

University of Strathclyde: School of Pharmacy

Foundation Pharmacy

A REAP project case study July 2006

About the class:

Since 1998 the School of Pharmacy has been using the custom-built virtual learning environment (SPIDER) to support the delivery of the undergraduate curriculum. In 2003, an electronic personal development portfolio (ePDP) was created and embedded into the system. The development of the ePDP was a result of the School's recognition that continuing professional development (CPD) is a requirement for continued registration as a pharmacist and that increased emphasis needed to be placed on this in the undergraduate curriculum.

The ePDP was originally developed to provide MPharm students with a web-accessible environment in which they could reflect on their individual learning using three facilities: a skills rating tool which allows students to assess their development over a range of skills taught as part of the MPharm degree; a personal development diary; and a facility to store electronic copies of all their submissions (See Figure 1). The ePDP is personal to the student but certain elements are visible to appropriate members of staff including the student's personal counsellor.

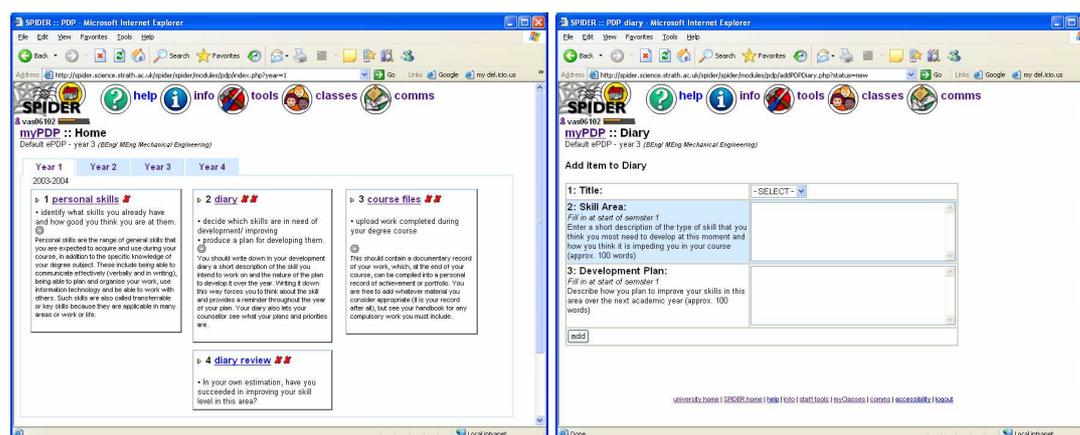


Figure 1 Screenshots of the ePDP interface

The ePDP has been phased into the MPharm degree since academic year 2003/04, the original 1st year students are now entering their fourth year of using the ePDP. Prior to this pilot the ePDP was only used in the Personal Skills Development class in the MPharm degree programme. This class runs in each academic year of the four year MPharm degree programme. Each year students can be awarded 5 credits for the satisfactory construction and completion of their ePDP. Notionally, students are expected to expend 50 hours in each of their academic years on Personal Skills Development and their ePDP. Of these 50 hours the majority of the time, 47 hours, is set aside for students to work on their ePDP. The remaining 3 hours are expended in 1 hours worth of lectures and 2 hours of tutorials. Integration within the wider MPharm degree occurs by students evaluating their skills development in relation to all their learning achievements in separate classes, students being provided with a list of mandatory coursework from other classes which must be included in their ePDP.

One such piece of coursework, which is the focus of this phase of the pilot, is the Foundation Pharmacy structured essay. Foundation Pharmacy is a first year class in which the professional aspects of being a pharmacist are introduced. During the class students are required to analyse the information contained within a clinical scenario, including a prescription. In order to undertake this task students have to research the topic, discover information about the nature of the clinical condition of the patient, the medicine and disease

scenarios and demonstrate understanding of the role of the pharmacist in relation to the scenario. The class is assessed via a structured essay (80%) and presentation (20%). The structured essay is the first written submission that all students complete as part of the MPharm course.

As well as developing students' understanding of disease processes, their treatment and the implications for patient/pharmacist interactions, the class aims to develop a number of transferable skills relevant to both educational and professional development which include literature searching; problem solving and analysis; written and oral communication; word processing and time management. In addition, the class aims to help students identify their own development needs and to begin to develop the skills to self-assess their competencies.

The structured essay in Foundation Pharmacy is not based on recall of taught information, but on the students' ability to research a topic and to identify issues of relevance to the profession of pharmacy. Students are also assessed on their ability to structure and write an academic essay. Students receive feedback on the appropriateness of their writing style to an academic context.

