking that the introduction of an eportfolio with promise of post-graduation use would be embraced by their students. There is perhaps a suggestion here that more is required from the higher education institute in order to develop and nurture a lifelong learning attitude. Certainly from the perspective of an ODP programme there is a requirement to instill this quality in order to produce practitioners who understand the implications of maintaining safety and effective, evidence based practice through CPD activity. Furthermore, from a regulatory viewpoint, the Health and Care Professions Council (2015) expects the maintenance of an explicit record of CPD, which can arguably be well developed through use of PebblePad.

One element of regulatory practice which may, however, present a barrier to the maintenance of an eportfolio is a lack of acceptance of digital technology for CPD purposes. Some regulators such as the HCPC (2015) imply that the portfolio, if requested for audit, must be presented in physical written format. With the HCPC standards having been updated in 2015 it could be argued that a more contemporary stance, using online
submission, would have been appropriate to match the developments in technology. However, users of eportfolios do have the option to print their work which does allow the user the flexibility of meeting what could be deemed as outdated requirements.

As an extension to the use of PebblePad for assessment of clinical competency and in response to the literature which considers the need for a deep learning shift (Jenson & Trevor, 2014), the ODP team have also adopted the use of PebblePad for academic support; providing opportunities for students to reflect upon their academic journey and provide a place in which to hold action plans from tutorials. The eportfolio itself serves the purpose of directing the students towards their professional expectation to maintain an up-to-date CPD portfolio (HCPC, 2015) and encourage deep learning; something which presents an area to be researched further.

**Lessons Learnt**

Following positive results from the introduction of the PebblePad eportfolio for the clinical assessment of ODP students, the programme team will continue developing the use of PebblePad throughout the programme. Two key action points have been identified.

First, with access being identified as a barrier, time will be spent working in collaboration with clinical partners in order to look at strategies to improve access within clinical areas. This will be undertaken through regular Programme Management Team meetings, maintenance of the programme newsletter to disseminate good practice, and through regular mentorship updates delivered within the clinical area. By improving accessibility the team hope to further enhance the positive response students have shown towards PebblePad.

Secondly, the team will continue to explore options for embedding PebblePad within the programme in order to encourage post-registration use for CPD. In development of the new third year module, the ‘Independent Project’, the team are considering presentation of the summative assessment via webfolio. This will aim to encourage wider, more confident use of PebblePad whilst allowing for more autonomy over the presentation when compared to the clinical workbook. By developing student confidence in using PebblePad creatively, the team can then assist students, during their final module, to begin developing their CPD portfolios in preparation for post-registration practice.

**In Brief – Showcasing ‘Future Readiness’ with PebblePad**

- The introduction of PebblePad within the ODP programme has provided a more flexible approach to clinical assessment which has been embraced by both students and mentors.
- Through engagement with PebblePad students have begun to consider how they can be prepared for their future practice and CPD requirements.
- The ODP team have gained a wealth of experience from which further developments can continue in order to further embed PebblePad within the programme to foster deep learning and enhance the concept of lifelong learning.
References


Health and Care Professions Council (2015). *Continuing professional development and your registration.* London: Health and Care Professions Council (HCPC).


To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs03.pdf
Monitoring and evaluating clinical skills using a customised online learning portfolio

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Department of Medical Imaging and Radiation Sciences, Monash University, AUS

The Context

In 2014 PebblePad was introduced into the Bachelor of Radiography and Medical Imaging (Hons) (BRadMedImg) program as an innovative clinical learning platform to replace the existing paper-based approach and improve communication between university staff and clinical supervisors. Previously students had used paper-based workbooks that contained information and space for almost everything they needed to read and complete for their clinical placements. Additionally university staff regularly visited students and clinical supervisors during each clinical rotation. Over time it became obvious we needed to move into an online environment that would overcome restrictions associated with the traditional approach and engender more effective monitoring of student progress.

The BRadMedImg is an integrated academic and clinical 4 year degree program with an overt commitment to developing critically reflective radiographers with the multifaceted skill base to match (Baird 2009). The year level clinical workbooks used contract learning as a vehicle to facilitate the development of radiographic technical and procedural skills and radiographic professional skills. Despite the best of intentions these workbooks were seldom seen by clinicians and students as testament to the whole journey from student to registered radiographer. Workbooks failed to foster a “capstone” effort of capturing progression.

With the inception of the Medical Radiation Practice Board of Australia (MRPBA) in 2012 and the subsequent publication of the MRPBA professional capabilities framework, it became imperative to establish a more integrated and permanent system of monitoring and evidencing student clinical progression. In an environment comprising in excess of 100 clinical sites the introduction of PebblePad to our clinical partners and students was arduous and challenging. Nevertheless, persistence has had its rewards. PebblePad is at the heart of our clinical programme, with students and clinical partners now understanding that PebblePad is much more than simply a repository for clinical documentation.

The Problem

Unsurprisingly, given current trends, online learning in the health professions has gathered pace and radiography is no exception (John-Matthews, Gibbs, Messer, 2013. Wertz, Hobbs, Mickelsen, 2014). Indeed in keeping with the Better Teaching Better Learning agenda that directs educational endeavours at Monash University (2015), health science students are increasingly experiencing a mix of in-class and online delivery of core content. However this is not as prevalent in the recording of radiography student experiences during the delivery of clinical education (Kowalczyk, 2014).
Monash University was the first undergraduate radiography course in Australia to implement a wholly online clinical studies repository for all aspects of clinical placements from student led activities, clinical skills assessments and clinical liaison.

There were multiple drivers for change, internal and external, large and small.

- Paper-based clinical placement workbooks had reasonably large yearly costs.
- Using paper-based assessment did not readily support personalised learning through timely and iterative feedback.
- Managing paperwork for clinical placements over four years was cumbersome, e.g. keeping copies of student work for audit purposes and for gathering of exemplars. The probability of paper copies being lost or damaged was also higher.
- University assessors were unable to view and monitor student work-in-progress while the students were on placement. This limited the synchronicity of communication between University staff, clinical tutors and students.
- The team needed a system to support the aggregation and display of radiographic images.
- The PebblePad framework, in particular the workbook function and the inbuilt reflective templates, allows students to readily evidence their development of professional and technical skills in accordance with course philosophy. Students are uploading anonymised copies of their own radiographs.
- The Better Teaching Better Learning Agenda of Monash University.

The Approach

Introducing online documentation in clinical sites is fraught with difficulties (Chow et al, 2012). Thus we adopted an incremental hybrid approach in an effort to ease the transition for all stakeholders into the online environment. The initial stages were as follows:

- Semester 1, 2014, hybrid phase: rapid rollout student led n=187
  - Year 3 (specialised clinical contracts on PebblePad, student only) + printed Workbooks
  - Year 2 (specialised clinical contracts on PebblePad, student only) + printed Workbook across year
- Semester 1, 2014, External “champions”
  - Year 1 (split cohort, PebblePad or printed Workbook, student only) with some elements on PebblePad for selected externals
- Semester 2, 2014, (in order of the clinical placements) support phase for students. Externals added n=98
  - Year 2 (as above)
  - Year 3 (PebblePad only as a series of Workbooks)
  - Year 1 (PebblePad only as a series of Workbooks)

We make use of templated clinical liaison feedback forms and grading rubrics. These ensure there is a similar approach across all staff. We have begun to make use of data analytics which PebblePad affords. We can download results and run statistical analyses to identify areas of weakness. These areas can then be addressed within the curriculum.
We have been able to communicate with students and busy clinical supervisors in a more effective and timely manner. The students use Folio Pages to create a personal and professional profile, deemed “Bios”, as an insight and introduction about themselves for their clinical sites before they attend.

We have been able to orchestrate electronic placement handovers between placements with minimum additional effort.

Students have immediate access to feedback from multiple sources such as faculty and clinical to support their learning.

The Results

The results exceeded initial implementation objectives:

- Reduction in the administrative burden by allowing simultaneous multi-user access at one time.
- While the budgetary outlay has been high in the transition phase, the move to an online environment is a long term investment. There has been considerable effort to showcase achievements outside of our department and with increasing faculty interest and involvement now happening ongoing costs will be significantly reduced.
- Flexible delivery of teaching and learning.
- Dynamic links to current evidence based practice repositories.
- Evidence of longitudinal learning with development of reflective skills (Y1 –Y4).
- Synchronous and asynchronous formative feedback and assessment.
- Media display (image capture) of skill acquisition demonstrating problem solving capacity (See appendix A for an example).
- Students can more confidently understand what it means to be registered as they are required to actively evidence each one of the registration requirements. Further to this, in year four they will use their eportfolio to answer the question “Why should I be registered?”

Survey of year 2 students (2016)

- 88% agreed that ‘The introduction to the clinical portfolio (tutorial) meant students knew how to access and navigate their clinical studies requirements while on placement.’
- 70% of students found PebblePad easy to navigate.
- 88% agreed that the image collection helped scaffold their clinical development.
- 86% agreed that the reflective reports helped scaffold their clinical development.
- 98% agreed that the feedback in the clinical skills assessments enabled them to identify areas for improvement
- 91% agreed that the activities in the Induction Programme raised their awareness of emergency procedures
- 85% of people agreed that they could appreciate the advantage of PebblePad (we asked specifically about using an online platform) for clinical documentation.
Lessons Learnt

As mentioned, there are many obstacles to introducing online documentation in clinical environments (Chow, 2012). Planning is therefore essential. We adopted an incremental hybrid approach of the online platform alongside printed workbooks initially in an effort to ease the transition into the online environment. The timeline for introduction was significantly reduced due to ever increasing pressures to transition to wholly online workbooks. However, with a clear strategy in place it was much easier to re-adjust the timeline in accordance with the blueprint.

There are various degrees of digital literacy across stakeholders. It can be that those you most expect to have the requisite skills don’t, and the opposite can also be true. Do not underestimate them. It is also important to remember that things that might seem obvious to you are not to others.

We concur with the observation made by Chow et al (2012) that successful implementation of online clinical documentation is highly dependent upon the attitudes of the end user. We quickly realised that the attitudes of the academic staff involved in implementation at close proximity with the platform are as crucial as those of the end users. Be prepared for the difficulties associated with change, believe in what you do, and relish the victories!!

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Students are capturing their skill development across placements rather than within placements, moving from an insular mindset to a more holistic approach.
- The students start writing their “Bios” in semester 2, year 1 with some basic information about themselves. To support students and give them confidence for job interviews they are introduced to graduate position descriptions in year 3 closer to application for a supervised practice position and onwards to job searches towards the end of year 4. Students interrogate these descriptors, mining them for the key skills required in the workplace. They outline their own commensurate skill mix to address these key selection criteria within their Bio. In essence these Bios naturally evolve into cover letters that students develop over three years (see Appendix B for an example of a student Bio).
- Students record their ongoing professional development and collate evidence in preparation for graduation and registration in the form of a rich eportfolio using multimedia such as images and blogs. This eportfolio will form part of their final year Clinical Portfolio submission. Students are introduced to the concept of a personal professional eportfolio in semester two, year one. They are provided with guidance throughout the process with regular tutorial sessions in year 2 and 3 (See appendix C for support framework). The framework for their eportfolio is based on the professional capabilities articulated by the MRPBA (2013). This eportfolio makes students aware of, and understand, the expectations for registration as a professional. Students are expected to provide evidence in their eportfolio to address each registration “domain”. While the eportfolios are based on core curricular activities, the nature of PebblePad and eportfolios means students can look beyond these to extra-curricular activities which are equally valuable in a student’s development. (See Appendix D for an example of a student’s eportfolio).
References


Appendix

Appendix A: Image collection and discussion

Examination Requested and Clinical Notes:
This patient came in with a request for a hand X-ray as he presented with a large swelling on his middle finger and a foreign body was listed in the clinical notes. For the exam, all the routine hand projections were implemented and no special projections were taken as they were not deemed necessary.

Patient Condition:
The patient presented in a wheelchair and was not fully conscious so I had to get his ID from his wife. During the examination, the patient was unresponsive to any verbal instructions that I gave him and so this proved incredibly difficult in terms of getting him to maintain the positions that I placed him in due to him not being aware that he needed to stay still. As a result, he would naturally relax his hand which meant that I was not able to get a perfect image and I often had to run to take the exposure to ensure that there was not much chance for him to move.

Adaptations to Procedural Technique:
For some of the projections, my supervisor had to stay in the room holding the patient’s hand in position while I prepped the tube. When the tube was prepped, the supervisor would let go and run to the control panel so that I could have time to quickly take the X-ray.

Patient Limitations:
The PA was the best of the three images taken as the patient's hand was flat against the board and so did not need to be propped up with sponges or sandbags. After reviewing the image, it also became obvious that the patient had severe OA and so this made it difficult for him to straighten his fingers as they were naturally bent. His joint spaces were also quite degraded and so obviously, acquiring open joint spaces on the actual image was not really possible. In anticipation of the patient moving due to him relaxing his hand whenever I positioned it for the PA, I decided to open up the collimation a bit more so as to prevent from cutting off any anatomy should he have moved during the exposure time.

Learning Outcomes:
Given that I haven't had much experience with positioning real patients, I was fairly proud of my efforts during this examination as the patient was quite difficult and definitely was not something that I was used to or well practised at dealing with. Another important skill that I learnt from taking this hand series is to know how to judge when an adequate image has been taken. I think one of the hardest things about taking images of uncooperative patients is to know that it is not always possible to get a perfect image. Therefore, I think it is a really essential skill to not always be hung-up on acquiring
Appendix B: Bio

My name is Jessica Woods, and I am currently a 3rd year Monash student. My previous placements have been at a range of both private and public hospitals, and I am now undertaking my first rural placement for my second semester clinical rotation. I am enjoying the challenges that go hand-in-hand with the clinical environment!

Last year, I was lucky enough to be selected as one of three students to represent Monash in an International Radiography Competition, held in Taichung, Taiwan. It was an incredible experience, which I found helped me to gain a greater understanding of the role of radiography in other parts of the world. The theme of the competition was “Skull Radiography”. This was particularly fascinating, as skull x-rays are rarely performed in Australia. This meant we, as a team, had to spend a lot of time refining our skills in performing skull x-rays and pay great attention to the intricacies of skull positioning. We wrote an article detailing our experiences which was published in the AIR’s ‘Spectrum’ magazine. I have attached the article below so that you are able to read more about the trip.

I initially enrolled in radiography as a pathway to sonography - I am very interested in ultrasound, and ideally would love to study post-graduate sonography and specialise in obstetrics and women’s health. However I have thoroughly enjoyed my time spent in x-ray and CT.

Outside of university and clinical studies, I tutor Maths and English for students ranging from Grade 3 to Year 12. I also work part time at Etihad Stadium, as a functions team leader. I am the youngest of 6 children, and am now becoming bombarded with lots of new nieces and nephews - it is amazing!

I look forward to getting to know each other, and learning from the range of staff and experiences that your site has to offer!

Appendix C: Overview of student support for development of professional ePortfolios

RAD1012
Introduction to ePortfolio (lecture)
What is an ePortfolio

RAD2012
Getting started (Tutorial X2)
Graduate attributes and MRPBA registration requirements

RAD3051
RAD3042
Preparing for Supervised practice (Tutorial X1)
Position descriptors

RAD4000
RAD4160
Present ePortfolios to academic staff
Appendix D: Example of student ePortfolio

https://v3.pebblepad.com.au/alt/monash/Asset/View/ykgr8r465ytrhxzj9g99zZz6yy

To view this case study in an electronic format please visit this link:
www.pebblebash.co.uk/2016/resources/pdf/pb2016cs04.pdf
The Pocket Portfolio: Workplace based assessment and feedback in Medicine

Paul Duvall
School of Medicine, University of Liverpool, UK

The Context
The Liverpool Medical School introduced a new curriculum in 2014 and embedded an eportfolio approach into the programme with the expectation that this would help to prepare undergraduate medical students for the lifelong requirement to gather evidence of reflective practice. The School also sought to use the system to monitor student progress more effectively and enhance the quality and quantity of feedback.

The Problem
The decision to integrate an eportfolio approach into the medical Curriculum 2014 was taken for a number of reasons, including:

- Preparing undergraduate medical students for reflective practice and the requirement to collate a personal portfolio of evidence, a lifelong commitment which continues throughout postgraduate years and into a future career.
- Allowing staff and students to monitor progress over each year of the programme.
- Providing a secure institutional space to collect personal evidence and information.
- Aiming to enhance the quality and consistency of feedback captured during clinical placements, particularly from external staff observing and assessing medical students.
- Reducing the significant amount of paper previously used to record clinical activity.

The Approach
Over the past two years the School has moved from a restrictive paper logbook approach to an eportfolio model using PebblePad. Accessible offline and online through mobile devices, students can use the technology in their pocket to record their activities and experiences in any environment. This activity incorporates both the clinical and non-clinical elements of the course over four year cohorts containing approximately 1200 students and is supported by hundreds of internal and external staff, all using the eportfolio system.

As a non-modular course we have created workspaces which reflect the year structure of the medical programme. Students need to satisfy identified requirements in each year in order to progress through to the end of year exams. The eportfolio system now offers the possibility of managing and monitoring these requirements throughout the entire School.
The first year use is designed around the curriculum themes and we use a combination of customised templates, assignments and workbooks. In the second year clinical placements commence which introduces the initial use of the PebblePocket app and customised clinical activity forms. We also ask the students to complete reflective templates and attach them to capability fields in clinical workbooks as evidence alongside a number of completed forms covering histories, examinations, clinical skills, attendance, etc. In the third and fourth year this clinical activity approach intensifies as the students continue to collect staff signatures and feedback against observed clinical activity using the customised forms on their own mobile devices. The structure of the Year 3/4 workbook is based around the timetabled clinical placements throughout the year, such as paediatrics, medicine, surgery and GP amongst others.

Students are encouraged to build up a comprehensive portfolio that exceeds baseline expectations. All of this activity is monitored remotely against minimum targets at different points of the year. Regular reports are distributed to year leads to keep an overall view of student progress. The quality assurance of this activity is then provided by academic advisors who meet their students several times throughout each year, to discuss progress and view the student's eportfolio content in detail.

All educational staff within the NHS Trusts also have access to the system as externals and offer annotated feedback attached to student workbooks. They also feed into progression review processes by viewing content through ATLAS within panels and sharing their findings with the School.

The Results

Full scale evaluation of the eportfolio and the new curriculum is currently underway but early indications show that the quality and quantity of student feedback has already improved across the programme. We have also seen an enhancement of many administrative processes and systems, such as academic advisor meetings and progression reviews.

For the first time ever the Liverpool Medical School can remotely monitor clinical placement activity and gain a realistic picture of student activity in real time. We also have the ability to bring all assessment and feedback into one central location and inform student support processes with accurate data.

The regional NHS Trusts are fully engaged with our new approach and are playing an active role in developing and refining the staff and student involvement.

There has been a significant improvement in the student satisfaction compared to the initial pilot year. This reaction can been gauged from the decrease in the support necessary to field student complaints, answer queries and solve technical problems. We have even started to receive some positive comments from students! Further qualitative and quantitative evaluation data will be available at the end of the 2015/16 academic year.
Lessons Learnt

Our eportfolio project has proved to be a huge learning curve for the School of Medicine over the last three years. There were, of course, technical lessons learnt as we became more familiar with the tools and functionality of PebblePad. The use of mobile devices in clinical environments also presented significant challenges which we needed to work through. Additionally we had issues piloting the use of the customised offline forms within PebblePocket at a large scale. Account authentication, VLE integration and automatic large scale student enrolment were also crucial issues which all needed addressing.

However, equally important has been the experience gained in large scale project management of this kind, particularly in relation to the external healthcare environment. It has been necessary to create a cultural change amongst clinicians supporting medical students. This has taken some time but we are making progress and are now witnessing much greater engagement. We have also appreciated the potential of the system to improve existing administrative processes and this development has been accelerated.

Each medical school attempts to educate in different ways but sharing our experiences could benefit national and international medical education. Many barriers have been faced and most have been overcome which would be of interest to anyone engaged in healthcare and wider vocational courses.

The introduction of an eportfolio, as part of a wider Technology Enhanced Learning (TEL) strategy, into the undergraduate medical curriculum at Liverpool is significantly improving the student and staff experience. The effective use of an eportfolio can enhance medical education when the design and functionality of the system match the identified requirements.

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Preparing medical students for the lifelong requirement to collect and collate evidence.
- Helping to develop the reflective practice skills which medical students will continue to use as junior doctors.
- Improving the case presentation and discussion skills through the learning design of the technology system.
- Enabling the capture of real time assessment data in challenging offline clinical environments, in a robust and quality assured manner.

To view this case study in an electronic format please visit this link:
www.pebblebash.co.uk/2016/resources/pdf/pb2016cs05.pdf
The articulation of Admiral Nursing, specialist dementia nursing practice: A case study exploring the use of the PebblePad eportfolio in professional nursing practice.

Dr Karen Harrison Dening
Dementia UK, UK

Amy Pepper
London Borough of Sutton Admiral Nursing Services, UK

The Context

This project aimed to address various challenges that face Admiral Nurses (ANs) in demonstrating their advanced practice and to meet professional and practice development requirements. ANs are registered nurses specialising in dementia care. Within a care management approach ANs work with whole families affected by dementia in a variety of settings to improve quality of life throughout the journey of the illness (Harrison Dening, 2010).

The charity Dementia UK\(^1\) supports each AN through a robust process of facilitated peer group clinical supervision and practice development workshops which are held on a monthly basis within various regions of the UK. One of the cornerstones of the clinical supervision sessions is the use of models of reflective practice. ANs, in turn, present cases that may be complex, challenging or require the shared knowledge and experience to critically explore relevant issues that a peer group can offer. Concurrent to this is the need to support ANs to articulate their level of expertise through the medium of their bespoke competency framework (Dewing & Traynor, 2005).

