Assessment & Learning in Practice Settings (ALPS)

Monitoring & Evaluation Group

Case study template

The following case study template will enable Group members to gather evidence of ALPS' activity and help members engage in reflective practice. This evidence will then be analysed in the context of a particular line of enquiry in the expectation of providing evidence of ALPS' impact.

The case studies might focus in on one or more of the following:
- a cohort of students', or an individual student's, journey involving a particular ALPS activity
- an individual academic, or a team of academics, involved in an innovative pedagogical approach brought about by ALPS
- changes to the student learning experience involving ALPS activity
- partnerships which have been built with different stakeholders to support activities undertaken by ALPS

Title of case study:		
The Bradford Pilot: Understanding how new technologies impact upon and enhance the learning and assessment process.		
Institution:		
University of Bradford		
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Context:
Please describe the context in which the activity/intervention came about. In providing this description think about: **• what was the focus of the activity/intervention?** The focus of this activity was to introduce mobile technologies to a group of students and lecturing staff for use in the assessment of clinical practice and to identify the key issues that arose. In Bradford we were particularly interested in how using new technologies would impact on the learning and assessment process, i.e. what would be the value added to existing practices which were already deemed to be highly successful. **• what led up to it?** This was a response to directions from the IT group to implement a pilot study to test the feasibility of using mobile technologies for ALPS. **• what options were considered?** **Which group of students?** Student Midwives were chosen for a variety of reasons. Pragmatically, they had a practice placement at the right time; but also they had an existing assessment

process that appeared to be adaptable, with relative ease, for use on PDA and they used technology (Blackboard) extensively and routinely in their course. It was also acknowledged that the lecturing team were generally highly experienced, well motivated and likely to welcome involvement in the pilot.

Which Technology?
Various types of technology were considered such as smart phones and computer tablets. The HP iPAQ was selected on the basis that it had a good screen size and an accessible keyboard in addition to the onscreen keyboard and free hand options. There was much debate about whether or not a camera facility should be included and the final decision went against this on the basis of ethical permission not having been gained to take such equipment into an NHS department.

The original intention was to create word forms which would then feedback to a central data base. The advantages of this would be that students could work on the forms on their personal computers and also that the midwifery division would have a complete record of the students' placement experience.

Objectives:

- **what were you trying to achieve?**

Objectives of the Bradford pilot project were to:

– Identify the readiness of ALPS partner institutions (Bradford in this case) to adopt mobile technologies for assessment in clinical settings

– Identify the infrastructure available and required for support in using mobile technologies

– Explore the impact of using mobile technologies on current assessment processes and outcomes

(Dearnley, Haigh & Fairhall 2006)

Process:

- **what actually happened?**

Unfortunately Pocket Word was not sophisticated enough for this purpose and we had to use PocketForms for the portfolio records. The cost and complexity of providing the full PocketForms programme to students was prohibitive so the students had to enter all data through the pda.

what did you do and why?

The issue of central records was resolved by recruiting a database expert to design a bespoke central database which would accept the PocketForms.

In addition to replicating existing assessment documents a new grading tool (a form consisting of criteria to indicate the students level of achievement) was developed and added to the assessment documents on the PDAs. This tool was used by mentors to help them arrive at the final grade for the student and was also used by the students to self assess themselves in preparation for their assessment interviews.

- **what worked well and why?**

A benefit of the bespoke forms was that it enabled the production of pdf versions of forms for the students to keep as a permanent record.

Most students liked the fact that that the iPAQ was a convenient and neat tool as opposed to the large paper book (in which they normally recorded their assessment documents), which became tatty with use. They preferred to be able to word process rather than write assessment documents in long hand. They liked the fact that they could edit and extend their records on an on-going basis and that the end product was neat, tidy and presentable. To some extent, it seemed to overcome barriers to writing. One student made this point very clearly:

"I liked that you could adapt it to your placement, to what ever's going on and where you are. You can start by making little notes about where you want to be and then you can change it to what you've done and what you still need to do and then you can finish it off by I've done every thing and this is what I think"

Interestingly they did not appear to transfer this preference to the writing of notes, preferring to maintain pocket note books.

Some students talked about the use of various functions such as games, GPS, calendar and the sharing of photos and word documents. In some cases the iPAQ appeared to function as a social icebreaker for students going into clinical practice due largely to its novelty status.

