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 **e**lectronic **Pre**paration for **P**rofessional **P**ractice 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 respectively. 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, 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.

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. As not all the behaviours can be measured an equal number of times, 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 students information).
   c. Template that mimics the **CCSAT** used by professional practicing pharmacists (used to identify learning needs).
   d. Template that mimics the IIoP **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.

<u>Evidence that desired outcomes were achieved</u>

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 submission process. We found that PeblePad 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 learnt

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 is 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 in 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.

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