Articulating Competence

The AN Competency Framework (CF) (Dewing & Traynor, 2005) supports the nurse in working towards advanced occupational competency by facilitating the collation of evidence to demonstrate specialist and advanced nursing skills as required in the AN role. The CF affords a systematic approach for improving and standardising care through reflective practice and articulation of practice. Whilst the Nursing and Midwifery Council\(^2\) (NMC) has not yet decided on its approach to accrediting advanced practice there have been moves in other countries in the UK to assign ‘academic levels’ required for advanced and specialist nurse practitioners. Whatever the future holds in this respect ANs must ensure their preparedness in demonstrating a ‘specialist’ level of practice through engagement and utility of the CF. This process is in addition to each nurse’s occupational appraisal so the purpose of introducing PebblePad had the potential to align these separate imperatives to avoid any unnecessary duplication for these busy nurses.

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\(^1\) [www.dementiauk.org](http://www.dementiauk.org)

\(^2\) [www.nmc.org.uk](http://www.nmc.org.uk)
Validation of Practice

We also saw that ‘on the horizon’ for the nurses were the changes to professional registration processes. The NMC went live with the new revalidation approach in October 2015 with registration renewal dates from April 2015 (NMC, 2015). From this point nurses are required to maintain their registration by providing evidence of continued professional development to the NMC to remain on the nursing resister. The purpose of revalidation is to improve public protection by making sure that a health professional remains up to date in their practice over their career. Several other health and social care professions are also required to adhere to revalidation regulations. Revalidation for nurses is built upon existing post registration education and practice processes (PREP). Whilst PREP required the nurse to maintain a professional portfolio that evidenced continuing professional development, revalidation goes significantly further (see Box 1).

<table>
<thead>
<tr>
<th>Undertake 35 hours Continuing Professional Development (CPD) relevant to your scope of practice in the 3 year period since registration was last renewed, or when the nurse joined the register. The record of this activity must not only record the number of hours but also aspects such as how the CPD relates to the NMC code (ref) and evidence you undertook the activity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The nurse is required to have practised for a minimum of 450 hours over the time frame of three years or they may be required to undertake an appropriate return to practice programme. The practice hours are those that rely upon your skills, knowledge and experience as a registered nurse within your current scope of practice.</td>
</tr>
<tr>
<td>The nurse is required to evidence at least five pieces of practice-related feedback; this can be from patients, carers, peers, managers, etc.</td>
</tr>
<tr>
<td>There is a requirement to provide a minimum of five written, reflective accounts. These can relate to an instance of CPD, practice related feedback and or an event in the nurse’s professional practice, however, each must reference the relevant aspect of the code that applies. The reflections are to enable the nurse to identify areas for improvement or change to their practice to evidence what they have learnt from the issue reflected upon.</td>
</tr>
<tr>
<td>Further to the written reflective accounts the nurse is required to discuss these with another NMC registrant; this must be evidenced by their signature, NMC Pin and email as well as the date discussed.</td>
</tr>
<tr>
<td>The nurse must provide a declaration of health and character.</td>
</tr>
</tbody>
</table>

Box 1: Requirements of revalidation
The Approach

A project group was established to develop an approach that would unite all of the current and expected demands for ANs to meet and demonstrate their professional and practice development. It was essential that such an approach had the key element of avoiding duplication of effort as its driver.

It was decided that the utility of an eportfolio could facilitate all the requirements for appraisal, the articulation of reflective practice (as engaged in clinical supervision), developing competencies and revalidation of professional practice. Of equal importance was Dementia UK’s wish to enable ANs both to realise their worth and to be able to demonstrate this using their eportfolios.

PebblePad licenses were purchased and ‘gifted’ to all ANs as Dementia UK’s commitment to their professional development. However, it soon became clear that, to support equity within the workforce of the charity, eportfolios would also support the development needs of all staff so the licenses were gifted to all charity employees and members of the board of trustees.

Familiarisation

A project plan was developed to enable the steering group to move through the milestones identified. A small group was established to develop a ‘revalidation workbook’ that would sit within ATLAS and act as a resource for all ANs. The workbook has been developed to enable the AN to incorporate their documented reflective practice, arising from clinical supervision sessions, to both form their revalidation requirements and also to articulate their specialist professional competence using the framework.

To best enable successful uptake and use of the PebblePad eportfolio we allowed a period of one year where nurses could familiarise themselves with their portfolio and its mechanisms and indeed, to ‘play’ and explore its opportunities. This was supported with peripatetic sessions within their practice development workshops around the country facilitated by the Professional and Practice Development Team and also in their annual national practice development forum.

However, it was important to embed the use of PebblePad into other professional development activities also. To support the process of familiarisation, a 20 credit academic module at Master’s level was commissioned with the University of Worcester (MSAP4110 - Working with people with dementia: Applying the Admiral Nursing Competency Framework\(^3\)). The module combined the key elements of employment of the CF to their practice and use of reflective practice models, all using the medium of a PebblePad eportfolio. As part of the course, nurses were issued with a university PebblePad license but upon completion of the module all assets were combined with their Dementia UK version so no assets were lost. The module was first run in Spring 2014 with two intakes of nurses per year. To date there has been a 100% pass rate and some other very positive outcomes too.

\(^3\) [www.worcester.ac.uk/discover/working-with-people-with-dementia-framework.html](http://www.worcester.ac.uk/discover/working-with-people-with-dementia-framework.html)
A distinct and creative benefit to using PebblePad in developing evidence against their reflective assignment was in the development of multi-media assets; for example, the seminar presentation that was a component of overall marks was evidenced through a PowerPoint presentation, photographic evidence of the presenter in viva, a podcast of their talk, and a 360° evaluation of the overall seminar presentation. Nurses that have completed the module have become PebblePad ‘champions’ within their regional practice development groups supporting colleagues who have not yet enrolled on the module to make full use of their eportfolio. Some have also become members of the PebblePad steering group within the charity to support the development of additional workbooks and templates as well as supporting the project to roll out PebblePad to all users.

Revalidation Workbook

A key resource that members of the steering group developed was a workbook (see Figure 1) that combines the requirements for NMC revalidation, linking them to existing reflective practice processes within their clinical supervision, with example templates of reflection (e.g. Driscoll, 1994) and the AN CF domains.

Figure 1: Admiral Nurse Revalidation Workbook

This was an important development to ensure duplication avoidance and multiple uses of processes (see Figure 2).
Reflection on Practice

Reflective practice in nursing has historically been regarded as a process through which nurses can grow and mature as professionals through the integration of theory and knowledge into practice. Johns (2009, p 41) describes reflection as:

“.. a window through which the [nurse] can view and focus self within the context of a lived experience in ways that enable one to confront, understand and work towards resolving the contradictions within practice...”.

Indeed, the new NMC revalidation process places a strong emphasis on reflection, requiring nurses to reflect on what they have learned and how it has changed their practice as one way of demonstrating adherence to the NMC Code. A key premise of reflective practice is that an experience alone does not necessarily lead to learning but that a deliberate reflection on experience is essential.

Through the academic module and the Revalidation Workbook we introduced several reflective models and templates that the nurse could select from to structure their reflective thinking and demonstrate their learning. The following two images are examples of a nurse’s use of the What? So What? Now What? reflective tool (see figures 3, 4 and 5).
Figure 3: Example 3 of reflective practice in PebblePad

Figure 4: Example 2 of reflective practice in PebblePad
Within the NMC Code there are four themes that signify good nursing (and midwifery) practice (see figure 6). The reflective templates within the Revalidation Workbook allow ANs to align their outcomes to the themes.

**Promote professionalism and trust**

**Preserve safety**

**Practice effectively**

**Prioritise people**

Figure 6: NMC Code themes of professional activity

Figure 5: Example 3 of reflective practice in PebblePad
**Competency Framework Refresh**

As discussed earlier, the AN CF is an approach whereby nurses are able to articulate their level of expertise within the field of dementia care to a level that is required of specialist practitioners. The first AN CF was developed in 2005 and although it was modified in 2012, it required a significant ‘refresh’ to ensure that it remain contemporary in its ability to evidence a nurse’s strengths and areas for further development. In 2015 the Association of Dementia Studies, University of Worcester, was commissioned to review the framework and update it accordingly. Part of the specification within the tender was to present the final refreshed framework within ATLAS in the Dementia UK PebblePad, and completion of this is imminent with its launch planned for May 2016.

**Lessons Learned**

Linking various streams of activity through PebblePad eportfolios provides ANs with a systemic approach to their professional and practice development. There are many demands upon a nurses’ time and often they can ‘disembody’ their own needs, especially clinical supervision, portfolio development and formal reflective practice. Developing an ‘infrastructure’ that has PebblePad at its core (see Figure 2) has enabled ANs to maximise their professional and practice development activity and avoid time wasting duplication.

Whilst we gave all ANs a year to ‘play’ with their PebblePad eportfolios the sign on and uptake was slower than anticipated (70% after 6 months). A more structured approach using regular workshops rather than using the practice development days on an ad hoc basis may have facilitated a better response.

The academic competency framework module where PebblePad was the learning platform has been very successful for several reasons; it has enabled nurses to articulate their reflections on practice to an advanced level and gain level 7 credits, as well as becoming advanced users of PebblePad.

Developing materials and templates for use within ATLAS has taken more dedicated time than initially planned. Going forward we will either ‘ring fence’ an individual’s time to undertake this or commission others to do so. Creating effective and stylish materials has been key to engaging users; a good example was the Revalidation Workbook.

**The Future?**

As all new AN posts and services are commissioned we will contract that nurses access the CF module within 18 months of commencement into position to facilitate early adoption and use of PebblePad. This will promote use of all the benefits that will support ANs in demonstrating their expert practice, support their individual revalidation with the NMC, and provide their host organisations with confidence in practice outcomes during appraisal.
References


To view this case study in an electronic format please visit this link:
www.pebblebash.co.uk/2016/resources/pdf/pb2016cs06.pdf
A new approach to confirmation of skill acquisition

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Abstract

Assessment of Paramedic students’ knowledge, skills and professionalism against the required standards of proficiency is conducted in a number of ways across their education journey. Practical skills associated with the role are generally assessed in an Objective Structured Clinical Examination (OSCE) format. In response to increases in student numbers, pressures on staff time, and associated increases in cost, our approach to assessing practical skills needed to change. This paper reviews our change of practice which included utilising various technologies and learning platforms within the curriculum, engaging students in the assessment process, and introducing a more cost effective and time efficient use of resources.

Introduction

The acquisition of practical skills in Paramedic practice has long been at the forefront of Paramedic training. However with the move of training to Higher Education, greater emphasis has been placed on the development of the students’ underpinning knowledge and developing graduates in readiness for registration and practice (College of Paramedics, 2014; HCPC, 2014). Paramedic education should prepare students fully for being the first on the scene of injury or illness and for making lifesaving, patient safety related decisions. Assessment of students in the performance of these skills is a key component of their summative assessment. Even in this new state of knowledgeable execution of clinical skill, it is clear that the development of the psychomotor skills remains an essential part of Paramedic education for the creation of a competent and safe practitioner (National Patient Safety Agency, 2004). It is therefore essential that the acquisition of these skills is appropriately assessed.

The Objective Structured Clinical Examination (OSCE) was originally developed in Dundee in the mid-seventies (Harden & Gleeson, 1979) and is widely and increasingly used within health professions (Alinier, 2003). The Harden and Gleeson model of OCSE is described as long case, multiple OSCE stations that assess various clinical skills. The style of OSCE used at Sheffield Hallam University (SHU) is perhaps more akin to the Ruessler, et al. (2010) ideas of assessing pre-hospital emergency medicine skills by Emergency Case OSCE (ECOS), in that it is more specifically related to one case or focussed on one skill managed in a single OSCE. Research shows that the OSCE is an effective evaluation tool for assessing practical skills (Sloan, et al.1995). The OSCE is, however, time consuming and expensive (Barman, 2005).
We currently assess 18 skills via traditional OSCEs over 4 modules in the Dip HE Paramedic Practice and the program has experienced a year on year increase in commissions resulting in a current cohort size of 70 students. This has resulted in the program suffering increased staff time pressures, a majority of which are related to supporting OSCE practice and the OSCEs themselves.

Aims

It became obvious that we needed to rethink our current approach to the assessment of these practical skills. In adopting a new approach, we had two distinct objectives in mind. Firstly, we needed to find a more efficient way of working to reduce staff engagement and overall cost, specifically in relation to the use of Associate Lecturers (AL’s). Secondly we wanted to remove some of the associated ‘OSCE Stress’ experienced by students, which often contributes to the student not performing at their best and potentially failing the assessment (Alinier, 2003), and to create a more student focussed pedagogy in their assessment.

Implementation

According to Northcliffe (2012) assessment traditionally consists of a subjective perspective of a member of teaching staff having reviewed the individual student’s performance, at a given time in their education. Whilst some moderation may occur, often only one individual will review a student’s performance. We thought that the inclusion of both self and peer assessment would add further dimensions to the assessment as well helping the student to understand the assessment process. There is also the potential for equipping the prospective graduate more fully to enter the workplace with the ability to mentor and peer review, thus enabling them to make discernible judgement about their own and others’ practice.

In the current OSCE process students are mostly passive recipients in a stressful assessment process (Van Hattum-Jannssen & Lourenco, 2006). McGarr and Clifford (2013) and Lanning, et al. (2011) note that both self and peer assessment has several benefits, including enhancing the students’ motivation as they become more active participants in the assessment process. It seems to foster a deeper learning of the subject matter (Lanning, et al. 2011) and a deeper understanding of the level of competence required whilst also developing self-awareness, reflective skills and an attitude of lifelong learning.

Although initially we were concerned that students may give each other an ‘easy ride’, the evidence (Lanning et al, 2011) suggests that rather than being lenient in assessing their performance, students are often harder on themselves and each other than the qualified assessor may have been, something supported by our subsequent findings. Including the self and peer assessment tasks can potentially also improve assessment reliability (Lanning et al, 2011).

Use of self and peer assessment has not been without its drawbacks. However, the research reviewed suggests that issues such as personality clashes, racial prejudices,
increased moderation work for lecturers, and poor validity or reliability of assessment are both infrequent and are evident in other assessment formats (McGarr & Clifford, 2013; Northcliffe, 2012; Lanning, et al. 2011).

All of the OSCEs in the current course occur in the ‘Learning in Practice’ (LIP) modules, LIP 1A, LIP 1B, LIP 2A & LIP 2B. The skills in LIP 1A & 2A are isolated psychomotor skills that are also assessed later whilst the student is in practice, and to some extent in the scenario based OSCEs in LIP 1B & 2B. The skills in LIP 1B & 2B are of a more complex nature and are assessed by a scenario based OSCE which will still require an assessor to run and manipulate the scenarios.

The new OSCE plan was based on the premise that each of the students would be assessed via a series of video recordings of the student performing the skill. Each student was asked to use PebblePocket to record three successful attempts at each skill and upload these into a workbook, and submit the workbook to a workspace for assessment. Lecturers all have access to the submissions via ATLAS (the institutional Active Teaching Learning & Assessment Space). Following the initial assessment, internal and external moderation was easily facilitated via ATLAS access to all submitted workbooks.

One of the initial concerns was that in LIP 2A there are 7 skills to assess, which would result in 1,470 videos for assessment. This would obviously be far too much for one lecturer to assess and mark. This partly lead to the decision to get the student to self-assess video 1, while another student would peer-assess video 2. The academic staff would assess video 3 and, if needed, review the other two. It was felt that the introduction of self and peer assessments would develop a more inclusive and collaborative pedagogy (Lanning, et al., 2011). As each of the students is assigned to one of the 9 lecturers on the program as their academic mentor, it was decided that each academic mentor would be responsible for marking their allocated students. Lecturers would then be able to self-manage their marking time and review the videos within the standard three-week turnaround period as per the institution’s assessment regulations and this should negate the need for AL support for marking.

To further support this process and to reduce the need for staffing during OSCE practice, exemplar practical demonstrations of skills were filmed by lecturers using PebblePocket. The films were then shared via foliopages published to the web. A Quick Response (QR) code was linked to each foliopage URL and tickets displaying the QR codes were created and attached to the equipment required for the practice of the specific skill. Students could use their own devices or the tablets made available next to each skill practice station to scan the relevant code and watch the video for instruction and support.

A concern was raised regarding the assessment of underpinning knowledge around the skill, which had previously taken place during the face to face OSCEs by the examiner questioning the student. In designing our solution to this problem we turned to a number of useful PebblePad features. We utilise a workbook to create an assessment tool of the underpinning knowledge. The student completes the workbook which is set to auto submit to the module ATLAS site. This allows the module leader to keep oversight on
student achievement and allows the academic assessor to mark the submission at the same time as assessing the video submission. Each skills section of the workbook ends with an evidence holder which allows the student to upload the 3 videos for assessment. A feedback template and scorecard was added to the feedback section in ATLAS to provide a standardised marking matrix.

Each student is encouraged to download PebblePocket to their own mobile device and link it to their own asset store (loan devices are made available upon request). This allows each student to use the ‘Record a Video’ option in PebblePocket to record their videos and load them directly into their asset store for later use.

Results

The team implemented the trial in March 2016 with a cohort of 20 students starting the LIP 2A module. The students had already completed LIP 1A using the traditional method of OSCE assessment and lecturer lead practise sessions thus giving us a benchmark to compare against.

Following the OSCE submission, a survey was distributed to the students and 16 completed surveys were received (80% return rate). The full results can be viewed at [http://bit.ly/vid_results](http://bit.ly/vid_results). We are aware this is a relatively small sample and intend to repeat the process with a larger group.

In relation to the first objective of finding a smarter way of working and reducing staffing costs, LIP 2A currently has 15 hours dedicated to skills practice, staffed by 4 lecturers (60 hours in total). By using pre-recorded video skills to support learning this has been reduced to a total of 18 hours. The initial session includes two tutors plus tablets to facilitate video playback. After the initial session further sessions will have only one tutor and the tablets saving 42 staff/AL hours.

The use of the exemplar videos had a definite impact with 87.5% of students finding the videos reduced the need for tutor support, with 37.5% finding a ‘significant’ reduction. The videos also helped reduce the confusion sometimes created with inconsistency of multiple tutor explanations, although 31% of students still needed some clarification.

“The videos were a useful reference tool, but need refining to produce a definitive and accurate representation.”

“The only confusion over what was required was amongst the group. In my opinion, if the demos were the standard then I don’t see the issue when using them as the example. People interpreted some things differently.”

Traditionally each OSCE Station is 30 minutes with 10 minutes for admin & change over and 20 minutes for results and feedback at the end, equating to 5 staff hours per student. We found the average marking time for the videos was 2.5 hours, a 50% saving on staff/AL hours. In addition, all marking was completed by the fulltime staff without any need for AL support. We were also able to complete an effective internal moderation and
the module has now gone to the external assessor for moderation. The use of ATLAS facilitated easy access for all moderators, with both internal and external moderators being able to view the videos and the assessors’ marks and feedback, and provide their own feedback all in one environment.

The second objective of reducing ‘OSCE stress’ was also achieved. 100% of respondents indicated a preference for the video OSCE over the traditional format. They found it less stressful. When asked to score how stressful they found both OSCE types out of 10 (10 = ‘Extremely Stressful’; 1 = ‘Not Stressful at all’) 56% of respondents scored the traditional OSCE ≥7 with 31% scoring it 10. The Video OSCE evaluated much better with 75% scoring ≤3.

Another important improvement in the OSCE related to the amount of time students spent practicing and perfecting the skills. 75% of students felt they spent more time practicing the video OSCE than for the traditional OSCE and 43% felt they spent significantly more time practicing. One drawback of the increase in practice time was the increase in the use of consumables and the cost associated with this. We have not yet been able to quantify the additional usage so will attempt to do so in the next evaluation.

62% of students found conducting self-assessment to be useful and 81% found the peer assessment was of value to them. 56% of students felt they had been harder on themselves and 37% harder on their colleague than a tutor would have been.

“As much as I didn’t like self-assessing my own videos for fear I was being lenient on myself, it was good to watch myself back & spot little bad habits (cleansing the site) nothing dangerous. Good to iron those out.”

“After performing the videos, I found it useful listening to feedback from my colleagues.”

Assessment of others and providing appropriate feedback are essential skills for registered paramedics, especially when it comes to the future mentorship of students.

There was a mixed response in relation to the use of technology but most of the problems related to students using their own devices for recording the videos, insufficient storage, and HD videos creating files too large to upload. Students not using PebblePocket to record videos found issues with file compression and uploading, and the 250mb file upload restriction compounded this.

“I used PebblePocket to send my videos to Pebble+ and attached them to my workbook from there. Found it very simple”.

“The file transfer size needs to be larger and the ability to edit the asset in full screen mode would be beneficial”.

Overall when respondents were asked to score how difficult they found the whole process on a scale of 1-10 (1=Very Easy; 10 = Very Difficult), 75% of students scored the experience ≤3. 94% of students believed the new OSCE process was fit for purpose in assessing their skill acquisition (The remainder were undecided).
“Better approach, tutors were always around even if support was required and I feel that students would certainly welcome this approach to learning. Few glitches but its early days and I feel it will benefit better learning outcomes.”

“Would definitely recommend and hope to use video OSCEs again.”

“The prospect of using this method for future skills OCSEs is very exciting and I would recommend the use of video OSCEs and PebblePad.”

**Conclusions**

One of the biggest barriers was changing the way we looked at the OSCEs. Some lecturers found it difficult to accept the change in approach. Some of the issues raised revolved around the security of who was performing the skill and if we could safely assume that the students were competent from watching a video. It has been clear from marking the videos that this has not been a problem.