There was evidence of some students 'bonding' well with their iPAQs by their use of language which personified the tool:

"Mine just lives in the little cradle and every time I turn on the computer it resynchs itself"

"Yes it is just too big for the poor little thing."

A key positive outcome, from the staff's perspective, was related to a new grading system that was introduced with the iPAQ. Whilst it is acknowledged that this may be seen as a separate issue, staff felt strongly that the new grading system would firstly not have been introduced in paper format this academic year (*"we were thinking about it and might have got it done for next year!"*) and secondly, a paper based form may not have been received as positively as the new electronic form was. The introduction of the iPAQ and the new grading system was a symbiotic process. ***This highlights the importance of designing tools to encourage certain activities.*** For example, in this case the assessment tool was designed to encourage dialogue between all three parties on the grading process.

This was supported by reports that use of the iPAQ removed the tendency for all three people involved in the assessment to focus on the clinical portfolio document. Instead students were encouraged to use the iPAQ as a prompt as they discussed their clinical outcomes with link lecturer and mentor allowing a three way dialogue to prevail. Thus the assessment process became more student centred, as was indicated by some of the students.

There were many other positive aspects reported by staff with an overall consensus that 'going mobile' was a good thing! Particularly appreciated by staff were the benefits of the calendar function synchronising with MeetingMaker, the electronic diary system used by the University.

- **what worked less well and why?**

The main negative aspect was that students couldn't work on their portfolio on their

home computers. All data had to be entered through the PDA and this led to complaints about the length of time of entering data to support achievement of their performance indicators (clinical learning outcomes).

There was some perception that using the PDA at assessment interviews prolonged the process, but this was related to unfamiliarity and in most cases was resolved by the second interview. There were also some navigation difficulties in finding the appropriate forms quickly and this could be addressed by better design of the software.

Few, if any, students used the phone facility on the iPAQ. They reported that it was too large and cumbersome and preferred their "small sexy little numbers".

Students were anxious about the reliability of the iPAQ and the possibility of loosing assessment data. This was reinforced by the experience of some students actually loosing data by allowing the batteries to run completely down. Safeguards were available to students because they could synchronise the data with their own computer, but students were reluctant to invest time setting up the connection because of a variety of reasons and genuine concerns:

- A key issue was that even if they set up this connection they wouldn't be able to work on the computer because of the limitations of the software
- The project was seen by students as time limited and therefore they did not want to become too reliant or too attached to the tool. This was a significant issue that had varying outcomes.
- Some were afraid of loosing or breaking the iPAQ and this led to minimal use in some cases.

Only one member of staff held particularly negative views. She stated that she couldn't see the benefits of it and was not a very 'technical person.' She felt her diary was more reliable and under her own control. She did not use MeetingMaker as she *anticipated* problems with this. As with some of the students a key issue for this staff member was the time factor and how long it would take to learn the new skills.

The only other problems identified by staff were related to the devices crashing and batteries running flat.

(Dearnley & Haigh 2007/8)

Critical success factors:

- **what made activity work well in practice?**

There were 2 key factors in the success of this programme. Firstly was the enthusiasm and expertise of the staff involved. Both the mobile technologist and the midwifery lecture responsible for adaptation of the forms worked tirelessly on this project both during its life time and in the period since, in analysing and writing up the findings. Linked to this is the second key factor, which is support. Students were supported by an online discussion board (on Blackboard) and all queries were promptly responded to and dealt with by the mobile technologist or lecturer. The discussion board also enabled students to help each other and provided a good overview of the types of problems that emerged.

Outcomes:

- **what did you achieve?**

A very valuable study was completed within the set timescales and has produced sound evidence and experience for further development. It is also worth noting that the Bradford pilot brought professionals together from different Divisions within the School of Health Studies and wider University, who had a shared interest and enthusiasm but who had not worked together previously. Thus new partnerships and working relationships have emerged.

- **what happened as a result?**

Further projects for working together have been planned.

- **was this what you anticipated?**

I think we gained more from undertaking this study than we thought possible at the starting point when we were working to very tight and fixed deadlines.