One member of the team was concerned this could be a patient safety issue. Following discussion, we agreed that assessing the video was only acknowledgement that the student had the basic skills needed to go forth and practice them further under supervision, for full assessment and signoff.

Overall we feel that this trial has been a success and we are confident that we have made significant improvements in relation to both of our key objectives, however we have identified several issues that need to be addressed.

- As we upscale from 20 students to 70 students we need to be more structured in our approach to allocation of practice time and space to avoid bottlenecking students. To aid this we are planning to define distinct learning spaces and create a self-rostered timetable for booking the spaces.
- We need to invest in resources and consumables to facilitate the number of skill spaces available.
- We have a further opportunity to conduct the survey on a cohort of 70 students who experienced both forms of OSCE skill assessment. These students will also be able to supply comparative data. We will therefore make our adjustments and re-run and evaluate the Video OSCEs in September 2016.

We now have a variety of assessments throughout the 2 year Dip HE program that are constructed and assessed in PebblePad. We are conscious that this fragmented, valuable portfolio evidence, developed in isolated modules, could be brought together in one place. As a result, we have now constructed the Paramedic Practice Portfolio (PPP) that runs throughout the program. It commences with the first module of the program with its mandatory training portfolio, then adds the skills profiles (LIP 1A & 2A), OSCE assessment workbooks (LIP 1B & 2B), placement records (Yr. 1 & 2), and CPD record and culminates in the final module with the HCPC portfolio.

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References


To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs07.pdf
Proposing the use of Agile Project Methodology approaches to improve eportfolio design

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Abstract

There are many stories of eportfolios being implemented and students not engaging with them. Lecturers fail to see the benefits promised and the eportfolio falls into disuse. At our University three main factors were found to be contributing to these problems: lack of understanding amongst staff of what we would call ‘eportfolio thinking’; the electronic aspect of eportfolios and the specific affordances of an online portfolio; and the lack of stakeholder engagement in the development process. To address these issues the authors decided to deliver a more supported, hands-on approach to eportfolio development, embedding stakeholder involvement in the eportfolio process and introducing collaborative and innovative methods of working. The agile development methodology adopted places the academic staff and students at the forefront of the developmental process and uses constant and quick iterations to develop understanding and constantly evolve the eportfolio design and use. This proposal recommends the agile development approach and explores how this has been implemented and some of the benefits achieved.

The digital age has presented many challenges for teaching and learning over the last two decades, challenges both in terms of what needs to be taught and how it is taught. Naturally, technology has played a large part in changing education (Beetham & Sharpe, 2013) and has influenced the way educators develop elements of the curriculum and its delivery. ePortfolios have played their part in this change by providing a way in which learners can be assisted in articulating and evidencing new skills required by the workplace. These skills include advanced levels of technology use and new forms of literacy, numeracy, problem solving and communication, rather than just the learning of stable knowledge (Barrie, 2007).

For three years the Technology Enhanced Learning (TEL) team at the University of Hull has been using techniques from Agile Project Methodology (Schwaber, 2004) to support the development of eportfolios across the University. This paper proposes that by applying agile techniques with eportfolio design, benefits for all stakeholders can be accrued, particularly around the quality of the design and successful adoption. Working with students as true partners in the design and implementation can also increase their understanding and engagement in learning.
"An eportfolio is a purposeful aggregation of digital items – ideas, evidence, reflections, feedback, etc, which “presents” a selected audience with evidence of a person’s learning and/or ability."

(Sutherland & Powell, 2007)

One finds eportfolios used for specific purposes within programmes of study. These might be related to professional accreditation or other assessments, but rarely used simply because it is a ‘good thing’. What is clear is that for each implementation there are particular needs relating to the context in which the eportfolio is being used.

"Effective eportfolio-based learning is unlikely to occur unless it forms part of a broader commitment to learner-centred, autonomous learning. Evidence suggests that a bolt-on approach to eportfolio implementation fails to engage either practitioners or learners."

(Jisc, 2008 p.16)

The specificity of implementations requires focussed development of ‘the portfolio’ for each application, and implementation appropriate to that context. In PebblePad language this can translate into the development of ‘resources’ for each specific course.

The authors believe that students and other stakeholders should be involved in the design of the eportfolio. Jisc (2008) state that eportfolio use can help improve students’ understanding of self and of the curriculum, which in turn can lead to greater satisfaction, better performance and higher self-direction in learning. Embedding the eportfolio in the curriculum results in the eportfolio being a representation of the curriculum and the pedagogical approaches employed. Often the eportfolio becomes the best document from which to really understand the course processes. The authors believe that by involving students as partners in the design of eportfolios, benefits are amplified in that students are required to consider not just ‘self’ but also the needs of others.

Agile methodology is a project management method, much applied in technology projects, based on an iterative approach allowing for small and rapid incremental releases where deliverables are tested at the end of each cycle. Development uses short, fixed-length iterations, generally no longer than 30 days, and keeps the iteration focused by prioritising one step at a time. This approach allows for the development and delivery of early prototypes which are improved with every cycle. Another benefit of the agile methodology is the fact that stakeholders provide input at every stage of the process which ultimately informs any further development. This methodology empowers users and enables them to work with the project team collaboratively.

Agile methods have increased speed-to-market by supporting the notion of early and regular releases. A ‘perpetual beta’ mentality leads to quality improvement as testing is integrated throughout the lifecycle with active user involvement and improved risk management through early identification and flexibility (Waters, 2012).
Table 1 describes the terminology and roles involved in agile project development and links these to the approach to eportfolio development at Hull.

**Table 1: Agile approaches in eportfolio development.**

<table>
<thead>
<tr>
<th>Agile project development</th>
<th>Hull eportfolio development</th>
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</thead>
<tbody>
<tr>
<td><strong>Agile (scrum) cycle</strong></td>
<td>Curriculum development cycle</td>
</tr>
<tr>
<td><strong>Development team</strong></td>
<td>Members of the TEL team responsible for developing the resources and the team who have responsibility for delivering and assessing the academic course. The makeup can be fluid depending on the course in question.</td>
</tr>
<tr>
<td>Consists of a small group of people with specific skillsets who are responsible for the development of the product by driving the plan for each sprint and by communicating daily with the scrum master on issues and updates.</td>
<td></td>
</tr>
<tr>
<td><strong>Scrum Master</strong></td>
<td>A member of the TEL team responsible for facilitating the project.</td>
</tr>
<tr>
<td>The coach of the scrum development team and responsible for solving issues that arise within that team during development. The Scrum Master can alter the scope of the sprint if deemed necessary and also works closely with the Product Owner.</td>
<td></td>
</tr>
<tr>
<td><strong>Scrum</strong></td>
<td>Team meetings</td>
</tr>
<tr>
<td>Short-hand for regular team meetings. Progress is reviewed and any blockers addressed.</td>
<td></td>
</tr>
<tr>
<td>Part of scrum cycle includes steps to ‘gather data and feedback’ as well as ‘analyse and update’.</td>
<td>Evaluation, feedback and new user stories emerge as the eportfolio becomes more embedded.</td>
</tr>
<tr>
<td><strong>Sprint planning meeting</strong></td>
<td>Team meetings</td>
</tr>
<tr>
<td>Identifying activities to take part in the next sprint. Assigning tasks.</td>
<td></td>
</tr>
<tr>
<td><strong>Sprint</strong></td>
<td>Effectively the time between meetings of the team. This varies depending on the availability of the members.</td>
</tr>
<tr>
<td>A fixed period of time during which specified work is completed, typically 2-3 weeks.</td>
<td></td>
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</tbody>
</table>
One of the key roles for the team is the Product Owner. "The product owner leads the development effort to create a product that generates the desired benefits" (Pichler 2010, p.2). Similarly, within a university context a programme leader leads the development of the curriculum on a programme or module level. There is also a strong similarity between agile cycles (sprints) and the curriculum development cycle. While it might be suggested that the curriculum design cycle is normally longer, responding to feedback between cohorts, the authors would argue that any delivery of the curriculum needs to be adaptive at the time of delivery to the students participating, current developments in the subject area, and a myriad of other influences. Kamat (2012) also identified a connection between agile approaches and the curriculum, noting that although academic programmes follow a strict pattern with fixed timescales and restrictions on content development and delivery, there are already pockets of educators who practice an agile approach in their work. At Hull we require the programme leader to take on the role of Product Owner. The nature of that role requires them to engage with all users of the system being designed.

One tenet of the agile approach is to demonstrate developments early to prove the design and get feedback. PebblePad provides built in templates and we have a selection of examples from previous projects. These allow us to demonstrate the capabilities of PebblePad very early and we can begin the development process with a greater understanding amongst our users of the possibilities available to them. The presence of existing templates and previous successful projects also reduces the frustrations that the ‘perpetual beta’ approach could cause. It gets us working with user stories

<table>
<thead>
<tr>
<th>Agile project development</th>
<th>Hull eportfolio development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product owner</strong></td>
<td>Programme leader</td>
</tr>
<tr>
<td>Represents the end user, prioritises key decisions based on the business needs, owns the product on behalf of the organisation, manages expectations of the end user, and has a vision of where to take the product. Manages the backlog of ‘user stories’.</td>
<td></td>
</tr>
<tr>
<td><strong>Users</strong></td>
<td>Teaching staff, administrative staff, students, mentors/other assessors, external agencies etc.</td>
</tr>
<tr>
<td><strong>User stories</strong></td>
<td>The needs of each type of user: students, teaching staff, mentors, assessors, externals etc.</td>
</tr>
<tr>
<td>The requirements of each specific user are collected, prioritised and signed off by the Product Owner. These are collected in a story form including the role, requirement and the reason for the requirement.</td>
<td></td>
</tr>
<tr>
<td><strong>Acceptance criteria</strong></td>
<td>Course criteria, professional requirements, mentor and student criteria.</td>
</tr>
<tr>
<td>When is something ‘done’.</td>
<td></td>
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</tbody>
</table>
quickly and creating the product backlog consisting of ideas and requirements identified throughout the project.

A particular feature of PebblePad also supporting our continuous improvement approach is the fact that resources already in use by students can be updated, with these updates immediately visible to the users, without them needing to reload anything or any loss of work. This allows for any identified improvements to be implemented rapidly. Problems can be fixed quickly and we have even made these changes as they have been identified within a classroom setting. The user experience of regular updates, tangible progress and a shared product backlog provides confidence in the system and the development approach being used.

We acknowledge that terms such as ‘beta’ and ‘pilot’ can have a negative impact on the adoption of technologies. However, courses do change with each cohort, learning and teaching itself changes, new approaches become available, and new expectations emerge. Our University wishes to move more systematically towards continuous enhancement in our curricula and we feel eportfolios can assist us in moving away from the didactic era. We would argue that for Hull the idea of perpetual beta might become the norm. In our approach we invite staff and students to contribute to the continuous improvement of the eportfolio, thus getting the best solution for their needs. By inviting, even requiring, the students to act in partnership we believe that they feel more valued and are therefore more willing to assist in continually improving the resources (Kotze & Du Plessis, 2003). If our assertion is that the eportfolio is the best documentation of the course and its pedagogical approaches, then we are in effect inviting the students to contribute to the course design.

Working with stakeholders, including students, has established a sense of shared endeavour. The feeling may be amplified for the students as they also see their lecturers adopting a more exploratory and inclusive philosophy to their teaching, backed up by a genuine desire to improve their teaching and the students’ experience. Staff have opened up the potential fallibility of the system being used without apology or embarrassment. The essence of the approach we adopt is to place the students, indeed all stakeholders, very much as partners in the project rather than subjects of an experiment or simply recipients of knowledge.

Examples from projects across the University have shown that a sense of collaboration, suspension of disbelief, and trust in the shared final outcome have resulted in a more relaxed and confident approach through the stages of development. This compares positively to previous projects where the delivery of solutions ‘matching’ uninformed specifications has been met with disappointment.

Table 2 provides a simple outline of the way in which the agile approach is implemented at Hull.
Table 2: Example project pattern

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Content/purpose</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Contact made by programme leader expressing potential interest</td>
<td>Respond with request for course documentation to get background on needs</td>
<td>Programme leader</td>
</tr>
<tr>
<td>2</td>
<td>Sprint planning meeting</td>
<td>Demonstrate PebblePad and existing templates. Introduce agile approach and the role of Product Owner. Gather initial requirements. Forecast during the sprint planning meeting takes place and actions such as what can be done and how the work will get done are discussed. Sprint goal is created during the sprint planning meeting which the TEL team refers to. If the work changes from its initial sprint goal, then the TEL team negotiates with the Product Owner</td>
<td>Programme team TEL member(s) Others as available e.g. mentors, students</td>
</tr>
<tr>
<td>3</td>
<td>Sprint 1</td>
<td>Build first prototype. Typically a wireframe approach with some areas for discussion fleshed out more</td>
<td>TEL Team</td>
</tr>
<tr>
<td>4</td>
<td>Scrum</td>
<td>Demonstrate progress. Explore areas needing further development /discussion. Expand user stories and prioritise next sprint</td>
<td>TEL Programme Team + more stakeholders</td>
</tr>
<tr>
<td>5</td>
<td>Sprint n planning</td>
<td>Develop more areas</td>
<td>Programme team TEL member(s) Others as available e.g. mentors, students</td>
</tr>
<tr>
<td>6</td>
<td>Sprint n Review meeting</td>
<td>Feedback from Product Owner Feedback from users and stakeholders Demo of the product</td>
<td>TEL team Product Owner</td>
</tr>
<tr>
<td>7</td>
<td>Scrum</td>
<td>Demonstrate and refine requirements</td>
<td>TEL</td>
</tr>
<tr>
<td>Step</td>
<td>Action</td>
<td>Content/purpose</td>
<td>Participants</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>8</td>
<td>Repeat number 5-7 until ready to launch</td>
<td>Refine the resources, refine requirements</td>
<td>Increase/vary audience for demonstrations as we progress</td>
</tr>
<tr>
<td>9</td>
<td>Launch</td>
<td>Demonstrate to stakeholder groups. By launch most groups will have already seen an earlier stage. With students we do a hands-on session. Gather feedback.</td>
<td>Programme team TEL Stakeholders</td>
</tr>
<tr>
<td>10</td>
<td>Last minute changes sprint</td>
<td>Any emerging issues from the launch that can be addressed</td>
<td>TEL team</td>
</tr>
<tr>
<td>11</td>
<td>Demonstrate and go live</td>
<td></td>
<td>TEL Programme team and affected stakeholders</td>
</tr>
<tr>
<td>12</td>
<td>Post-launch developments</td>
<td>Changes that couldn't fit in the last minute sprint, which can be made to the live eportfolio</td>
<td>TEL team</td>
</tr>
<tr>
<td>13</td>
<td>Scrum Inter semester sprint planning</td>
<td>Evaluate success. Agree to changes that could not be made on the live eportfolio</td>
<td>Programme team TEL + others as required</td>
</tr>
<tr>
<td>14</td>
<td>Semester 2 launch</td>
<td></td>
<td>Programme team TEL + others as required</td>
</tr>
<tr>
<td>15</td>
<td>Semester 2 post-launch sprint</td>
<td>Keep asking for feedback</td>
<td>Programme team TEL + others as required</td>
</tr>
<tr>
<td>16</td>
<td>End of year scrum</td>
<td>Evaluate success. Planning sprint to harmonise semester 1 and semester 2 plus any other requirements</td>
<td>Programme team TEL + others as required</td>
</tr>
<tr>
<td>17</td>
<td>Rinse and repeat</td>
<td>… and celebrate success along the way!</td>
<td></td>
</tr>
</tbody>
</table>

As a further benefit, helping the students understand the agile development mind-set is also useful. ePortfolios are seldom completed in one sitting. Often there is the need for confirmation of achievement from an assessor of some kind. ePortfolios offer the student the opportunity to demonstrate progress early (a beta version). Feedback on that ‘demo’ helps to develop the requirements and is used in the next iteration of evidence gathering and presentation. Working with an assessor can be likened to a scrum and the interim periods as sprints. Depending on the course it could be argued that the learning design also needs to be agile as new learning opportunities arise. ePortfolios also encourage students to tell a story based on authentic artefacts in the same way agile methods
collect ‘user stories’ in order to capture the functional requirements of the product from their clients’ perspective (Rees, 2002, p.23).

In conclusion, being ‘future ready’ requires new approaches not only to teaching but also to learning design. Adopting an agile approach to eportfolio design embeds a continuous improvement mentality into learning design, resulting in a much better preparedness of course teams and their stakeholders for whatever the future may bring. Engagement of learners in the design phase helps them understand the outputs of a learning process and helps them become partners in the process of learning and of evidencing that learning. Furthermore, as Waters (2012) suggests, agile development teams are a more enjoyable way to work for most people because of the active involvement, collaboration and cooperation.
References


Waters, K. (2012). All about agile. Createspace

To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs08.pdf
Integrating PebblePad throughout an undergraduate nursing curriculum to build student nurses’ beginning professional eportfolios

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The Context

This case study is being undertaken at the School of Health Professions, Discipline of Nursing (DoN) at Murdoch University (MU), Perth, Western Australia in the undergraduate Bachelor of Nursing (BN) course. The nursing students enrolled in this BN course are aged between 17 and 70 and are predominantly female. The gender imbalance represented by the large female population of this study is representative of nursing being a largely female dominated profession both in Australia and abroad (Bailey, 2014; McLaughlin, Muldoon & Moutray, 2010).

Registered nurses need to maintain professional portfolios for annual performance appraisals, documentation for employee accreditation, career promotions and job applications, and importantly to document continuing professional development. Portfolios have been used as a learning strategy within nursing education for some time (Harris, Dolan & Fairburn, 2001), and their use is reported to encourage critical thinking, promote discussion between student and preceptor, and assist students to develop self-assessment skills through reflective practice (McMullan et al., 2003).

Aims and Objective

MU DoN’s vision was to embed the PebblePad eportfolio within the BN curriculum through whole-of-course mapping and design. Developing an eportfolio can be a catalyst for students’ professional and personal growth, particularly through the process of reflective practice and critical analysis (McMullen, 2014). By providing each nursing student with the opportunity to develop a comprehensive learning eportfolio using PebblePad, the main objectives for the DoN were to:

- assist students to develop reflexivity and self-awareness;
- encourage continuous and structured reflection of both clinical and theory units beginning at the undergraduate level;
- promote a lifelong learning philosophy;
- engage the student in owning her/his learning (an awareness of their own skills, strengths and limitations);
- assist students to understand the importance of an eportfolio in their professional lives (Green, Wylie & Jackson, 2013);
- develop a deeper engagement of the clinical facilitator in the student’s learning journey;
- streamline the assessment process for students whilst on clinical placement;
• maximise efficiency of the student result recording process by the Clinical Practice Office (CPO)
• develop an eportfolio in readiness for post-registration practice (evidence students’ theoretical knowledge development, critical analysis, critical thinking skills and reflective learning abilities, and their clinical skills competencies).

The Problem

It was decided to introduce PebblePad into the undergraduate nursing program as a means of fulfilling the Nursing and Midwifery Board of Australia’s (NMBA) requirements for nursing practitioners to maintain a professional portfolio, and also as a means of streamlining current practices to increase efficiency. As the demand for higher level nursing knowledge and skills, and attributes and characteristics, has increased, the need for student nurses to evidence their learning beyond the clinical interface has become necessary.

The need for progressive resource change was twofold:

1. **Clinical Practice Clinical Portfolio**
   Due to increasing numbers of enrolments into the MU BN course, there was an increased burden placed on the CPO team. The paper-based version of the clinical portfolio created a heavy workload for the CPO and the flexibility that the electronic clinical eportfolio would provide over the paper-based version was valuable from a workload management perspective. From the students’ perspective it would ensure that the nursing students would take ownership of their learning and the completion of their required competencies (Fawn & McKenzie, 2010; Green et al., 2013). The collaboration required by the student nurse and the MU clinical facilitator to complete each psychomotor competency skill and enter them, together with the feedback, into the eportfolio ensures appropriate support and supervision (Fawn & McKenzie, 2010). Further, the MU clinical facilitators have a more comprehensive, dynamic and regularly updated view of how well students are progressing, which can help formative and summative assessment (Fawn & McKenzie, 2010).

2. **Theoretical Unit Learning Tool**
   Not only is it necessary for a nurse to demonstrate clinical competency, but also an engagement in their theory to practice and evidence based knowledge development. While some researchers warn against the introduction of assessment into eportfolio development (Barrett, 2005; Joyce, 2005), it is also recognised that students will not undertake activities such as essential and required reading, self-directed learning packages, journaling and reflective writing, unless it is connected to assessment (Hobson, 2004). Research by Strivens and colleagues (2009), which reviewed the role of the eportfolio as an assessment tool, found that the facilitator and coordinator respondents reported a range of benefits relating both to student education and improved efficiency. Further, the evaluations from students were equally positive and the findings of the study suggested that eportfolios can be used successfully for both formative and summative assessment.
The Approach

Implementation of a new system into the BN theory units and the clinical practicum required significant planning and a strategic approach to its introduction. It was decided to introduce the PebblePad eportfolio to a cohort of 1st year BN students in semester one as an assessable component of one unit out of four, and then in two units out of four in the second semester. The principle consideration for the wider integration across the BN course would consider the unit objectives and the types of assessment in the units, and the benefits and meaningfulness of those to the students. As a means of introducing new software to students the focus was placed on the ability of PebblePad to not only showcase an individual’s progression through their nurse training and beyond, but also as a platform to store, submit and receive feedback on written assessments. To facilitate this implementation, each unit constructed a method for submission of written assessment and feedback in a variety of ways (Table 1).