- **what has been the impact of the activity on staff, students, practitioners, service users, carers, others?**

At the end of the project students reverted to the paper-based portfolio. Most Link Lecturers continued to use the PDAs as professional diaries but they were no longer part of the assessment process. However there was general agreement across all three groups (lecturers, students and mentors; unfortunately service users and carers were not part of this study) that the design of the assessment tool as presented on the PDA led to a fairer assessment and more detailed feedback for students in most cases (Haigh, Dearnley & Meddings 2007) and that these advantages should be maintained by a revision of the paper-based tool. The revisions can be summarised as follows Students are encouraged to self-assess their own performance in advance of the interview; this self-assessment is used as a basis for discussion of each aspect of the marking criteria. This ensures that the mentor considers each aspect individually and takes the student's self-assessment into consideration. Thus a basis for giving more constructive feedback to the student is created. The new assessment tool has been used for all clinical practice assessment in the last year and has been very well received by both students and mentors.

Key lessons learnt:

- **What have you learned?**

In readiness for adopting mobile technologies for assessment in clinical settings a number of issues have been identified. Training for students and staff has emerged as a central tenet. Training, for lecturing and clinical staff, is critical because when supervising staff are not fully competent, extra strain is placed on the students as responsibility for managing the assessment process is transferred to them. Support for all involved is a key issue.

Student acceptance of the technology is also a key issue. This will be enhanced if it is introduced early in the course, allowing it to be integrated as any other learning tool. Any mobile assessment document must be web based to ensure its safety so that students will be confident to use it. Similarly students who used the iPAQ well in this study were not only confident in its use but displayed feelings of attachment to the devices. Many students currently show such attachment to their mobile

phones and some didn't like the iPAQ because it was deemed 'uncool.' It therefore seems very important that we work towards a system that allows students to access mobile learning objects and assessment documents via there own mobile phones. There is evidence to suggest that technology will increasingly permit this and this in turn of course will also help with sustainability of the ALPS initiatives.

Finally, in this project we set out to replicate existing paper based forms on a mobile device. This was necessary because of the nature of the study and the time scale which did not permit for revalidation etc.

However, we have learnt that new technologies allow for the development of learning and assessment tools that change the way we think and act. Tools are not neutral; they are by definition interactive and therefore stimulate interaction, which is multi-dimensional in nature and has the potential to impact on relationships between the student, mentor and lecturer and the assessment process. New technologies demand new approaches to learning and assessment. An example of this is a new understanding of how having a camera in the device, an option initially disregarded, can contribute to learning processes. It is not the case that we simply replicate old and trusted paper friends in digital format, the rewards of such an exercise would barely prove worthwhile in terms of value added.

To obtain such rewards we must allow new technologies to work for us. This case study clearly demonstrated that to do this successfully, the new approaches need to be acceptable to the actors involved by building on current best practice and thus minimising associated stress to students and staff. Crucially, pedagogy must drive technological advancement. We must build on what we know about how people learn and how people respond to assessment and be creative in our technological responses.

- **How has this learning been used to inform future developments?**

Outcomes of this pilot can be divided into two distinct areas of knowledge, based on the objectives of the study:
- Strategic and practical implications of implementing technology into the assessment process
- Impact on learning processes of implementing technology into the assessment process

This has facilitated three conference presentations and two journal papers. That which relates to the impact on the learning process and is therefore most relevant to this evaluation can be found at http://www.pestlhe.org.uk/index.php/pestlhe/issue/view/5.

The findings have also contributed to an HEA workshop to which we were invited to speak and are currently being amalgamated with the overall outcomes of the partner pilot studies. This amalgamation will produce further material for publication and will inform future developments within ALPS.

References
Dearnley C.A., Haigh J., Fairhall J. (2006) Transformational Learning in a Mobile Technology Project, *mLearn: Across Generations and Cultures 2006*. Oct. 22-25, 2006 Banff, Alberta, Canada
Dearnley C.A., Haigh J.,(2007/8) Using mobile technologies for assessment and

learning in practice settings: a case study. Undergoing development for publication in *Nurse Education in Practice.*

Haigh J., Dearnley C.A., Meddings F.S., (2007) The impact of an enhanced assessment tool on students' experience of being assessed in clinical practice: a focus group study. *Practice and Evidence of the Scholarship of Teaching and Learning in Higher Education*. Vol. 2 No 1.
http://www.pestlhe.org.uk/index.php/pestlhe/issue/view/5

Please return the case study to Trish Walker (t.e.walker@leeds.ac.uk) by **Tuesday 8 May** in order that they can be circulated prior to the next workshop.

Thank you