Table 1: Methodology of introducing PebblePad into the MU BN course with a first year cohort.

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Assessment Type</th>
<th>PebblePad Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUR103 Contemporary Nursing Practice</td>
<td>Reflective learning through required reading and group activities.</td>
<td>Development of a portfolio, file uploads to asset store, blogs, generating a collection of assets, releasing the portfolio to ATLAS.</td>
</tr>
<tr>
<td>NUR152 Indigenous Health</td>
<td>Reflective learning through required reading.</td>
<td>Workbook with weekly sections and built in feedback template for 3 submissions across the semester (14 weeks).</td>
</tr>
<tr>
<td>NUR105 Health Assessment and Physical Examination</td>
<td>Part A: Genogram and 500 word report Part B: Health assessment interview, care plan, diagnoses Part C: 1000 word research based essay</td>
<td>Workbook consisting of three sections with built in templates for Part B.</td>
</tr>
<tr>
<td>NUR114 Professional Practice 1</td>
<td>Reflective learning through required reading and group activities.</td>
<td>Development of a portfolio, file uploads to asset store, working in a workbook.</td>
</tr>
</tbody>
</table>

Theoretical unit implementation

In semester 1 2015 a working party was established consisting of academic, administrative, professional and clinically based staff to ascertain the possibility of progressing with PebblePad into the theory units as a real time, on-line alternative to traditional paper-based portfolios. Students were offered support both prior to implementing PebblePad
into the BN program and during semester times in a number of ways including formal tuition, drop-in sessions and online help (Figure 1).

Students were also provided with ‘how to’ guides and online technical support via discussion forums within the learning management system, which were accessible throughout the semester.

Clinical practicum implementation

From the analysis of the student surveys of the units in the first year, it was understood that students were able to successfully use the software. To use the PebblePad eportfolio to replace the paper-based clinical portfolio it was decided that a pilot project was required initially to identify acceptability, usability, and any operational issues. A pilot group of students (N=8) who had used PebblePad in the three previous theoretical units was selected for the mid-year semester 2015 pilot project together with one MU clinical facilitator who had experience in marking within PebblePad in two of the previous theory units. A clinical facility was consulted and agreed to allow PebblePad to be used in its clinical area. A PebblePad Clinical ePortfolio was developed in the form of a workbook, which incorporated the required Australian Nursing Competencies Assessment Schedule (NCAS) that is mapped to the NMBA National Competency Standards for the Registered Nurse, and which students are expected to demonstrate attainment of. The eight students and the clinical facilitator were briefed on the use of PebblePad two weeks prior to commencing the placement. The brief included a demonstration on how to complete the workbook in PebblePad and outlined student and clinical facilitator responsibilities. The workbook did not allow students to progress from one section to the next until ‘sign off’ by the clinical facilitator was given. Academic and professional staff services were made available during the placement to troubleshoot any potential problems.

The Results

Following the implementation of PebblePad into the theoretical units, specific student feedback was sought via the MU student survey of units to ascertain its success and highlight any changes that needed to be made for the future integration and implementation.
The results for all components of the implementation have been positive. Two of the theoretical units in which it was implemented had specific questions relating to the use of PebblePad in the unit student survey. Both these units (NUR105 and NUR152) had overall positive responses with 60% and 66% respectively responding positively to the use of PebblePad in the units. There were positive qualitative responses to PebblePad in all three theoretical units with a selection of comments identified in Table 2.

Table 2: Students’ qualitative responses to PebblePad in theoretical units

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Student Comment</th>
</tr>
</thead>
</table>
| NUR103 Contemporary Nursing Practice | Respondent 14: ‘...I understand now that PebblePad is a great tool for learning and storing all the information that is necessary for each unit.’  
Respondent 47: ‘...found it very useful in learning to summarise and reflect. I found the program easy to work with and set out.’ |
| NUR152 Indigenous Health          | Respondent 12: ‘Great. It has allowed me to place all my information for my studies into one area and is easily accessible.’  
Respondent 13: ‘The eportfolio was extremely useful as it helped me understand and grasp the subject thoroughly. It also helped me with revision.’ |
| NUR105 Health Assessment and Physical Examination | Respondent 5: ‘I love PebblePad and I think it is a very useful tool going forward for keeping our nursing portfolio.’  
Respondent 8: ‘I find PebblePad easy to understand and upload my work to. I found it very helpful when completing the health assessment for this unit and all the subjective data was broken down into sections on PebblePad to ensure I covered all important areas for the assessment.’  
Respondent 19: ‘Always a pleasure to use PebblePad. It is a great place to store assignments and work on them until the due date. Easily accessed from any computer too.’ |

The pilot project of PebblePad in the clinical practicum unit was very successful with limited changes required for the next phase of implementation. There were no changes required to any of the workbook assets within PebblePad and all students and the clinical facilitator provided positive comments via personal communication (Table 3). Limitations have been identified in relation to access to electronic devices in the clinical area; however, this is being addressed prior to the next phase of the roll out of the PebblePad clinical eportfolio.
Table 3: Clinical practicum qualitative feedback

<table>
<thead>
<tr>
<th>Practice Member</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>‘At first I was apprehensive as I assumed this process would be both time consuming and difficult opposed to simply writing in our paper books daily. I did not find this to be the case at all, PebblePad proved to be extremely useful and easier to document our daily interims and activities. I believe this was due to the easy to read layout on each section on PebblePad. The online checklist was also very helpful as it reminded us of what we had completed and what else was required. In addition I believe the privacy of submitting via PebblePad was great as we could go home and reflect on how we really felt without the added pressure of knowing what we write was easily accessible to those around us, particularly if we happened to misplace our books.’</td>
</tr>
<tr>
<td>Clinical Facilitator</td>
<td>‘The setup of PebblePad was concise and had easy flow. The students were open to the use and felt confident with the process. As a facilitator I felt confident with the layout. . . I would feel confident to teach another facilitator how to use PebblePad. Tabulation and the process is functional and systematic.’</td>
</tr>
</tbody>
</table>

The feedback and responses on the use of PebblePad as an asset store, journaling tool and a platform to showcase work, from academic staff, professional staff, and students, has been pleasing. The use of PebblePad for formative and summative assessment and psychomotor skills assessment is unique to MU DoN and the authors believe this will enable the BN students to ‘stand out from the crowd’ in today’s competitive world of nurse recruitment.

Lessons Learned

The implementation of PebblePad into the undergraduate nursing program was challenging, however through consultation with academic and professional staff and with Industry partners and their staff, it is achievable. Staff and student training was provided by both academic and professional staff in the DoN and from the MU Centre of Teaching and Learning and IT departments, which successfully alleviated most issues regarding uptake of PebblePad.

A few barriers were highlighted with the use of PebblePad in the theory units, however these were related to skills and technology ‘know how’, and to other technological issues such as browser compatibility.

A further potential barrier to rolling out the use of PebblePad clinical portfolios across all three years of the BN course are the complexities in accessing the students’ PebblePad
platforms while on placement. This relies on every student having access to a smart device and/or access to a computer with internet connectivity, and the agreement between MU and the clinical facilities to allow students to access these resources on site. In the pilot project this was overcome through discussion with the clinical facility to allow student access to devices on site, and also by providing the MU clinical facilitator with a laptop and a mobile dongle internet access device. To plan for the wider scale roll out of the PebblePad clinical eportfolios the DoN is conducting surveys of students, clinical facilitators, and clinical facilities. The surveys will establish how many students and MU clinical facilitators have access to a smart device such as a laptop/tablet/smartphone, and if the clinical facilities will be prepared to engage in a memorandum of understanding with MU for students to access these resources on site.

A further pilot project for the PebblePad clinical eportfolio will be conducted in June/July 2016 to trial its use with a larger cohort of 32 students across 4 clinical placements, supervised by 4 MU clinical facilitators. Successful implementation and adjustment of processes and programming at this phase will allow for full roll out in December 2016 and January 2017.

In brief – showcasing ‘future readiness’ with PebblePad

- The PebblePad eportfolio platform is providing undergraduate nursing students with the ability to keep a continuous record of their learning across their whole BN course, which is a requirement of the NMBA.
- The PebblePad eportfolio platform enables nursing students to evidence their learning and present a professional account of specific evidence requirements for continuing professional development entry into the workforce, for future career development opportunities, and for employee accreditation purposes (NMBA, 2008).
- The PebblePad eportfolio platform is an ideal resource for student nurses, registered nurses, and midwives for journaling reflective and reflexive practice, which is an essential process required to link theory to practice, and improve nursing practice and client care.

Acknowledgements

We acknowledge the work done by Southern Cross University and by La Trobe University, and thank La Trobe University for their collegial support and for sharing their knowledge to enable Murdoch to develop, implement, and design the Murdoch University Discipline of Nursing PebblePad eportfolio platform.

We thank Dr Silvia Dewiyanti Learning Designer from Murdoch University Centre of Teaching and Learning for her support and assistance with our PebblePad eportfolio endeavours.
References


To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs09.pdf
Using PebblePad to facilitate health care students’ transition to professional practice

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This evaluation focuses on the experiences of the School of Pharmacy, UCC, and is part of a larger project evaluation under the ePrePP project funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education.

The Context

As part of an initiative to enhance transitions using digital technology, funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education, the Schools of Pharmacy, Nursing, and Medicine, and the Office of the Vice President for Teaching and Learning in the University College Cork (UCC), came together with other external partners to form a group called ePrePP (www.ePrePP.ie). The acronym ePrePP refers to electronic Preparation for Professional Practice and the group has three ambitious aims within its ultimate goal ‘to ease the transition for health care students from undergraduate to professional practitioner’:

1. To promote inter-professional learning by providing a virtual platform for synchronous and asynchronous interaction between the health care students and professionals.
2. To provide a platform to record, monitor, assess and provide feedback on competencies and record CPD.
3. To create and provide learning resources (recordings, case studies, assessments, assessment rubrics etc.) to:
   - be used at discipline level
   - be used as stimulants for IPL
   - provide standardised learning opportunities
   - facilitate tutors teaching and students learning on placement.

The School of Pharmacy, UCC, has adopted PebblePad to facilitate student centred learning as part of the ePrePP initiative to enhance the transition from student to practitioner. In late 2013 the Pharmaceutical Society of Ireland (PSI) identified 178 behaviours for which all students and pharmacists must show continuing and developing competency. With the on-set of a new integrated MPharm in UCC it was essential that we embed these behaviours in the curriculum and identify a method of assessing and recording competence. We are currently using PebblePad to:

1. Document, monitor and assess competencies in labs, across modules, outside of the formal university education process, and in community placements.
2. Reflect on learning by requiring students to provide evidence.
3. Reflect **for** learning by providing student with tools and methods for identifying learning needs/knowledge gaps.

4. Mimic the Irish Institute of Pharmacy (IIoP) reflective cycle and Core Competency Self-Assessment Tool (CCSAT), i.e. mimic real expectations and requirements of professional pharmacists.

5. Conduct collaborative, team-based project work.

**The Problem**

The main issue we faced was the sheer number of behaviors that had been identified by the PSI. The 178 behaviors fitted into 25 competencies which came under 6 key domains. The challenge with the implementation of the MPharm in UCC was to:

1. Assess the 178 behaviors on a continuous and progressive basis.
2. Keep records to prove the students had consistently attained these behaviors at the required level throughout their five year integrated MPharm.
3. Ensure that appropriate behaviors were identified and that these behaviors were assessed in a wide range of situations by a range of personnel to ensure more fully-rounded student development and assessment.

The latter (#3) requires students to be assessed in formal, non-formal and informal education, i.e. across a number of modules, in laboratory practicals/workshops, on practice placement, and during regular weekend work and encounters. In order to be fair to the students these behaviors need to be assessed by a wide range of assessors, including academic assessment, demonstrator assessment, placement tutor assessment, and self-assessment.

**The Approach**

It was decided to introduce PebblePad as a tool to facilitate the documenting and tracking of competencies into the MPharm programme one year at a time. Hence, it was introduced into first year in the 2015-16 academic year. We used PebblePad to set up templates appropriate to each situation identified above, i.e. for behaviors to be assessed in the modules, in laboratory & workshop sessions (formal), on practice placements (non-formal), and for impromptu (informal) learning.

The situation was further complicated by the fact that there was no clear direction relating to what behaviors the students should attain in the early years (1st & 2nd year) or what level of competency the students should attain in these behaviors in first and subsequent years. The 178 behaviors, 25 competencies and 6 domains were identified by the PSI for qualified pharmacists and were not structured in an incremental fashion. We needed to go through each module and the list of 178 behaviors in the core competency framework and decide which behaviors could be obtained in each module and also what level each behavior could be attained at. This lead to three options:

1. Use the CoDEG (2007) framework composed of five levels: 0 = not applicable, 1 = never, 2 = sometimes, 3 = mostly, 4 = always (used by Queensland Health, 2009).
2. Follow the strategy outlined for practicing pharmacists in Ireland by the IIoP: 1 = developing, 2 = competent, 3 = competent and excelling, 4 = excellent.
3. Ignore the level (for now) and mark each behavior as ‘achieved’ or ‘not achieved’.

We chose the latter for convenience and consistency. We believed that in first year in all the modules any one individual would not measure any one behavior enough times to be able to be rated using the CoDEG (2007) framework or the IIoP strategy. We concluded that attaining a behavior a number of times out of the total could ultimately be used as an indicator of the level the student has in that behavior overall. Not all the behaviours can be measured an equal number of times as some behaviours will be encountered, and are therefore measurable, a greater number of times than others. Rather than limiting the number of times a behavior was documented, we documented each time the behavior was attained against how many times the behavior was encountered. If the student attained the behavior two times out of eight possibilities they were a level 1 (1% – 24%), four out of eight they were level 2 (25% – 49%), and so forth.

It is widely agreed that the measurement of competency is difficult (Straka, 2004) and so we identified specific activities that the students could complete. We then linked the activities to behaviors. On successful completion of the activity, achievement of the required level of competency in the associated behavior(s) was inferred. Completion of certain activities could be linked to more than one behavior.

PebblePad gave us the flexibility to allow the students to self-assess against the completed activity and to add evidence to support how this activity tied in with each of the pre-linked behaviors. Using PebblePad in this way promotes good pedagogical practice by ensuring students are aware of exactly what they are being assessed on. Identifying activities and tagging behaviors so that it was evident to students what we expected from them, gave them autonomy over their own learning. Students could clearly see what was required of them and self-assessment encouraged them to be honest with themselves and take responsibility for their learning. An added bonus was that in the same template the assessor could counter assess by indicating ‘achieved’ or ‘not-achieved’ while also providing feedback to further develop the student’s learning and their thought processes.

Along with the ability to create a wide variety of templates and to provide feedback, it was essential that we could ensure security of students’ information. In particular, we needed to ensure:

1. that placement tutors could only access the assessment relating to the students they tutored and not have access to information relating to any other student; and
2. that the placement tutor only had access to the assessment related to that placement and not to any other marks or feedback relating to the student.

PebblePad gave us the freedom to change the permissions on each workspace. By creating sets and altering permissions, the tutors only had access to specific information. PebblePad gave us the flexibility we needed for the different requirements of individual staff members.
The behaviors were assessed in a number of modules and a record was retained and available for each student. The method of assessment of the behaviors varied depending upon the learning context: laboratory based, practice based, or impromptu. Again PebblePad allowed this flexibility.

As PebblePad and the language associated with the technology was new to us all, we took a careful approach and scaffolded the students’ learning for their first encounter. We created templates, made them available to the students through their Resource Centre in Pebble+ and set all resources as (a) single use and (b) to ‘auto-submit’ to ATLAS. This functionality was particularly useful and avoided the possibility of documents going to the wrong place, students forgetting to submit, or multiple submissions from one student confusing the assessor. Three workspaces were set up with the main workspace consisting of nine assignments. Each template was set up to ‘auto submit’ to a specific assignment within the specified ATLAS workspace.

The other two workspaces were necessary so that placement tutors and laboratory demonstrators could not have access to any of the students’ other work, comments, or results, in their role as external examiner. Hence one workspace was used entirely for the placement assessment only and another for laboratory practical related competency assessment. A number of ‘How to’ guides were created for the students providing instruction on where to find the templates, where to submit completed templates to, how to know they had been submitted, how to see if they had been assessed, where to find feedback, and how to monitor their progress.

The Results

The following are the outcomes of this intervention:

1. We successfully created a number of templates custom designed to fit the learning needs of our students in a variety of learning scenarios.
   a. Workbooks for community pharmacy placements (self and tutor assessed; allowing attachment of evidence; tutors were external assessors ensuring security of students information).
   b. Workbooks for behavior assessment in the chemistry Laboratory (self-assessed and demonstrator assessed – one demonstrator had up to 12 students and sets were created for this again ensuring security of student information).
   c. Template that mimics the CCSAT used by professional practicing pharmacists (used to identify learning needs).
   d. Template that mimics the IloP CPD reflective cycle (used to reflect on and learn from a hospital visit and for impromptu learning).
   e. Webfolio for pharmaceutical Chemistry team based project.

2. We ensured that the students’ ability to perform certain tasks, and hence attain the specific behaviors outlined in the Core Competency Framework by the PSI, was measured by a variety of individuals. Templates were created that allowed students’ work to be assessed by academics, demonstrators and placement tutors while ensuring access permissions were tweaked to allow optimal privacy and security for the students.
3. We have consistent records for all our students of the behaviors they achieved and the number of times they achieved each behavior in their first year. This record will be built upon going forward through the five years of the integrated MPharm.

4. We have a framework that the students can add to and use to monitor their own progression. The number of behaviors and the level of competency in each behavior they will accomplish each year will increase and we have put in place a structure that will record and monitor this progress.

Evidence that desired outcomes were achieved

We have a range of templates and can generate reports showing that our students have been assessed (self and either tutor, demonstrator or academic assessed) in specific identified behaviors in their first year MPharm programme.

We conducted a qualitative survey to evaluate students’ experience of using PebblePad and to ascertain what we could do to improve the experience. The following are some of the key findings:

- Initial results indicate that students are not confident reflecting and unclear of what exactly we expect of them, hence further work and research is needed on ways to encourage our students to reflect on and document their learning.
- Students noted that some of the tasks were repetitive and they were not content with this – however we pointed out that consistently attaining a number of behaviors at a high level of competency is a requirement of their profession.
- Initially students felt they were not supported in their use of PebblePad. We then ran weekly sessions in the computer room guiding the students through the templates, their completion and the submission process. We found that PebblePad affords us the opportunity to scaffold our students’ learning and progressive development. We now place ‘how to guides’ as links where they are required. We can also embed links to examples and rubrics to increase our students’ confidence that what they are doing is ‘enough’.

As we develop and see more of the benefits of PebblePad we will be able to further exploit these to assist our students. We are collating the results of the survey.

We found that PebblePad supports:

- Flexibility for student and tutor in relation to learning, structuring templates and assessing.
- Autonomy of learning – students self-asses, identify learning needs, and plan learning.
- Just-in-time learning – many students learn in different ways and at different paces. Having access to information on a need to know basis is possible using links in PebblePad.
Lessons Learned

We created a large number of templates to assess behaviors in different contexts, e.g. in laboratory sessions, in workshops, in placements and for learning outside of the university. In doing so we initially overestimated our students’ ability to engage with content and technology. In future iterations we will ensure we have training for the students on a weekly basis until they are familiar with the ‘PebblePad terminology’ and how to navigate their way around Pebble+ and ATLAS. If they are going to use it for five years it is important that they are confident with it and that support is there in year one. Less support and scaffolding will be needed as they progress through the years.

Establishing buy in from staff was also a challenge initially as we had limited technical support. Going forward, provision of more training for the students and staff is necessary. It is important to highlight to staff the long term benefits of having complete autonomy and flexibility over their own template designs. Staff need to be shown how readily they can adapt the design of the templates to suit their requirements and that they can support their students’ learning by using appropriate links to instructions, external websites, etc.

Generating reports is currently a barrier. Generating one report to see how an individual student performed in all the behaviors is not currently possible. We cannot generate reports across workbooks or across workspaces, so while we have a record of behaviors achieved by our students individually in a variety of scenarios we have no clear single graph ‘big picture’ of the students’ progress over the entire year.

In brief – showcasing ‘future readiness’ with PebblePad

- The students have documented evidence that they consistently obtained the required competencies to be a professional pharmacist which can support their declaration of ‘fitness to practice’.
- The students have practice of completing continuing professional development cycles, identical to those they will be required to complete as professional pharmacists.
- The students have experience using the CCSAT which they will be required to use to identify learning needs as a professional pharmacist.
- Students have documented and reflected on learning and have documented evidence of achievement that is readily searchable, collateable and transferable for prospective employers.
- The emphasis and value placed on non-formal and informal learning and the advantage that such learning has to students’ holistic development is gaining momentum (Werquin, 2010). PebblePad is a vehicle that students can exploit to document and record this experiential learning.
References


To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs10.pdf
Preparing our students for the best job not just any job: Helping our pre-registration nursing and midwifery students to use their PebblePad electronic portfolio as a platform to showcase their employment potential

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The Context

We are told that current employment prospects for graduate registered nurses and midwives are excellent with reportedly more jobs available than registrants to fill them. Recruitment competition within the National Health Service (NHS) and the private, independent and voluntary healthcare organisations is high, and the deficit between registrants seeking employment and vacancies is such that some Trusts are looking overseas to recruit. As we know from experience, the healthcare labour market can be unpredictable and the current situation may not last. Our local statistics from the University of York Department of Health Sciences demonstrate that over the past 2 years 99.4% of our nursing graduates and 100% of our midwifery graduates went on to gain employment, with many of them entering the local healthcare workforce. However, with the introduction of the nursing associate role, speculation is that in the future there will be a decrease in demand for degree level registered nurses and midwives, as much of the nursing workforce will be made up of the new nursing associate level. At the University of York we want to ensure that our graduates are both employable in the current climate when jobs are abundant and are also prepared for an uncertain future.

The Problem

Our aim is to enable our graduates to showcase their achievements and market their talents so that employers can fully realise their potential. We want our students to be competitive, aim high, and secure not just the first job they come across but the best job available when they first graduate and throughout their careers.

Higher Education Institutions (HEIs) are unsure of the consequences of the removal of the current bursary system for nursing and midwifery students and the move to our students taking out a loan to pay for their tuition fees. The students will become our ‘consumers’ and potentially will have an increased expectation for assurance and evidence that individual HEIs are supporting their graduates to secure employment at the end of their programme.

Traditionally our students have produced personal statements and portfolios in a predictable format and presentation style, without demonstrating flair or imagination and with nothing special to distinguish their uniqueness and individual qualities. We must provide them with a platform for a secure, portable and professional portfolio to make
them stand out from other candidates and demonstrate that they are fit for purpose in
the workforce. The emphasis must, of course, focus on the quality of the contents of the
portfolio and not the quality of its appearance.

It is predicted that our future students’ ambitions will be less limited to the local
employment market and, due to the potential of recruiting admissions from overseas
to our programmes on removal of the bursary system, students may be looking more
towards joining the national and global workforce. This will move away from the situation
where a student is personally known by the employer through previous practice
placement and is ‘invited back’ post registration, to a situation where the student will
really have to ‘sell’ themselves.

The Approach

Since October 2013 all pre-registration students on the BSc (Hons) Nursing, MNursing
and Postgraduate Diploma in Nursing programmes at the University of York have been
using PebblePad to document the ongoing achievement record of their learning in
practice. Following the success in these programmes, PebblePad was subsequently
introduced to the BA (Hons) Midwifery programme and Foundation Degree in Health
and Social Care programme in Oct 2015. PebblePad was chosen by the Department
of Health Sciences for its security, flexibility and portability. The interactive functionality
whereby the student’s personal supervisor, the link lecturer, and mentors in practice can
all view and contribute to the work that the student has submitted from their portfolio,
giving formative, dialogic and summative feedback, has proven to be of great benefit to
our students and follows the York pedagogy strategy. With our increasing familiarity with
the functions of PebblePad it has been a natural progression to encourage our students
to start to expand their existing undergraduate portfolio into a post registration portfolio
utilising technology they are already experienced and familiar with.

Our pre-registration students have a planned, staged introduction to PebblePad’s
functions appropriate to their stage in the programme and the Nursing and Midwifery
Council (NMC) progression points. It is emphasised from the outset that the programme
the student has enrolled on is just the first step in their career. Students are made aware
that to maintain their NMC registration as a postgraduate nurse or midwife they are
obliged to keep a portfolio of evidence of their practice hours, continuing professional
development, reflective practice, and practice-related feedback. The evidence must be
confirmed by a third party and provided to the NMC if requested. Keeping a professional
portfolio is not only an NMC requirement but is good practice, and elements of the
portfolio can be adapted and used in personal statements and presentations to
prospective employers. The alumni account offered to students on completion of the
programme provides an online portfolio in which they can record and securely store this
evidence.

As our nursing and midwifery programmes are applied disciplines there is an assumption
that students who enrol on the programmes plan to secure a job as a nurse or a midwife
on completion. Local Trust employers start their recruitment for graduates about 6
months before students complete their programmes and while we make the students
aware of the portfolio building tools within PebblePad early in the course, we have found

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that it is not until the reality of applying for a job kicks in that the students really start to engage with it.

In preparation for employment, the Department of Health Sciences and our practice partners from the local Trusts, and from private, independent, and voluntary organisations invite students who will graduate within the next six months to a one day careers fair. This event includes presentations on collecting evidence for and writing a CV and personal statement, keeping a personal portfolio, preparing for interview and interview techniques. ‘Market stalls’ are set up by the potential employers to give students the opportunity to discuss and explore career options within a variety of organisations. The eportfolio team has been invited to participate in this event by demonstrating, in a presentation, the functions in PebblePad to help the students recognise the potential of the system, and plans to invite students to a series of follow up, drop in, ‘play along’ sessions.

In addition to the careers fair, portfolio building presentations, and drop in sessions, we have a timetabled ‘completion’ session for those who are about to register with the NMC, where we explore with the students the PebblePad alumni account, recording evidence of lifelong learning, and the NMC revalidation requirements. These sessions are followed up with an email to reiterate that we will be closing their University of York PebblePad account and the advice about opening an alumni account.

Most students recognise the advantages of building their portfolio in PebblePad in that it is secure, portable and flexible. They feel comfortable with the technology as they have been using PebblePad as undergraduates throughout their programme. They have an appreciation that starting a portfolio of lifelong learning, employment and education history gives them the opportunity to not only complete their personal information in a transferable format, but also allows them to attach evidence to showcase their individual competencies, talents and abilities in a logical and tidy presentation.

Our students have the opportunity to open an alumni account after they graduate which allows them to keep the portfolio they have created as an undergraduate, plus any work they have completed towards their job applications and career development. In the alumni account they can continue to keep a personal portfolio as a record of evidence for revalidation with the NMC as well as for future career development and job applications. As more HEI’s come on board with PebblePad it will be possible for the student to bolt their alumni PebblePad account onto another University’s system and continue to use the same portfolio, thus keeping their evidence of lifelong learning in a continuous, secure, portable and familiar environment.

The Challenges

Most of our students have indicated that they plan to embrace the opportunity to use their PebblePad portfolio as a platform for employment application, recording lifelong learning, and as a career planning tool. However, there are pockets of resistance from students who need reassurance that their alumni account is in a secure, private space as they associate PebblePad with an assessment tool which is accessed by their mentors and personal supervisor in practice. Reassurance can be given that only those who they give permission to can see their work and that they can choose to share selected parts
and not the whole of the portfolio. There have also been some negative comments from students who view their PebblePad portfolio as a necessary evil which they engage with for the minimum amount they have to in order to complete the programme and fail to recognise the value as an alumni account on completion.

One of our major considerations is timeliness. We have carefully managed the point of introduction of the lifelong learning portfolio for NMC revalidation and the opening of an alumni account. If introduced too early in the programme the students are too preoccupied with course work and future employment seems a long way off. Introduced too late and they have missed an opportunity.

While we are always delighted to have students who are as enthusiastic about engaging with PebblePad as we are, we must also advise the student who has fully embraced PebblePad to be mindful about what they are sending to prospective employers, to tailor their personal statement and only send the information relevant to the job they are applying for.

**The Results and Lessons Learned**

Postgraduate employability and employment rates feature highly on all university agendas in today’s political and economic climate. Any advantage we can give our students which leads to a positive outcome is valuable not only for the individual student and our university but for the bigger picture of higher education’s contribution to the workforce.

While we collect data on the numbers of our nursing and midwifery students gaining post graduate employment, due to the privacy properties of the system we will be unable to measure how many of those students are using functions in their PebblePad portfolio in their job applications and, if they do, whether or not the applications were of a better quality and influenced the prospective employer. Likewise we are unable to collect data on the uptake of the alumni account by our students.

**Moving Forward**

So far, we have only had one cohort of 160 student nurses graduate (October 2015) and enter the NMC register after having used PebblePad throughout their programme. We recognise that we were not fully prepared to support this cohort in fully utilising the functions of PebblePad due to our own lack of knowledge of the potential of the system. Our time and energy had been focused on the successful completion and management of the undergraduate portfolio during the programme and not on the next step.

Moving forward, we plan to introduce a more robust strategy as outlined earlier to inform the students of the potential for using PebblePad to showcase their talents and achievements and to promote the alumni account for them to keep evidence of lifelong learning. We are planning to collect data on student uptake amongst those who have used the evidence in their portfolio in job applications and those who have opened alumni accounts. This data will be gathered directly from the students via evaluation questionnaires.
Using PebblePad to ensure that our students are future ready is not only being promoted within the Department of Health Sciences but also in the wider university community, with interest from the Vice Chancellor during an annual review of employability of postgraduates from the University of York, and through liaison with the university careers service.

**In Brief – Showcasing ‘Future Readiness’ with PebblePad**

PebblePad can give the students a platform to build a lifelong portfolio and give them the opportunity to showcase their talents, achievements and ambitions to:

- Secure the best jobs in a changing employment market
- Build a portfolio of evidence for NMC revalidation
- Demonstrate personal and professional development

To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs11.pdf
Towards an eportfolio culture: One institution’s journey

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This case study will describe our attempt to move the use of eportfolios beyond those who have already used this pedagogical tool at our institution. We are working at creating an eportfolio culture on our entire campus.

The Context

Given the initial excitement in the early 2000s about the potential of eportfolios for advancing integrative learning and authentic assessment in higher education, one might imagine that eportfolios would be ubiquitous in the academy. The reality is much more meagre. A recent EDUCAUSE survey (Dahlstrom, Walker, & Dziuban, 2013) reports that 57% of higher education campuses have “made some use” of eportfolios, but only at a program or course level. The promise of eportfolios as a broadly used tool for enhancing student learning and advancing authentic assessment is yet to be seen.

In some way this makes sense. The adoption of eportfolios follow Rogers’ (2003) ‘Diffusion of Innovation’ theory which describes the process of adoption of new technologies over time as illustrated by the standard bell curve. The theory asserts that innovation starts with innovators, of course, and that, by definition, they are limited in numbers. The next group to follow a new technology are the early adopters. This is where many of our eportfolio projects get stuck. A few enthusiastic proponents adopt the tool but its use does not go beyond those initial users. The theory posits that there is a breaking point, called the chasm, which must be negotiated to get to the pinnacle – early and late majority adoption of technology. (At the tail end of the technology adoption model is the laggards.) The question becomes, how do we spread the use of eportfolios beyond our innovators and early adopters?

The Problem

Portland State University (PSU) is an urban campus located in the heart of downtown Portland. It is the largest university in the state, with over 28,000 students enrolled in undergraduate and graduate programs. It is Oregon’s most diverse state university and also boasts a large transfer population.

In 1994 PSU launched its four year interdisciplinary general education program, University Studies. From the start, portfolios were seen as a way to enhance student learning and assess the program. In 1998 we started using eportfolios in the University Studies year-long Freshman Inquiry courses. Soon, nearly all of our Freshman Inquiry courses were
using eportfolios. Despite the technological challenges encountered in these early days of web developed portfolios, faculty and students recognised the value added by using eportfolios. Labissiere and Reynolds (2004) highlight the advantage of an eportfolio over a hard copy portfolio, especially in terms of the impact on student intellectual and personal growth. An eportfolio allows students to consider multiple audiences, forcing a critical lens on what one shares and why. With the ability to hyperlink on a webpage, students are also more easily able to make connections between and across what they have learned, creating opportunities for deeper critical thinking.

Our intention was to carry the eportfolio into all levels of our University Studies courses and beyond. This happened on a limited scale. Some of our Sophomore Inquiry and our Senior Capstone courses began to use eportfolios. Some individual courses in majors also began to use eportfolios. While the majority of Freshman Inquiry students (over 1000 each year) created an eportfolio, few encountered one again in their academic careers. If they did, it was unlikely that the portfolio would be related to their previous portfolios and would probably be hosted on an entirely different web platform. The dream of creating a rich portfolio process that could follow students through their academic career was just that, a dream.

We, in the eportfolio field, often say that it is the pedagogy that matters and while this is still true, the technology matters too. Some of our difficulty in moving an eportfolio initiative across our campus was related to not having a university-wide supported technology platform. The investment a faculty member and a student must make to learn and manage a technology tool might just feel too great.

Without a shared platform across campus, several problems had arisen. For students, it meant that they could not use their eportfolio across programs and courses. In addition, they often had to learn a new platform, which focused them on learning the technology rather than learning through the content and process. Without a shared and supported platform, there was no technical support for learning or troubleshooting problems. This lack of centralized support also contributed to faculty reluctance to invest in the eportfolio process. In the almost twenty years since our initial foray into eportfolios interest and use has grown, but to move its use beyond the early adopters we needed to address the technology issue.

The Approach

In 2013, the Provost at PSU, Sona Andrews, announced her Provost’s Challenge to fund projects aligned with reTHINK PSU.

"reTHINK PSU, a presidential initiative at Portland State University, is a campus-wide effort to deliver an education that serves more students with better outcomes, while containing costs through curricular innovation, community engagement and effective use of technology"

(ReThink PSU, n.d.)
A group of faculty proposed a project called “Making Learning Visible: An ePortfolio Initiative to Transform Learning and Assessment at PSU.” The proposal was primarily aimed at obtaining funds to acquire and support an eportfolio platform. However, in addition, it aimed to develop an eportfolio culture on campus through the process of acquiring the platform. The project leadership team consisted of a small group of faculty and staff who were already eportfolio users and enthusiasts. The team decided that we would organise our work around three general steps: Platform Procurement, Early Implementation, and Expansion.

The Results

Procurement

The procurement process started in fall 2013 and culminated in the purchasing of the eportfolio platform, PebblePad, which PSU began to pilot in fall 2015. We certainly could have facilitated a quicker process but by taking the time to engage our community in the selection of the platform, we gained excitement and momentum in using eportfolios on our campus. We decided to involve all possible stakeholders. There were individuals in the institution who had already expressed interest in eportfolios and they were, of course, invited to the conversation. We also identified and invited others who we thought might have an interest. Early in the process the leadership team held small meetings inviting these stakeholders to think about the possibility of eportfolios. This could be called intrusive inclusion. We then held several large meetings with the intention of asking these stakeholders and potential stakeholders for their help in selecting a university-wide eportfolio platform. Both the small and large meetings served as an opportunity to educate our community about eportfolios and the potential they have to improve learning and assessment on our campus. We gave those involved an opportunity to imagine possibilities of using an eportfolio in their context, something that many had never considered.

From these early discussions the project leadership team decided that we needed three work groups to help develop the criteria we would use in our Request for Proposal (RFP) to eportfolio vendors. These work groups were Pedagogy, Assessment, and Technology. Stakeholders selected the work groups they wanted to participate in and each group was facilitated by a leader. These meetings were held once every two weeks. There was good participation and faculty and staff were eager to learn about, and share ideas about, what should be included in the RFP. It was a learning experience for all of the participants. For example, it was impossible to talk about the requirements for pedagogy without talking about pedagogy in general – sharing ideas about assignments, addressing diverse student needs, and talking about concepts such as student-centred learning and self-directed learning – as well as the role an eportfolio could play in a student’s learning experience at PSU. Unlike some meetings, participants left these meetings feeling energized, inspired, and knowing that their ideas could make a difference.

The ultimate RFP was unwieldy and asked for more than any software could deliver. However, the discussions allowed stakeholders to consider with some depth what was possible and what was most important. In the end, participants felt their voices were heard and their constituent’s needs were being addressed. The RFP was released and
we had six vendors express interest. We invited four vendors to come and present to the campus community. We made sure that these big Public Forums were advertised widely. The events were well-attended and were video-taped so that those who could not come were still able to participate. We solicited opinions about the platforms via an online survey but participants were also encouraged to give feedback in whatever way they wanted. These events, again, were learning opportunities for our community. Those who had not been involved previously, but were curious, learned more about eportfolios and their potential for learning and assessment in their context.

Ultimately, the project leadership team recommended that we use PebblePad. PSU is one of the first North American schools to work with PebblePad. We were attracted to the idea that the platform is actually more than an eportfolio tool; it is a personal learning environment. It is a place where students can plan and document their experiences and thoughts as well as document their achievements. While not designed to be a Learning Management System (LMS), it has the capability of delivering content and managing submissions and online conversations. In addition, being one of their first customers in the American market meant that we could have a collaborative relationship in the future development of the product. More information about the procurement process through the Provost’s Challenge project can be found at: https://www.pdx.edu/oai/provosts-challenge-projects-169.

Implementation

At the tail end of the procurement process, the project leadership team began to plan for the next stages. While procurement of a platform was the aim of the Provost Challenge project, just purchasing a product would not be enough to support our movement beyond initial adopters. Leadership for the project had to shift. There is now shared responsibility for the eportfolio process in centralized offices on campus. The Office of Academic Innovation (OAI), our faculty development centre, is now responsible for helping on-board and support faculty who want to use PebblePad. The Office of Information Technology (OIT) is now responsible for supporting the technical backend of the product but also supporting students who are using the platform. A faculty-in-residence for ePortfolios and Integrative Learning in the initial pilot year was established. In addition, a Stewards group was formed with those from the project leadership team who wanted to continue and was expanded to include newly identified eportfolio enthusiasts with the role of stewarding the project forward.

With this authority in place, a roll-out plan was developed with the Stewards group. We agreed that it would be best to start with a diversity of programs that wanted to be in a pilot group and would commit to participating in a several day PebblePad Academy at the beginning of Fall term and ongoing community of practice meetings. We included groups in the pilot projects that represented a variety of uses of the platform with the idea that we can create use-cases that others on campus could learn from. Some are from academic programs, both offered face-to-face and online; some are extra-curricular programs. One pilot involves faculty using PebblePad to create their own Promotion and Tenure eportfolios. In addition, OAI has organized professional development activities involving eportfolios and PebblePad. Two of the most recent campus-wide events included international speakers on eportfolios. The platform is available to any PSU
faculty, staff or student and, while not widely advertised yet, word of mouth has brought new users to OAI to learn about the new platform and how it can be used.

**Expansion**

The Stewards group is currently refining our original visioning for the eportfolio project as well as our five year plan. We have identified constituents we would like to engage in eportfolios, including our partnerships with high schools and community colleges to alumni. One important area that seems to have potential for creating an eportfolio culture is the use of PebblePad for Promotion and Tenure and other appraisal processes. As faculty and staff become familiar with the software, they will likely see the utility of using PebblePad with their students. While we had wondered if we were going to need to do a lot of outreach and education to get buy-in, it is clear that we, instead, will have to manage the demand for getting involved.

**Lessons Learned**

**Procurement**

The biggest lesson we learned is that the involvement of many people, current and potential stakeholders, worked. We had the advantage of being one of the Provost Challenge projects and people were curious based on that alone. They may have initially engaged based on curiosity alone but they stayed because we invited them to actively participate in a process that could, or would, have an impact on their practice at the university. Through our intrusive inclusion of multiple, and perhaps unlikely, stakeholders, ownership of the eportfolio on our campus broadened. This process created new eportfolio champions on our campus – programs and people that were eager to engage in an eportfolio process and use the platform. We were also reminded of the need for, and reward gained by, creating the time and space to discuss issues of learning in the academy. The small and large group meetings, the work groups, and the public forums all provided opportunities to connect and learn across departments and disciplines.

**Implementation**

Beyond the initial procurement process, the university has invested in the new platform by centralizing services to faculty and students through OAI and OIT. The impact of this has been extremely positive. Faculty and student questions are addressed quickly. Staff in these offices are eager and able to create resources. Prior to this, program faculty and students who wanted to use eportfolios were on their own. This centralized support in well-established services on campus will make the integration of the new platform sustainable. In addition, we have learned the importance of maintaining and nurturing the learning community that developed in our PebblePad Academy. Those of us who are actively using the tool contact each other to celebrate our successes and help each other out with problems. In addition, OAI has hosted initial adopters’ reunions. One such reunion was focused on a discussion of possible research agendas that could be developed from these projects. Lastly, we have learned that faculty and students are interested in learning more about how to use PebblePad. As more people learn about the platform, the numbers of calls and emails have increased.
Expansion

We have learned that we need a clear process for on-boarding new projects using eportfolios and PebblePad. Learning new software and changing pedagogical practice is challenging. Acquiring a platform is not the end of this journey. While we chose the platform because it offered more than just an eportfolio, it has not been easy learning about and using all of its functionality, even for our professional staff in OAI and OIT. Also, in bringing in a system that is student-centred, we are needing to redefine how we provide support services to our students. OAI is focused on providing support for faculty while OIT is tasked with providing support for students. However, OIT’s focus has been on supporting students with the use of the technology and not on supporting them with the learning process. The boundaries of the platform demand that we consider student learning and support outside of the traditional classroom context. Finally, we are learning that to sustain and continue to grow interest and use, we must continue to promote and support new users. Without this we will have a few more initial adopters but we will not get to a “majority” user status.

Conclusion

Selecting a centralized and supported eportfolio platform has paved the road for PSU to fully realize the promise of eportfolios in advancing learning and creating authentic assessment. Faculty and students now have the basics for creating a rich and connected learning experience. Our journey with eportfolios started with a focus on student learning and the development of processes that were aided, but sometimes hindered, by the lack of an easy to use, single platform. With the introduction of PebblePad we are addressing this issue. The future, however, is dependent on how we use this new base to continue to innovate and support our campus community in continuing to put student learning first. The platform remains a tool for learning; the work behind the tool is still most important.

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To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs12.pdf
ePortfolio for Police volunteering making learners ‘future ready’

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The Context

Work Based Learning and Volunteering has had an important role within the Criminology/ Policing part of Plymouth Law School for a number of years. One of the key aims of the School, and the University, is boosting the employability of its students. Consequently, in 2014 the Volunteering in a Policing or Criminal Justice Setting module was made available to Policing and Criminal Justice Programme undergraduates, many of whom are seeking a career in the police service. This module aims to enable students to enhance their personal development through practical work experience in a voluntary placement within a local criminal justice-related agency. The placement provides an opportunity to develop a range of life skills that can enhance a student’s employability.

Past experience and previous research (Richards, 2011) has provided insights into some of the characteristics of learners which can impact on the outcomes of a volunteer placement:

- Learners’ lack of experience and confidence in using reflective practice and experiential learning in their personal development, including the use of action plans which is now common in many professions.
- A tendency for learners to overestimate their key skills, knowledge, experience and behaviours, and have insufficient evidence to back up their claims.

To address these issues a learning technologist, Emma Purnell, was brought in to develop a new eportfolio template using a PebblePad workbook, to assist learners with the process of recording and detailing their personal development. This Volunteering ePortfolio was integrated within the module assessments to underpin the importance of this process.

In early 2015 Devon and Cornwall Police approached the University to set up a project to recruit new seasonal (summer) members of staff for their Call Centre in Plymouth, directly from the students enrolled on the Policing and Criminal Justice Programme. This would be through a standard competitive assessment process which required applicants to demonstrate skills, knowledge, experience and behaviours measured against a specific role profile. The Volunteering ePortfolio was seen as an ideal way of focusing learners’ preparation for this job opportunity. This would not, however, be a straightforward process as previous research with undergraduates at Plymouth University has found...
that the factors that influence the attitude of learners to adopting unfamiliar learning technology are extremely complex (Richards, 2011).

The Problem

The main challenge was to design an eportfolio template which would provide resources for learners that would have utility both within academic assessments and personal development, and were linked to employability with a particular job role in mind. There was also a unique opportunity to engage employers and students in a collaborative process.

Outcomes sought:

- To encourage learners to engage in reflective practice – ‘stopping and thinking’ – to help them articulate experiential learning more clearly.
- To boost employability by improving the ‘fit’ between the requirements of academic assessment and a reflective, developmental eportfolio that includes tailored Personal Development Planning focused on a specific professional role.
- To improve the students’ prospects for success by collating relevant evidence from a wide variety of sources, including volunteering, university studies, and current employment, in preparation for the Police recruitment process.

The Approach

In partnership with the learning technologist numerous meetings were held to design and develop a ‘Police Volunteering ePortfolio’ to achieve the desired outcomes of the project. The learners would complete the eportfolio in a series of steps underpinned by simple ‘self-reflection’ sheets, ensuring suitable guidance was available as, for many, this was a new experience.

The crucial first phase was to engage the prospective employer for details of the specific ‘positive indicators’ for the requisite experience, skills, knowledge and behaviours within the call handler’s role profile. These included things such as excellent keyboard skills; ability to adapt to change; negotiation and influencing; respect for race and diversity; team work; and so on. These criteria were the drivers for a number of the resources within the workbook. For example, during the training session on how to use the eportfolio template the learners were asked to take part in a self-reflection exercise and complete a skills audit relevant to the position. In this first attempt they scored themselves on a simple Likert Scale. Later the learners repeated the process, but instead of relying on personal judgements alone they had to score themselves according to the actual evidence they could provide for the prospective employer.

The learners were then asked to study the list of necessary experience, skills, knowledge and behaviours from the call handler’s role profile. They developed a SWOT analysis as a personal action plan, using the results from the ‘evidence-based’ skills audit to identify key areas for personal development and potential opportunities (during volunteering experience) to address any perceived weaknesses. In common with many professions, the police expect prospective employees to use the STAR (Situation, Task, Action and
A key feature of the project was a collaborative and co-operative approach, particularly with the learners who would be using the eportfolio. Following bespoke eportfolio training, an early working model of the eportfolio was developed for review by two of the learners who agreed to ‘test drive’ the resources to ensure they were easy to use and appropriate to their needs. The feedback received was very positive and encouraging with comments such as ‘really useful’ and ‘easy to use’. These learners were encouraged to be advocates for their learner colleagues by promoting the usefulness and importance of the eportfolio to personal development. It was hoped this would help improve the overall engagement with the resources which would be crucial to success (Davis, 1989). They were also asked to volunteer to become ‘eportfolio buddies’ to assist fellow students with the unfamiliar technology. Representatives from the prospective employer (police recruiters) were given view access to the eportfolio template to ensure that it was ‘fit for purpose’ in terms of recruit preparation. The creation of the eportfolio template was very much an iterative process as resources were developed, uploaded, discussed, and ‘tweaked’ throughout the collaboration. This also ensured that the template was a ‘live’ resource and could be adapted to learners’ needs as they evolved.

The Results

One of the consequences of the structure of the academic year meant there was a substantial gap of time between the training and the subsequent use of the eportfolio. Therefore, to begin with, there was a lack of engagement. This is not surprising as previous research has indicated that the drivers for learners’ engagement with digital technology are complex (Hosein, Ramanau, & Jones, 2010).

However, over time the levels of engagement improved, particularly when it became clear that the call taker’s job opportunity was imminent. The number and quality of personal reflections in the eportfolios indicated that the learners were actively engaged in experiential learning through the activities within their volunteering experience. Many created specific personal development plans using the skills audits, SWOT analyses, and STAR forms to address areas identified for improvement. Also, a number of eportfolios contained evidence highly appropriate for the call taker’s (or any other job) recruitment process.

The Police recruitment process was completed in the early summer (UK) of 2015 with a number of the learners being successful. Very positive feedback was received from the recruiters, including comments about the quality of the applicants’ preparation for selection. The success of the project has meant Devon and Cornwall Police have committed to making this employment opportunity a permanent feature for future students.

Some of the learners have developed so much enthusiasm for the eportfolio that they have volunteered to be eportfolio buddies for future students to complement and boost
the University’s IT teaching resources. The success of the project and the identified utility of the unique learning ‘space’ has meant the evolution of new eportfolios for all Stage 1 students from both Criminology and Policing Programmes (over 250).

Lessons Learned

The key lessons learnt are:

- The importance of learner engagement from the beginning, in particular inviting volunteers to collaborate in the development and design of resources to ensure that they are specific to their needs and easy to use (Harley, et al., 2003).
- The need to avoid assumptions that learners will engage with a new digital platform just because ‘it’s there’. Having some true advocates to build and sustain engagement of the whole cohort is essential (Sharpe, Beetham, & de Freitas, 2010).
- The importance of true partnership between academic staff and learning technologists to develop a collaboration based on trust, enthusiasm and a passion for innovation. Regular meetings and contact were essential.
- The ‘labour intensive’ nature of the continual development and review process of the eportfolio to ensure its alignment with users’ needs.

Barriers:

- The demands of both staff members’ ‘day jobs’ meant great time pressure to ensure the anticipated outcomes of the eportfolio were met.
- The general lack of knowledge of the usefulness of eportfolios amongst academic staff and students alike.
- The inertia of learners to engage with a digital platform they are unfamiliar with unless they really feel they need to.

What we would do differently:

- Ensure that following any eportfolio training the students are encouraged to complete activities immediately and regularly to sustain the early engagement.
- Ensure there is an ‘about me’ folio page at the start of the eportfolio for students to personalise the space from the start.

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Real engagement with personal development planning to make the most of learners’ time at university and to enhance their transition to the ‘world of work’.
- Improving lifelong learning and transferable skills by linking technology to reflective practice.
- Making the most of work experience through volunteering by recording and developing evidence of skills, knowledge, experience and behaviours ready for future career applications.
- Self-learning using the integrative aspect of eportfolio, allowing learners to connect their learning to the process of identity development and link this to future employers needs.
References


To view this case study in an electronic format please visit this link: [www.pebblebash.co.uk/2016/resources/pdf/pb2016cs13.pdf](http://www.pebblebash.co.uk/2016/resources/pdf/pb2016cs13.pdf)
Designing a faculty-wide PebblePad strategy for future readiness

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The Context

The context of this case study is an entire faculty (Health) within which programmes use PebblePad to different degrees and in different ways to meet pedagogic goals and prepare students for employment. The range goes from programmes with strong and innovative use (Midwifery, Radiography) to programmes that have almost no use, legacy misunderstandings of the system, and/or negative associations with it.

The Problem

This varied use was causing issues with student satisfaction and staff workload, and ultimately equipping some cohorts to be more future ready than others. Change was clearly needed and a dedicated faculty working group was set up. It called for a faculty-wide strategy. The aims were:

- to set an accessible level of minimum use standards which would enhance our graduates' employability and which all programmes could be supported to reach;
- to give recommendations to enhance already strong users;
- to make both standards and recommendations open enough to allow for different approaches as befitting the discipline, level, and mode of attendance; and
- to clearly show who was responsible for what in implementing this strategy.

The Approach

We set up a working group with academics, administrators, educational developers with specialisms in Technology Enhanced Learning (TEL), and a student representative. The group met several times to feed forward and collate ideas on current uses of PebblePad across the faculty, and to record issues with use. This information gathering process included a staff survey as well as oral reports from working group members on their own and colleagues’ experiences, including student voices. Early on it was decided to expand the group to include academic representatives from each school within the faculty; this proved vital to getting a complete picture and also to building academic buy-in, especially with schools with little or negative experience of PebblePad.

From collating and discussing the various data, the working group identified that the PebblePad Strategy should aid with (re)design of programme assessment strategies, should have inclusive minimum standards that allowed for large variance in programme type (e.g. short courses, distance learning, pre- and post-degree levels), and should include support for all staff and students. A strategy was drawn up to address these aims.
and which also presented the ideas within the context of the wider university strategy to ensure the plan’s relevance and sustainability in future.

The strategy, presented in the next section, went through various iterations as the working group hashed out details to ensure that all stakeholder needs were met and that implementation would make both students and staff more future ready. The faculty’s Learning and Teaching Committee approved the strategy, recognizing eportfolio-based learning as a key way to deliver Bradford's Curriculum Framework goals and to prepare students for future employment. Programmes are now beginning to engage with either the minimum standards or best practice recommendations according to their current level of PebblePad use.

The Results

The strategy consists of four discrete parts:

1. How the strategy aligns with University of Bradford’s (UoB) institutional goals and strategic vision, in particular with our Curriculum Framework (University of Bradford, 2014). This part is omitted from the current case study as its specificity is unlikely to be helpful to other HEIs or organizations looking to design a similar PebblePad strategy for future readiness, but it is worth noting how important it is to highlight institutional fit to ensure senior management buy-in and sustainability of the project in the long-term. The pedagogic aims and clarity of our Curriculum Framework (ibid.) also proved deeply helpful in guiding the ‘path’ understanding of the strategy, allowing us to present use requirements at the holistic programme level.

2. The strategy itself, i.e. minimum use standards and best practice recommendations accompanied by technical considerations where needed. This is broken up into four areas following the linear progression of student experience: induction; the student learning path; assessment (which should be considered an element of the path but is presented separately here for clarity); and lifelong learning. The designing of programmes is of course a non-linear, recursive process so it is not suggested that programme designers work through these four areas from start to finish. The finished curriculum, however, should form a cohesive whole across the four areas.

3. A full list of who is responsible for what in implementing this strategy. All stakeholders are included: senior management, programme and module leaders, academics, administrators, the Centre for Educational Development (where pedagogic design and TEL is housed in our institution), students, and IT Services. While other institutions may divide these responsibilities differently, the most important element is that the responsibilities are spelled out clearly and pragmatically, with support developed to help each stakeholder group do what is asked.
4. The plan for how this strategy will be disseminated and reviewed on an ongoing basis.
   This part is also omitted here for space considerations.

**Relevant extracts from Parts 2 and 3**

**Part 2 - PebblePad Strategy**

a. Induction/first weeks

Effective induction can play a key part in student success, particularly for international students (HEA 2014) and mature students (Bolam & Dodgson 2003), and is also required by the QAA (2013). Good and ongoing introductory support is particularly salient for PebblePad as research suggests students may need up to two months to understand the digital portfolio paradigm (Lopez-Fernandez & Rodriguez-Illera 2009). As PebblePad use is a programme requirement in this strategy, programme induction and/or initial weeks must at minimum:

1. Introduce students to PebblePad in context so that students can understand its purpose both during their degree and after they graduate (PebblePad accounts are free for life if students convert to an alumni account before leaving).
2. Show students how to log in/log out, use the Asset Store and Resource Centre, and use the Help menu.
3. Provide explicit, contextualised support and practice where PebblePad is used for summative assessment for the first time.

Best practice recommendations:

4. The purpose of use (#1 above) should be revisited throughout the curriculum to encourage students to draw connections between their current PebblePad use and future use in employment.

b. Student path

Students and staff benefit from a joined-up learning path that links modules into a coherent programme, allowing for feedback on literacies and knowledge learnt over time rather than just within a single module (Hartley & Whitfield 2012). Assessments are part of this path. This joined-up approach is required by UoB’s Curriculum Framework and can be met through PebblePad. Minimum use standards are:

1. Following induction, all required use of PebblePad is taught and supported by the students’ lecturers. Explicit, contextualised practice and support is built into the learning.
2. At least one programme-based (as opposed to modular) use of PebblePad, for example a Personal Tutoring workspace that students use throughout the whole of their programme.
3. Feedback and/or formative assessment are given via ATLAS wherever PebblePad is used. Summative assessment is implemented via ATLAS if appropriate. The aim is for students to build their work in their personal learning space, Pebble+, over the whole of the programme (see next section for assessment standards).

4. Students finish their programme with an awareness of how to use PebblePad to evidence lifelong learning and present to employers and professional bodies, i.e. the ability to create portfolios, not just fill in workbooks. This skill must be taught and supported over at least one semester, ideally more, as it requires both technical and critical thinking abilities. Note that Bradford students were found to get greater learning gain from year-long rather than semester-long eportfolio creation (Currant et al. 2010, p.10).

Best practice recommendations:

5. Programme-based use (#2 above) should tie all modules together so that students can see where they are on the learning path. The Flourish platform is a good way to do this.

6. Evidencing autonomous learning through portfolio creation (#4 above) is used for project- or enquiry-based learning and extends beyond one semester.

c. Assessment

Assessment should be mapped out as part of the programme learning path above, requiring students to develop analysis, synthesis, and self-awareness as they progress. PebblePad assessment minimum standards:


2. Student work is submitted at the start of the term or particular learning element and then worked on till the deadline, not submitted at the end as in traditional assessment models. Submitted work in progress is used as a communication space between student and lecturer(s). (Note – other work by students in PebblePad remains entirely private).

3. Feedback is mostly formative, not summative as outlined in table below.

<table>
<thead>
<tr>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-class [and online] dialogic feedback within module time</td>
<td>Unidirectional comments after completion of module</td>
</tr>
<tr>
<td>Written feedback comments on first assessment task of module</td>
<td>Written feedback comments on final task of module</td>
</tr>
<tr>
<td>Feedback for first year students</td>
<td>Feedback for final year students</td>
</tr>
</tbody>
</table>

4. Feedback is given in PebblePad via ATLAS using feedback comments or templates.
Best practice recommendations:

5. Feedback (#3 and #4 above) should make use of feedback templates and comment banks where appropriate to standardise and to reduce marking time.
6. Marks should be given through the Grades field or, where multiple elements need to be assessed, by using the Scorecard feature.
7. Submitted work-in-progress is used as a tripartite communication space between student, lecturer(s), and workplace mentor(s).
8. The use of peer feedback and collaborative group portfolios (two less used features), should be developed and used across the Faculty to exploit additional learning opportunities.

d. Lifelong Learning

Part of the Bradford offer is that all students (and staff) get a PebblePad account for life. As a minimum standard, all programmes must:

1. Ensure that graduating students know how to convert their PebblePad account to an alumni account before they leave but after all marking, resubmission, etc. is complete. Students have a 90 day grace period from the date exam board decisions are received before their Bradford IT accounts are deactivated.
2. Ensure that non-graduating students who are leaving the university convert their PebblePad account into an alumni account before they leave. Students who withdraw do not have the 90 day grace period.

Best practice recommendations:

3. Where professional bodies use PebblePad (e.g. Chartered Society of Physiotherapists), encourage 3rd year students to open professional body account, and to link it to their alumni account.
4. Survey graduates each year to find out what elements of their PebblePad work have been most useful in gaining or maintaining employment.

Part 3 – Responsibilities

Programme and Module Leaders

1. Design learning to meet the above minimum standard uses of PebblePad, and engage with the best practice recommendations where appropriate.
2. Design PebblePad workbooks and templates where needed, and make them available through the Resources tab of the ATLAS workspace or the school’s shared PebblePad account as appropriate.
3. Put structures in place to support all staff – lecturers, administrative staff, learner support, and workplace mentors/externals – in developing necessary PebblePad skills.
All Academics (including Leaders)

4. Support student use of PebblePad so that students understand its purpose, their responsibilities for using it, and how to use it. Handbooks, information on Blackboard, and instructions in PebblePad resources should support this understanding.
5. Give feedback via ATLAS.
6. Run reports in ATLAS to assess student engagement and understanding, and use information to inform teaching practice.
7. Use PebblePad for own CPD.
8. Maintain skill level required to successfully use and teach with PebblePad.

Administration responsibilities

1. Create workspaces and add assignment deadlines and resources as appropriate. Where workspaces are not tied to Blackboard modules and therefore not auto-populated, batch add users.
2. If groups are needed, create and maintain ‘sets’ (aka groups).
3. If externals are needed, add/edit/maintain externals.
4. Review and remove work from Assignments, e.g. if student withdraws before deadline.
5. Check that permissions on the workspace align with use, e.g. externals can see all sets if needed, programme leaders are ‘lead tutors’ while other teachers are ‘tutors’.
6. Run reports in ATLAS for needed admin info.
7. Put structures in place to support administrators in developing necessary PebblePad skills and in maintaining required skill level to safely and securely administer PebblePad workspaces.

Centre for Educational Development responsibilities

1. Coordinate and where appropriate, develop training in the pedagogically informed use of PebblePad for staff in partnership with IT Services and Faculty staff.
2. Advise on learning design at the programme level and at the level of Resource creation.
3. Advise services supporting student eportfolio skills (e.g. Academic Skills Advice, Careers, IT Services).
4. Manage the University's institutional PebblePad account.
5. Support research and projects involving PebblePad and its use.

[As noted above, Part 3 also outlines responsibilities for other stakeholders.]
Implementation to date

The clarity of the strategy has been praised and it is currently being used as a building block to develop staff PebblePad skills in preparation for new programme design and rollout. The success of this process so far owes much to clear involvement of all stakeholders from the beginning, use of standards that allow for varying programme goals and differing staff skill levels, non-threatening TEL support that includes pedagogic development, and clear requirements for everyone involved, ensuring implementation that will lead to future readiness.

How this can help others

The strategy lays out some straightforward ideas on basic and enhanced use of PebblePad that will be useful for anyone guiding PebblePad use within their institution or looking to scale up / create new use which puts student employability at the heart of the learning design. Specifically, people may find it beneficial to use or adapt the following points from the strategy, or to compare to their own institution as a means of clarification:

- suggested standards of use and best practice recommendations for induction, student learning path, assessment, and lifelong learning
- suggested responsibilities for programme/module leaders, other academics, administrators, and other involved teams
- technical considerations within the above two points

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- ePortfolio-based education as provided through PebblePad is a key way to assist Health students (and staff!) to develop the reflective learning skills needed in the field while at the same time accumulating the evidence needed for professional body accreditation and, eventually, revalidation.
- This future readiness needs to be supported across the school/faculty/institution in a way that is sustainable (doesn’t put too much responsibility onto one teacher or group), flexible enough to meet the varying needs of differing programmes, and also helps enhance practice.
References


To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs14.pdf
Using PebblePad for professional development in universities

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The Context

At the University of the Sunshine Coast (USC) in Queensland, Australia, PebblePad has been introduced university-wide as a teaching and learning tool. While the focus during rollout has been on program-wide alignment and mapping to ensure a consistent student experience, attention has also been given to the ways that PebblePad can be used for professional development in the institution. This case study provides an overview of three staff initiatives.

In the first example resources have been created to support staff performance management (PPR). These templates (and eventually a workbook) were used in the Learning and Teaching office (C--SALT) for two years and then rolled out institution-wide through a series of Professional Development sessions as an option for staff to record their PPR.

The second example is a workbook developed in conjunction with Paramedicine to capture professional development (PD) by sessional staff. This workbook will be used to evidence numerous PD activities and show sessional staff a pathway to either further professional accreditation or further academic qualifications.

The third and final example is a workbook to support academics in their applications for OLT (the Office of Learning and Teaching) teaching citations. Traditionally staff struggle with gathering the evidence required to support their citation application and also with the rigorous structure of the application as a whole. This workbook has space for applicants to find and enter evidence across their teaching experience, space for early drafts and write-up and guided space to formulate a teaching philosophy.

It is hoped that through further immersion in PebblePad for professional development, the platform will be further embedded into the daily habits of academics and support staff. A potential possible flow-on effect of this is that the use of PebblePad is normalised for academics, meaning any barriers to using with students are diminished or removed. Additionally, when academics are using the tool for their own professional development they may also see and create other ways that students might use it for their evidencing and portfolio requirements.
Example 1 – PPR Portfolio

The Problem

As an early initiative, staff in the C–SALT office trialled using PebblePad to create a portfolio for guiding the annual Performance Planning and Review (PPR) conversations. This started as purely a training example for a new team member in order for her to become familiar with the environment and tools in template creation. The premise behind this was that it is more meaningful to create resources that have a use and purpose rather than ‘dummy’ resources.

The Approach

The team consulted the institution’s PPR Guidebook and created templates to guide staff through the development of their PPR Portfolio. The elements included in this portfolio were a CV, a position description, a self-evaluation statement based on feedback and self-reflection, and a Future Planning section including setting goals, actions and evaluation.

Once the templates were created they were distributed to the C–SALT team through two workspaces, one for each supervisor. The eportfolio learning designer also created a series of short narrated screen casts that demonstrated how to find and fill in each template and then how to put all the individual components into a portfolio.

The Results

The original outcome of building templates to teach a new team member the PebblePad system was achieved as well as the outcome of having some examples to show prospective users. Additionally, positive outcomes included the opportunity for C–SALT staff to experience using different elements of the PebblePad system, to build their CV and to keep records of their job feedback and goals.

Lessons Learned

The first iteration had involved separate templates that team members needed to compile into a portfolio themselves. This became confusing for a lot of the team and many did not make a portfolio. In the second year the resources were released as a workbook which meant that team members just needed to fill in the pages of the workbook (which were the previous templates) and then submit the workbook. They did have to attach any CV items or a PDF of a CV and Position Description.

Using short videos demonstrating this process proved helpful for team members and this ‘just in time’ method of training was then used in courses where students needed to locate, edit, save and submit templates and workbooks.

When scaling the roll-out to the entire institution it was evident that a greater support and training system was needed to ensure that supervisors were able to find and engage with any submitted portfolios.
Further refinement of this process is anticipated and it is hoped that the PPR portfolio model may also be used for promotions and personal development programs.

**In Brief – Showcasing ‘Future Readiness’ with PebblePad**

- Showcasing year-to-year job feedback and achievements through the PPR portfolio.
- Evidence is gathered for professional development and promotions.
- Staff members are modelling evidence-gathering practices which leads to an authentic experience when guiding students in portfolio use.

**Example 2 – Sessional Development Workbook**

**The Problem**

The Paramedics team were looking for a way to track the PD of sessional teaching staff and to show these staff members how their PD can lead to a career in academia.

Paramedicine is a discipline where many teaching staff come directly from the field and they do not have an academic background beyond their original qualifications. This can mean that new staff do not understand how to operate in the academic environment.

A group of paramedicine academics wanted to develop a portfolio that could be given to each sessional team member to track PD and show them how to continue through their own academic journey.

**The Approach**

In order to enhance the quality of teaching and learning within the paramedicine programs the school of paramedicine have developed a program of PD opportunities for sessional staff.

These opportunities are categorised into three level descriptors, ‘Early Career’, ‘Consolidating’, and ‘Developed’, which provide guidance to those sessional staff who wish to follow a path of professional development. The path also includes gaining a Graduate Certificate in Education or a MSc in Education. It is hoped that this approach will help sessional staff start planning their growth and development as academics.

In order to evidence and track this development, a workbook was created where sessional teaching team members are able to include their CV and are then guided through pages about induction, job evaluation, professional development and career pathways. The requirements at each stage are clearly articulated and there is space to include all evidence. For example, the *Induction* page outlines that all new and ongoing sessional staff must complete induction training at the start of each year. The confirmation of this training is then attached to the induction page in the workbook as evidence.

On the *Feedback* page staff are asked to seek 360° feedback on their teaching. There are sections to evidence feedback from other sessional staff, students, a space for self-
reflection and space for further feedback from other paramedics staff. All resources to assist with gathering this feedback are also located on this page.

Professional development is evidenced on the C–SALT page where staff can evidence attendance at Sessional Staff Development days (twice a year) as well as participation in the centre-led Foundations of University Teaching course. If staff undertake any other professional learning they can also include this evidence.

The final page in the portfolio is a page outlining the process of creating a Personal Development Plan (PDP). A PDP can be created during an informal meeting with a supervisor where information in the teaching portfolio is discussed. There is also a page to sign off that this conversation has taken place.

As an example – there is a guide to what is expected at each stage of the staff member’s development. This is the guide for the Early Career stage:

**Early Career**
- Induction update completed
- Two or more examples of peer-to-peer feedback
- Two or more examples of student feedback questionnaires
- Two or more examples of self-reflection on information derived from feedback
- Engaged with Foundations of University Teaching
- Collating information in teaching portfolio
- Completed teaching portfolio

**The Results**

The portfolio has only recently been developed and it is intended to be introduced to the Sessional cohort for Semester Two 2016.

**In Brief – Showcasing ‘Future Readiness’ with PebblePad**
- Providing a place to describe and support professional pathways.
- Assisting staff to evidence their professional development and teaching feedback.
- Encourages sessional staff to improve practice and reflect on teaching practices.

**Example 3 – OLT Citation Portfolio**

**The Problem**

When staff members are applying for prestigious teaching awards they are asked to gather evidence and reflect in order to support their applications. The former Office of Learning and Teaching (OLT) in Australia has supported teaching excellence and innovation by way of annual OLT Teaching Citations.

USC has a Grants and Awards team who support all the OLT Citation applicants through a process of mentoring, workshops, and working one on one with applicants to ensure
applications are of a high standard. Applications need to follow a rigid process and academic staff often find it difficult to curate this evidence, write the reflections, keep track of the workshop and mentoring sessions, and even keep track of the tight deadlines, especially when simultaneously involved in teaching.

The Approach

In consultation with the Grants and Awards team, a workbook was created to assist with preparing a citation application. The workbook includes attachments to the OLT instruction documents and has sections for:

- Citation bulletins (internal communication).
- The application timeline and key dates.
- Workshop content to revisit and reflect on.
- Evidence gathering from peers, self and students.
- A structured space to develop a teaching philosophy and.
- Space to write up drafts of the application that can be shared with the Grants & Awards team when reviewing the applications.

Lessons Learned

The workbook was introduced during a mentoring workshop and offered as an option for applicants. As the application process was already underway, many applicants had already developed their own approach to gather this information however it is intended to introduce this workbook at the beginning of the next citations round and use it as the main source of information and application preparation.

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Assists academics to prepare for teaching awards that support teaching excellence and innovation.
- Scaffolds development of difficult concepts such as a teaching philosophy.
- Locates all application guides and support resources together.

To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs15.pdf
Structuring the learning; Personalising the experience

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The Context

The Maritime Business undergraduate programme accepts a small but very diverse cohort of students into stage 1. They vary between school leavers, young people who have completed National Service or have some work experience, and more mature adults embarking on a career change. About half come from the UK and the rest are from across Europe and Asia, learning in a second language and within a different culture. Many of the students have been trained through rote learning and have little experience of self-reflection. Several students in each cohort have learning needs that require modified assessment provision for exams and tests.

PebblePad was used to assess their first module, which ran for four weeks and was designed to immerse the students in their core subject while preparing them for HE study. This was a new module that aims to introduce three core subjects that students study throughout the rest of their programme. It forms part of a new Plymouth University learning framework, which aims to provide ‘excellent learning and stimulating student experiences’ (Plymouth University, 2013). In particular, it aims to:

- Support all students consistently with curricula and co-curricular opportunities.
- Prioritise inclusive assessments and minimise modified assessment provision needs, so that all students are treated as equally as possible in all aspects of their Programme.
- Meet Code of Practice and Strategy ambitions in a co-ordinated and consistent way, demonstrating effective enrichment.

The Problem

PebblePad was chosen as an inclusive assessment environment offering an enriched learning experience, and because we wanted the student to:

- Quickly become engaged in their studies and to understand the University’s expectations of them as a learner.
- Become a reflective learner, who thinks about what they are doing.
- Feel part of a learning community within group work, the class, the course and their profession.
- Be a confident user of learning technology.
- Be a lifelong learner.
The purpose of the portfolio was to compile evidence of competency as a Maritime Business undergraduate learner.

**The Approach**

We used PebblePad to create a workbook portfolio that would scaffold the learning for the module, but also personalise the experience for student. The module team worked collaboratively with a Learning Technologist to develop the portfolio. Each member of the module team created templates specific to their area of the module and these templates were then brought together by the module leader into a cohesive and comprehensive workbook portfolio. In trying to align and provide a balance of personalisation and structure, the first page of the portfolio was an ‘About Me’ folio page; a blank page with no formal structure, and space for the student to introduce themselves and their motivations through text or multimedia. The structured pages consisted of spaces for text or uploaded evidence of any kind as responses to the activities provided. Each page included ‘assessor only’ sections, providing opportunities for formative feedback.

To ensure further alignment with personalising the portfolio experience, there were self-evaluation audits for University Skills and Personal Qualities built into the portfolio. Each element of the audit had the option to be made ‘private’ by the student, so students could choose to complete the audit and not show the results to their tutors or make some or all of their responses visible if they wished. The final assessment page ensured that all the activities completed in the portfolio had relevance and value at the end of the module, with students required to link back to evidence on other completed pages of the portfolio.

**The Results**

This first implementation was a pilot and standalone experience within the programme. We wanted to start with a small number of students to help make the changes manageable, as this was a new module, a new group if students, and technology that was new to both staff and students. This was complex, challenging and rewarding both for the staff and the students.

Some excellent reflective work was produced by the students and the ‘About me’ page in particular was used in creative and interesting ways. Short reflective pieces demonstrated the learning journey during the students' first weeks. Students could work on their portfolio in their own time and at their own pace. As a result they did not require modified assessment provision and submission was made electronically. Different markers could access their work to provide rapid feedback.

Students gave anonymous feedback on the module. The PebblePad eportfolio assessment was described as ‘clear’, ‘rewarding’ and a ‘best aspect’ by three different students. One student wrote, "The portfolio was very confusing I have lost marks on it as I didn’t submit my work the right way." Technical support was given but many students did not complete their portfolio fully and two failed to submit it on time. In general the stronger students responded very well but weaker students needed more guidance and ‘hand holding’ than was provided.
The pilot was a success and the practice will be repeated and expanded as students will continue with their portfolio in subsequent modules of their programme. Formative or summative PDP or assessment activities will be developed within these follow-on modules. Personal Tutoring will be a key element in supporting the students to continue to develop their portfolios between modules.

**Lessons Learned**

As time is so short in these immersive modules (4 weeks), being able to introduce students to the portfolio in a hands-on workshop helped them to hit the ground running. They were able to begin developing their portfolio from day 1 regardless of their technical skill. However, some students struggled with completing their portfolio. Next time there will be more workshops scheduled during the four week period to guide the students in the technical, as well as academic, aspects of the work.

It is important to build on the students’ experience of reflective learning through PebblePad, so that a progressive body of work can be built up. The next challenge is to provide a meaningful stage 2 assessment, to show progression from their stage 1 work.

**In Brief – Showcasing ‘Future Readiness’ with PebblePad**

- The structured templates scaffolded the learning for the module, with several short activities that could be completed at the learner’s own pace.
- The portfolio introduced the students to self-reflection on their work, which is a requirement of modern professional development.
- The portfolio incorporated short assignments of academic writing in report and essay style, with feedback, in an enduring format. It won’t get lost during the degree programme!

**References**


To view this case study in an electronic format please visit this link:

Using PebblePad for dissertation management within Newcastle Business School

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The Context

Newcastle Business School (NBS) has a global reputation for delivering some of the best business management education in the UK. NBS has been awarded double accreditation from the Association of Advance Collegiate Schools of Business (AACSB international) placing it in the top 1% of business schools worldwide. NBS won the prestigious Times Higher Education (THE) Business School of the Year award in 2015.

NBS helps and enables individuals to achieve leadership, management and career potential through research-rich, business relevant and academic excellent education. The dissertation module is an individual, student-led investigation into an applied business problem or issue and is central to all undergraduate programmes within NBS. The goal of the dissertation is to provide all NBS undergraduates with the underpinning knowledge of theory and practice of international business management, combined with skillful use of professional and managerial techniques and processes and an awareness of ethical issues that impact on business and professional practice, leading ultimately to increased employability.

The Problem

Each year, over 800 students undertake the NBS dissertation module supported by over 100 academic staff. Logistical issues in managing such large numbers are significant. Until 2015 a paper-based system was used and particular difficulties included:

- Matching students to tutors who are knowledgeable in the specific area of the research and also the proposed methodology
- Managing ethical approval proposals
- Having a management overview of student progress during the dissertation

Expanding upon each of these issues in turn:

It is important for the student that they have a dissertation supervisor who has the requisite experience and background to ensure that the student has the best chance of succeeding with their dissertation project. The tutor will need to provide relevant guidance, support and advice for the duration of the dissertation and ensure that the focus of the study is achievable and appropriate to the student’s future employment needs. With such large numbers of students, the paper-based allocation process was extremely cumbersome and time consuming, relying on the knowledge of the lead tutors to allocate each student to the most appropriate academic tutor.
Ethical approval must be obtained prior to commencing any research. Paper and email based solutions have been used in the past but these pose significant problems in respect of administration and management of such large numbers of students. Finding a suitable technology-based solution to replace paper-based ethical submission processes has proved to be difficult in the past. Emailing submissions between those concerned does not provide a robust and auditable process. Specifying and building a bespoke solution is both costly and time consuming.

The dissertation is a ‘student-led’ research module over a period of 6 or more months. The onus is on the student to ensure that they progress in a timely fashion and do not fall behind their research plan. In the past, a paper-based supervision log book was used to provide a record of supervision meetings and any actions agreed during the meetings. Whilst providing an appropriate format in which to record the meetings, the paper-based log book had inherent problems related to sharing of current information – the log book was always in the student’s possession. This system worked well for those students who progressed according to schedule, however it did not efficiently flag up students who were beginning to falter early enough to take appropriate action.

From a management and strategic perspective existing methods provided little or no management information or oversight. It was not possible to clearly identify progress at a group or individual level. For example, it was difficult to have any clear picture as to how many students had not yet submitted their proposal or ethics submissions – key points in the process where student engagement could falter.

The Approach

Three PebblePad workbooks were developed,

- Dissertation Proposal (Mandatory)
- Ethics Submission (Mandatory)
- Supervision logbook (Optional)

A single ATLAS workspace was created using the Blackboard LTI link automating the process of adding students and tutors to the workspace. Three assignments were used, one for each workbook.

The dissertation proposal workbook consisted of five pages. The front page gathered information required to allocate a suitable tutor, with the remaining pages allowing expansion on the proposal. The front page allowed a student to select the main management area of the research, e.g. HR, marketing, etc. This choice was further refined using ‘many from many’ options. A similar ‘skills audit’ of tutors was conducted to identify their areas of expertise. Once all submissions were received the information from all applications was exported in .csv format and used to match each student to a suitable tutor.

Once tutors were allocated, students were placed in PebblePad Sets and feedback was provided on their dissertation proposal. Students were then able to apply for ethical consent using the second workbook before finally commencing their research project.
Whist the use of PebblePad was mandatory for the dissertation proposal and ethics submission, the use of the dissertation supervision log book was optional but students were actively encouraged to use it.

Supporting such a large number of students (and tutors) using PebblePad was identified early as a potential issue. A range of help and guidance materials was developed and these included step by step guides, video tutorials and FAQs. A second set of tutor specific materials was also developed and tutors were invited to attend a 1 hour training / awareness session. Support materials provided to students also covered the generic use of PebblePad during their research project to store research data and, more importantly, to actively reflect upon their progress. A custom template covering Gibbs Reflective Cycle (Gibbs, 1988) was made available institution-wide to assist the students with reflection.

The Results

Key Outcomes Were:

**Substantially reduced administration:** The LTI link with Blackboard automated the process of having to create PebblePad accounts for the students and add them to the workspace – this was invaluable in setting up the workspace, especially with such large numbers.

**Relatively few IT helpline enquiries:** Whilst the student experience will be the subject of an academic review, it is clear from the lack of requests for support (e.g. calls to the IT helpdesk) that the support materials assisted individuals to become self-sufficient. With over 100 academic staff assessing using ATLAS for the first time the lack of requests for support for them also indicated the correct level of supporting materials.

**Availability of management information:** For the first time ever it was possible for the overall dissertation manager to have a clear and accurate picture of individual and group progression. The information from ATLAS was used as a prompt to re-engage those students who appeared to be ‘falling behind’.

**Improved student/academic experience:** A full academic evaluation of the project will take place in 2016, focusing on investigating the experiences from both the student and academic perspective. Early indications are that student engagement has been positive. This tutor feedback indicates some of the benefits:

"I am just looking through my undergraduate dissertation research proposals via ATLAS. As you know, I am a complete duffer with technology and have been a little cynical about this innovation. However, I wanted to let you know what a fantastic innovation this is. No longer is my desk cluttered with paper and no longer do I need to juggle triplicate forms or handwrite comments. No longer do I need to file things and then forget where I have filed them."
It is wonderful being able to see students’ work on one side of my screen and being able to comment alongside. This innovation massively improves both the efficiency and effectiveness of my feedback and will, in turn, if the full dissertations are uploaded, reduce the time involved in grading while, crucially, providing the student with richer, more readable feedback. I can also see ways in which the medium will enable us to second mark on-line."

Robust and auditable process: For the first time the support provided to the student during the dissertation process can be classed as robust and auditable. Throughout the entire dissertation process the support and feedback provided to the student is in one place, not dispersed within numerous emails. All records are accessible by managers and can be called upon should they be needed.

Related outcomes: Tutors seeing and using Pebble+ and ATLAS for the first time have seen potential for embedding it on their programmes of study, thus introducing the potential of PebblePad to students earlier in their academic studies.

Lessons Learned

The greatest lessons learnt are:

- Need to get early support from key stakeholders
- Need for simple but well-designed workbooks/processes
- Quality support materials are vital to ensure that students and staff can engage easily
- Step by step video guides were most popular
- Ensure that support materials are very specific
- The larger the cohort of students the more obvious the benefits – it is easy to manage a dissertation module with 20 students without technology but not 800+
- Teamwork between academic module staff and technical staff is needed

Barriers:

- Resistance to change across the board
- Difficulty engaging certain academics with the process

While the full evaluation has not yet taken place, the project has run exceptionally well. This said, the plan will be to expand the project to encourage the use of PebblePad as the preferred option for safe and secure storage of research data.

Currently, submission of the final dissertation is done via the more traditional routes as it is a single word document. It is only this document that is summatively assessed and thus given a mark. Consideration is being given to the idea that the final dissertation report should form part of a larger workbook submitted at the end of the module which includes the proposal, ethics submission, research data, etc.
What can others learn from this?

- Think big – PebblePad really comes into its own when managing large numbers.
- Think laterally – Uses where PebblePad can be easily configured go well beyond the standard approach of the assessed portfolio/workbook.
- Think support – Proactively supporting new users in PebblePad is vital for the success of any PebblePad project. A series of targeted ‘how to’ YouTube style videos supported by step-by-step guides can really reduce user frustration / dissatisfaction and ultimately reduce frantic calls for reactive support.
- Think simple – It is easy to overcomplicate matters - technology should make life easier for all involved. The workbooks used in this project were revised several times until the final versions were complete. Each time they were simplified.
- Think efficiency – How can such a project increase efficiency, i.e. save academic / administration time. Clearly, this is difficult to measure or quantify. Any technology which makes life harder is not worth it.
- Think savings – An electronic ethics submission process will be on many University’s wish lists. A bespoke product to do this will be difficult to specify and expensive to build, yet PebblePad can be easily configured to undertake such a task and is well within the budget for every university.
- Think student – It is always easy to forget that this entire process is for the benefit of the student – they need something to take away to provide evidence of their learning and employability. This PebblePad project ensures each student gets the correct support and feedback throughout their project. It also gives them the portability to take their research information with them into the next stage of their personal journey.

In Brief – Showcasing ‘Future Readiness’ with PebblePad

The dissertation is the business undergraduate’s opportunity to showcase their skills and employability by conducting an investigation into an applied business problem or issue. PebblePad is the medium/technology that brings this student-led investigation into the 21st century by ensuring that throughout their project each student is provided with richer and more accessible feedback and support.

References


To view this case study in an electronic format please visit this link:
www.pebblebash.co.uk/2016/resources/pdf/pb2016cs17.pdf
Catching the Wave Together: Using PebblePad to support collaborative simulation in legal practice

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The Context

This case study explores the development of a legal practice simulation project for postgraduate law students studying the Legal Practice Course (LPC) at the University of the West of England (UWE). The simulation uses PebblePad to provide an online space, housing virtual law offices. Students, lecturing staff, and external practitioners from local solicitors’ firms collaborate together to enable students to simulate a variety of cases based around the legal needs of a central fictional surf retail business, “Catch the Wave Limited”.

The LPC is a requirement for law students wishing to qualify as solicitors. It involves study of a range of legal and professional skills including writing, drafting, interviewing and advocacy. The simulation challenges students to use the knowledge and skills gained through LPC study to proactively rehearse and develop their sense of professional identity. They work together in teams to problem solve, handle ethical and practical dilemmas, and successfully look after a client across a fixed time period to achieve an outcome which meets the needs of the client. The naming of the central client (Catch the Wave) expresses the potential for participants to sink or swim during the project as they deal with unpredictable developments generated by their fictional client.

The Problem

At the heart of Catch the Wave was the desire to create a learning experience for students that would enable them to experience, consolidate, and develop their learning from across the LPC in an authentic, simulated setting. The LPC course aligns with the second stage of professional identity formation as identified by Sullivan, et al. (2007) during which a student learns the skills required in their professional domain, building on the acquisition of academic knowledge gained in the law degree or equivalent study (the first stage). The simulation aims to move the students beyond acquisition of discrete skills into Sullivan’s third stage, “formation of the identity of lawyers”, in this case that of a solicitor, with a holistic focus on “professionalism, social responsibility [and] ethics” (Sullivan, et al, 2007 p.14).

During LPC studies students are encouraged to work on a variety of pro-bono projects which expose them to real clients and situations. However, precisely because these are real, there is limited scope to let students take the lead as great care needs to be taken to ensure mistakes are not made when working with members of the public. The simulation is designed to “place the learner deep in the realism of the situation … in an all-encompassing way” (Grimes, 2014, p.2).
This sense of immersion is key in enabling students to experience and reflect upon their emerging professional identities in a realistic way, but also within a safe environment where the risk of negligent acts is theoretical.

The Approach

The design is simple. Each version of the simulation is built around a central narrative in which Catch the Wave Limited is one of the clients. For example, in one case Catch the Wave is seeking to end a design agreement for surf wear entered into with another company, Stingray Limited. Clients are role-played by law lecturers. Students are organised into teams of four and given a law firm identity (Kilman Beecher or Rossiters). Each firm is supported by a supervising solicitor who is played by a law lecturer with relevant practice experience. This person mimics the role of a solicitor in practice who will guide and support but not “teach” the students as they work on their legal file. The final firm member is a partner who is played by a solicitor in practice. This person has an overview of the case and, as in real life, will intervene to request work is done at short notice, for example, asking for an update on developments and costs to report to an important client.

Students work largely online, incorporating some face-to-face elements such as client interviews and meetings with other lawyers, or court appearances. PebblePad is used to provide the online virtual offices used by the students. Collaboratively authored Webfolios provide space for students to store documents, record time for billing (work in progress) and communicate with each other. Discussion boards in ATLAS are linked into the firm Folio pages to provide simulated email links between the different firms, between firms and clients, and also to other simulated organisations, for example, the court or mediation service.

As PebblePad is available online, the external solicitors can easily access the project without needing to leave their own law offices. They offer valuable authenticity to the project without having to provide a significant time commitment. This allows integration of professionals into the heart of the learning in a very effective way and helps to ensure that the simulation “is capable of withstanding external scrutiny [and is] realistic enough to be believed and therefore acted upon” (Grimes, 2014 p2).

The Results

The simulation is running for the sixth time in 2016 and in its third iteration in PebblePad. It has attracted continuing support from one commercial firm in Bristol since its first iteration and has also attracted support from a range of other commercial firms across the years. In 2017 it will form the basis of a new Masters module, to be assessed by way of a reflective portfolio which will also be situated in PebblePad.

The design has potential to be replicated into other professional settings where communication between different organisations or teams is key. In a simpler form the design also provides an approach which could easily be replicated for collaborative group work projects. In Catch the Wave the full narrative is accessed by students through their work with their simulated client (a lecturer, who is provided with a very full brief).
In essence if they don’t ask they don’t get, as would be the case in real life. However, in a different simulation design where the process needed to focus students on more specific learning outcomes relating to knowledge or skills, it would also be possible to use PebblePad to release information to students at pre-determined stages in the narrative. Following dissemination at UWE, the model is currently being adapted for use in a health care simulation by nursing colleagues in the Health and Applied Science faculty. The new version will enable nursing students to simulate the experience of working effectively with patients accessing healthcare services.

Student feedback has recognised the authenticity and value of the experience for their professional development. Most recently in 2015 students reported:

“Great team building exercise”

“It was invigorating and a really refreshing change from study”

“I loved it because I have realised that I enjoy practising law”

“I learned a lot about myself and what is to come in my future career”

And a quote which really expresses a student’s developing awareness of the reality of professional life:

“You are never finished even when you think you are finished”

The feedback from our external practitioners has also supported the value of the experience in terms of preparation of students for professional life in a law office:

“The “Catch the Wave” simulation is innovative... It is also of considerable practical value in exposing students to the realities of a legal working life. It is highly interactive, requires team work and the ability to respond quickly to a situation as it develops, whilst requiring students to provide accurate, commercial advice. It is a fantastic student experience”

Partner, Commercial Law Firm participating since 2010

**Lessons Learned**

The professional role playing by all participants in the simulation replaces the usual classroom dynamic of lecturer/student with a new dynamic. Lecturing staff working as clients or solicitors engage with students in a fresh way, working alongside each other to achieve the identified goals of the simulated client. An unforeseen, but positive impact of this change in dynamic has been the creation of a more collegiate relationship with students. The simulation provides a learning opportunity for the lecturers who are also faced with unexpected questions and problems, in particular in the supervising solicitor role, as the simulation progresses. Lecturers benefit from the chance to challenge their own professional skills, and think about legal problems outside the usual curriculum. This in turn creates impetus to rethink traditional teaching.
The key challenge of this project is the co-ordination of the people and technology. The setup is not complex technically, but attention to detail is required to ensure that all the sites are correctly linked to the correct discussion boards, and that the right students, staff and solicitors are able to see the correct elements of the simulation. A detailed, step-by-step project plan is ideally needed to enable the set up to run smoothly. Unpopulated copies of the firm sites are kept from year to year so they can be easily recreated for each iteration.

The LPC students have not used PebblePad before and therefore need initial training. As time is limited this is done in a staged way with an initial demonstration and opportunity to log in and look around at the beginning of the simulation. This is followed by email support and also a second chance to meet after a few days to iron out problems. A simple guide to the aspects of PebblePad that are essential to the simulation (e.g. using an Activity Log to record time) are provided at the outset. However, the project leader still needs to set aside time to respond promptly to early queries to ensure students remain engaged. The external solicitors are offered a visit to their offices to ensure they can access the work via PebblePad but have, in fact, managed to remember what to do from year to year.

Once up and running, staff need to be prepared to be responsive to the student players at short notice for the duration of the project as it runs in real time alongside timetabled teaching. It can create tension for students if their client or supervisor is not easily available, or does not check-in online regularly to keep up with developments. However, this tension is arguably also a key part of the learning experience as, of course, senior staff are not always to hand when issues develop in a real law office and dealing with this is part of managing a workload.

“[T]he simulation may take on a life of its own and result in a dynamic that may be unscripted...the resulting spontaneity may be regarded as a positive advantage” (Grimes, 2014, p2). This is exactly what the simulation is intended to do; the narrative is not fixed by pre-determined learning outcomes. Whilst there are always common themes (e.g. delivering client care, handling ethical issues, managing costs, effective team work) the outcomes vary from year to year with different court decisions and mediated or negotiated agreements arising out of the work by the students. PebblePad provides the focal point to recreate the key elements of a law office online. It allows the creation of an experience that, in the words of a student in 2015, “…is, I think, as near to a real situation as possible.”

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Providing a setting for experience of managing authentic legal problems in real time.
- Supporting collaborative online working between students, lecturers and external practitioners.
- Providing opportunity for students to develop and reflect upon their emerging sense of professional identity as lawyers.
- Creating evidence that enables students to demonstrate key graduate attributes, such as commercial awareness, to prospective employers.
References


To view this case study in an electronic format please visit this link:
The challenge of moving clinical assessment online for a whole of nursing curriculum

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The Context

The nursing curriculum is composed of two equal parts, theory and practice. Over the past three decades learning technologies have changed the face of teaching and assessing theory, while the practice setting has remained largely traditional. When the Australian Nursing and Midwifery Accreditation Council (ANMAC) approved a new curriculum for nursing and midwifery pre-registration education at La Trobe University in 2013, an opportunity presented to utilise digital learning technologies on placements. The premise was to value add rather than simply go online for the sake of it. In that regard, the solution had to improve efficiency in managing and monitoring students. It also had to support personal learning spaces which foster reflective practice, the evidencing and validation of competencies, and the identification of employability skills obtained during the placement.

The Problem

Traditionally clinical assessment of nurses has been completed using a paper-based system. Paper-based systems have severe limitations for principles of competency training, with deliberate practice and mastery of learning both requiring comprehensive feedback, real-time monitoring and feed-forward control. The awkwardness of the paper-based process, and its susceptibility to loss and damage, provided added incentive. However, the main driver was the limited information at hand to provide effective interventions and the disconnection between the triad involved in this engagement: the student, the clinical facilitator, and the teaching institution. Moving to an online assessment system was a solution to resolve these problems. This would improve accountability, transparency and record keeping of student placement data.

The key challenges were diverse and multi-dimensional. The system had to accommodate 600-700 students in each of 3 year levels, covering 8 core clinical subjects, 5 campus locations including regional Victoria, and needed to have the ability to accommodate multiple student pathways. Many of the student placements commenced at different times of the year. One of the biggest challenges was the cultural change that was required to convince academic staff and clinical educators that the new digital system was a better method than the paper-based system that had been used for many years.
The Approach

A standard approach to design and development was undertaken (Figure 1), beginning with considerable consultation to inform the development of a prototype. The prototype was tested from each user perspective. Based on this evaluation, a working model was trialed in two first year undergraduate subjects. A key objective was to build sustainability into the design. It was identified that the implementation had to consider long term sustainability practices beyond the initial pilot.

Training was identified as a key requirement for all stakeholders. Face-to-face training, written documentation, and online resources including narrated video screen recordings were made available. At the end of this first trial the results and user feedback were reviewed and the model was re-developed to accommodate a range of changes. This established working model was now ready to be used in other subjects.

Figure 1: Implementation Model
This working model included the introduction of a Three Phase Support model (Figure 2).

- Pilot phase where a high level of support is provided to all stakeholders to ensure a successful outcome and positive experiences.
- Update phase in which changes have been incorporated based on user feedback and the central institutional support team is introduced to the process. Staff are trained to use the software.
- Handover phase where central support teams cover most of the support calls and staff manage most of the basic tools with confidence.

There were 9 workbooks to be used by each student over three years of clinical assessment. One workbook carried over 3 years and another 8 were required for each of eight individual subjects. The latter workbooks were programmed to be automatically released each semester. The 3-year workbook was programmed to progressively reveal eight sub-workbooks as required. To facilitate access to previous assessments it was decided to contain all workbooks in one ATLAS workspace. This “Super Workspace” would manage all clinical assessments for any one student. This evolved into one workspace for each campus (one metropolitan and four rural).
The Results

The System

Overall the implementation resulted in an effective online clinical assessment framework which accommodated the requirements of the NCAS professional nursing standards. The ATLAS reports provided real-time monitoring of student progress and academic coordinators appreciated the ability to effectively monitor and manage student activity in clinical placement.

The ATLAS system has an excellent Set function to manage pairing of clinical assessor and student at each site. However, with the large volume of students, the lack of current student clinical placement data, and inadequate staff allocated to administration, this became a major challenge for users.

Governance & Processes

As the implementation progressed, it became increasingly clear that communication to users about new system functions and issues was inadequate. The lack of a robust governance model hindered communications and caused some anxiety with users. New processes, problem solving and issue identification could have been better handled.

Clinical Educators

A number of users had a very poor experience and this was reflected in negative survey responses. This was attributed to a number of unexpected and unavoidable factors. Some students did not follow the instruction to submit their workbooks before clinical placement. This resulted in clinical educators not being able to assess students which became a source of student anxiety and assessor frustration. Some assessors did not attend training or understand how to use the assessment tool, which exacerbated their frustration. A number of users were unhappy about moving from a paper-based system to online digital assessment.

Students

The system was designed for a standard student experience beginning in the first year to progress through to third year. Other student cohorts with different prior experience joined the course at other non-standard entry points. This caused a number of issues as they were not originally identified and were unplanned for. Hence a number of these students had a poor experience.

Overall, the majority of students and staff had a very positive experience when they:

- attended training
- followed instruction
- understood the value of online assessment
Lessons Learned

The issues and challenges associated with this implementation were attributed to a number of identified factors. A project of this scale should have had a governance group, a project manager, and a dedicated user support team. The scale of the implementation introduces additional complexities and hence the requirements change. As an indicator, if the student user base is larger than 100 students, the need to address these requirements becomes evident. The following are some of the key factors:

- Effective communication between users is critical. A communication strategy is important to support consultation, inform users of decisions or changes, and manage problems.
- Support for users must be clearly defined and communicated. IT support, issue resolution and user guidelines must be robust.
- Training must be provided to new users. Effective and timely training must also be available for all users, with additional resources available for just in time reference.
- All student user scenarios need to be defined. Guidelines to inform how the various pathways are dealt with need to be documented and distributed for reference.

A significant unanticipated barrier to the project was a major restructure to the institution that resulted in a severe reduction in administrative support for the school. This contributed to a number of ATLAS administrative challenges and issues. Regardless, it is important to identify the administrative tasks that are required for successful outcomes with clinical assessment.

A number of initiatives were put in place to improve the system:

- A clinical educator guide was created and incorporated as a first landing page website for all workspaces. This is considered a key resource that all assessors will see upon entering a workspace.
- A PebblePad Guide for Clinical Assessment has been written to document workflows for subject coordinators, outlining all processes and identifying who does what and when. This guide includes details about the methods to address the various identified student pathways.
- A simple training video has been created for clinical educators who cannot attend training.
- The support teams for students and clinical educators have been identified and trained accordingly.
- Comprehensive online training material for students has been developed for reference and to address their key issues with using the software.
- Comprehensive online training material for teaching staff has been developed for reference and to teach the key concepts that they need to understand.
- A system to minimize administration of Sets and address the issue of access to individual student clinical tools has been developed.
- Work is being done to improve the printing capacity of the clinical tools for job applications.
Workshops have been run to discuss the rationale of clinical assessment portfolios. A key aspect was to identify issues and develop solutions for using PebblePad in real world practice in the clinical sites. The future will include a strategy to move the current compliance portfolio to a more personal reflective portfolio which articulates an individual's strengths and includes plans for professional and personal development.

**In Brief – Showcasing ‘Future Readiness’ with PebblePad**

- Using PebblePad we have successfully developed a framework that supports Nursing & Midwifery students in recording evidence of their competency towards becoming a Professional Graduate Nurse.
- The Employability Skills developed during clinical placement are assessed, validated, and recorded effectively in an online system which can be monitored and managed by the University.
- Students can review their performance, identify their strengths, and plan to address areas of weakness as they progress through their course and learning journey.
- With digital records, students can confidently present and share evidence of their abilities and professional skills to future employers.

To view this case study in an electronic format please visit this link: www.pebblebash.co.uk/2016/resources/pdf/pb2016cs19.pdf
Learning through reflection: An innovative educational strategy for clinical competency assessment in Oral Health/Dentistry using PebblePad

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The Context

Within the Oral Health and Dentistry teaching program, clinical education and assessment is critical. Student competencies must be assessed and validated as a requirement for graduate professional registration. The program aims to support students to develop ongoing reflective practice to maintain professional competence and support certification of competence. This process stimulates goal setting for improvement of clinical and critical thinking skills.

A key feature of the teaching program is to provide useful feedback for students and teaching staff. This entails developing a 360 degree feedback framework which includes peer review, student feedback, clinical educator feedback, placement agency feedback and patient feedback. Analysis of student feedback data will facilitate benchmarking of students, real time monitoring of progression in clinic, and inform the teaching program to best support weaker students. Analysis of feedback data from clinical educators will allow us to compare and calibrate the teaching to be more consistent for students. We plan to analyse the rich data sets collected to inform our future teaching programs and support a better student learning experience.

The Problem

Students are currently assessed using paper-based criteria lists, assessment sheets, and reflective diaries. Students must manage paper-based folders, with staff access dependent on asking students for paper-based forms. The current system does not promote student reflection in ‘real time’ or support timely and constructive feedback. There is little opportunity for communication between academics, clinical educators, and students, or moderation of feedback across geographically dispersed sites. The system is labour intensive, costly and does not maximise opportunities for strengthened partnerships between students, educators, and university academics, or progressive feedback to improve student learning.
The Approach

The key objectives were to move the clinical assessments online to a PebblePad workbook. This would facilitate online monitoring of student progression, 'real-time' reflection and feedback between student and educator, review and sharing of feedback between colleagues (internal and external academics and clinical educators), and moderation of assessment and feedback performance by clinical educators at different sites.

An initial pilot was run using a small group of students over the summer (Aus) of 2015. The clinical assessment process was as follows:

- Student would see patient and create a patient record
- Educator would review patient record and provide written feedback
- Student would nominate to be evaluated under Qualifier or Assessment Criteria

Effective training of students and Clinical Educators in this new online process was critical to instil confidence and trust, especially when moving from an analogue paper-based system to an online digital framework.

The initial prototype workbook included a reflective journal, patient record templates which were stored in patient Collections, and Qualifier and Assessment templates which were also stored in corresponding Collections. The design of the workbook was complex and was strongly influenced by the physical attributes and sequence of the clinical assessment process in the clinical lab. The evaluation of this pilot indicated that the anticipated outcomes were being met to a degree, but that the processes undertaken by students and educators were cumbersome, inflexible and prone to error. There were strong indicators that this method was not scalable and not sustainable.

The redesign of the next workbook required a total rethink and fresh approach to address the following identified issues with the Prototype 1 Workbook:

- Students were required to generate Qualifiers or Assessments and these were not attached to patient records.
- Collections were inaccurate due to human error.
- Educators needed to quickly access latest records and an unsustainable method was adopted to facilitate this.
- Evaluation included far too many tick boxes and was time intensive.

New Approach

We reviewed the clinical assessment process and clearly articulated the steps, including the rationale and intended outcomes for each step. This review gave us new insight into the desired outcomes and resulted in the following key design changes to Prototype 2 Workbook:

- Qualifier and Assessment forms were no longer generated by students but reconfigured as Feedback Templates for Assessors to initiate and complete.
Errors in Collections were eliminated by setting search criteria with cascaded Tags in patient records templates.

The need for assessors to check many tick boxes was considerably reduced by taking the reverse approach of indicating only those criteria not met.

This second prototype saw major improvements in usability, sustainability and time efficiencies, and a reduction in errors. The key change was the introduction of the Feedback Templates instead of the Qualifier and Assessment forms. Additionally, the reporting functions associated with Feedback Templates allow us to compare and contrast the assessment of criteria across the individual assessors, information that was previously not easy to obtain.

The new workbook is being used in 2016 with 54 students, 17 Clinical Educators and over 720 patients.

The Results

The implementation resulted in establishing a 360 degree feedback framework. Clinical educators were aware of transparency of feedback and improved the quality of their feedback. They were encouraged to write feedback during the sessions (as they went) and not at the end of the treatment. This resulted in immediate meaningful open communication. 360 degree feedback gave a realistic and objective overview of the student’s progress for all concerned.

An effective reflective framework was established. The feedback obtained from Clinical Educators about the new system indicated that they appreciated the information from the students. They gained insight into individual student learning and understanding through the reflective diaries. They were enthusiastic about the radiographic portfolio and progression reports.

Dialogue between clinical teachers and between academics and clinical teachers improved. The online records provided an open space to refer, discuss and compare individual and group performance, which had been difficult with a paper-based system. This lead to an improvement in the tracking and monitoring of students. Clinical educators had the ability to monitor clinic sessions in real time, and provide feedback on completion of clinical patient records.

Students were very positive about using this technology from the beginning. Once introduced to the framework, students accepted the technology using both PCs and mobile devices. Students liked the feedback videos and demonstrations that were attached to specific logbook templates. This enthusiasm resulted in requests from students to add more functionality to PebblePad and requests for it to be used for other assignment submissions.

We have learnt that this implementation has resulted in better support of student learning using an effective 360 degree feedback and reflection framework.
Lessons Learned

Academic Perspective

The transparency of the system exposed omissions in clinical educators’ adherence to specific practical guidelines. This was often argued as due to ‘lack of time’. However, in the analogue paper-based system the same elements were required but were not easily monitored. This new system now provides insight into the degree of completion of clinical assessment feedback by the clinical educators. We are now able to plan additional training (didactical) or profession specific workshops to improve our level of teaching (calibration).

Clinical educator engagement

Initially, hands-on support for the clinical educators on location is necessary. They need to feel supported with a radically new system. This should include the availability of a local ‘trouble shooter’ to help the teachers to embrace the system.

At the beginning of the implementation, the clinical educators should be included in a discussion of anticipated workflow. Their feedback should be encouraged and embraced where possible. This facilitates stakeholder ownership and improves the likelihood of success and engagement.

Student Engagement

We found students adopted the system easily. This may have been a consequence of an effective student introduction and an opportunity to have hands-on practice. Their learning was supported by contextual videos which students also used later for reference.

Overview

- This is a time consuming process which requires input from every stakeholder at every stage. It is important to demonstrate that their feedback and issues are taken seriously. Keep them informed about any changes made to the system or the procedures based on their feedback.
- Testing at clinical sites is critical. IT infrastructure should work flawlessly – we had issues with wifi access resulting in initial frustration for all users.
- A review and evaluation of this initial implementation is important in order to improve the efficiencies and quality of output.
- All stakeholders were highly engaged as we identified the value of this framework to support:
  - individual academic staff teaching objectives,
  - clinical educator teaching needs, and
  - student learning progress.
Development Perspective

- Think ‘different’. It is easy to apply previous designs to a new situation. PebblePad has many functions and there are multiple ways to achieve the same end. Some methods are more elegant than others. These decisions are informed by Process Analysis.
- The Process Analysis entails carefully articulating process steps, including the physical user requirements, and clearly identifying the rationale and intended outcomes. This analysis will inform and influence the PebblePad design and user experience.
  - How will the student interact, will it be logical and valued?
  - How will the Assessors evaluate in the most efficient manner possible?
  - How will academic coordinators monitor the assessments?
  - Are the reports meaningful and is the data easy to interrogate?
- Academic Coordinators must own the project and implementation. Invest in the partnership and ensure client ownership. Expect low confidence at first and encourage brave ideas. Practical design will rule in the end.

Summary

Overall this implementation has far exceeded our original plans of simply replacing a paper-based system. It has enabled us to engage all stakeholders in the teaching and learning process. The open nature of the records has made all users far more accountable for the records, reflections and feedback. The rich data sets derived are opportunities to inform teaching practice and verify student cohort performance. All stakeholders have been inspired to pursue further possibilities with PebblePad.

In Brief – Showcasing ‘Future Readiness’ with PebblePad

- Students can effectively record and reflect on experience in a clinical setting and receive real-time feedback. This identifies competencies they have gained and helps them plan and address weaknesses informed by effective feedback.
- Students have evidence of progress toward competency of professional standards. These are records of their learning journey with personal reflections and valid assessor insight of their performance.
- Students gain confidence that the feedback is valid, of a peer reviewed standard and informed by quality assurance mechanisms.
- The 360 degree feedback option prepares graduates and employees for a changing and ever more competitive world. They can evaluate their professional profile/identity based on information and feedback from all their professional relationships (patients, colleagues, employers and other organisations).

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