As this is the first piece of written work students are required to submit, students often require a significant level of support to complete the essay to a satisfactory standard. At present, students submit a draft version of their essay to their counsellor and receive feedback in the form of hand-written notes on their essay script and orally at a face-to-face meeting. This feedback is intended to inform the final version of the essay which is marked by another member of the academic staff.

The preparation and presentation of this essay can be a source of anxiety to students undertaking their first year of the MPharm course. Current methods of delivering feedback can result in a variety of forms of feedback and the potential for misunderstanding. Staff members have identified the significant workload required to support students who seek additional help after their initial counselling session because they did not understand the feedback they were given.

Drivers for change

The introduction of an ePDP tool is regarded as a positive development within the MPharm degree. The tool encourages reflection on students' own learning and it supports the continuing professional development processes required by practising pharmacists. There is however concern within the School that students are not fully engaged in the ePDP process. As mentioned previously ePDP is dealt with in the Personal Skills Development class, integration within the degree programme occurring by students reflecting on achievements in other classes. However, this arrangement appears to reinforce the student perception that reflection is not an integral part of their studies to become a pharmacist. If reflection is to be perceived to be important for learning, then it is important that this attitude is fully embedded in the entire degree programme rather than being just a requirement within Personal Skills Development. This problem is particularly acute in first year of the degree programme as students have not yet fully developed a holistic perspective on their personal development which grows increasingly important during their later years of study. First year students often find this process difficult and are unable to see the value of assessing and developing skills which they do not immediately recognise as relevant to the profession of pharmacy.

The School of Pharmacy is keen to ensure that students engage more effectively with skills development and are able to recognise the importance of skills development activities earlier in their undergraduate studies. To support this, the School aims ultimately to link assessment activities in all of the first year classes in the MPharm programme to the ePDP process introduced in Personal Skills Development class. The first stage of this process is to integrate assessment and feedback activities in Foundation Pharmacy.

Phase one pilot: January 2006 – June 2006

For the first phase of the pilot a feedback pro-forma was constructed by the teaching team. This pro-forma was based on the existing assignment criteria, each criterion being given a text box for feedback comments from the student's counsellor.

The purpose of the pro-forma is not only to standardise feedback given by different counsellors, but is also designed to eventually feed directly into the student's ePDP. In this way the ePDP will be used to store not only the final submission, which currently happens, but also the student's initial submission, a record of the feedback provided by the counsellor, and any reflections the student has relating to the feedback and eventual final submission.

This pilot was design as a 'proof-of-concept', the pro-forma being implemented as a paper prototype. The pro-forma was piloted by 11 of the School's student counsellors. In total 32 of the entire 1st year MPharm cohort of 117 were involved in the pilot. Student selection was random, based on which counsellors agreed to participate in the pilot.

Some counsellors filled out the feedback pro-forma prior to meetings with students instead of providing written feedback comments on essay scripts as in previous years. As well as receiving a copy of the feedback pro-forma, students were also given feedback orally during a face-to-face counselling meeting as in previous years. Others provided feedback in their normal manner but the student completed the feedback pro-forma during the face-to face session. Students retained the completed pro-forma and used this to make changes to their submission. Students participating in the pilot were asked to indicate on the pro-forma how they used the feedback to improve their assignments.

Evaluation methodology:

After students submitted their final structured essay all students in the Foundation Pharmacy class, including those not directly involved in the pilot, were asked to complete an online questionnaire. This questionnaire was designed to explore the students' perception of both the piloted and traditional feedback processes employed as part of the structured essay assignment. In the questionnaire students were asked: to identify the type of feedback they received; to state how their feedback was used to improve their assignment; and provide any additional comments on the feedback process. As well as this students were also asked to indicate on a five point Likert scale (1=strongly agree, 5=strongly disagree) as to: whether they understood the feedback given; and whether they found the feedback helpful.

Participating staff members were also informally canvassed about their experience of the pilot during June/July 2006.

To monitor if the revised feedback process resulted in any improvements in the grades for the Foundation Pharmacy structured essay assignment, student grades for both the pilot and control group were compared to grades in previously years (i.e. 2003/04 and 2004/05).

Results:

95% of students canvassed indicated that they had received feedback from their counsellor, with the majority 83% receiving verbal feedback and 91% receiving verbal and/or written feedback.

Due to the pilot nature of the feedback form, only 27% (32 out of a cohort of 117) of students received written feedback making use of the written pro-forma. Those students receiving feedback via the pro-forma exhibited a higher level of satisfaction with the process than those who had not. 89% of students who received feedback via the pro-forma agreed the feedback was 'useful' or 'very useful' compared with 58% of those who did not. None of the students who received feedback via the pro-forma assessed the feedback as 'unhelpful', compared with 23% of those who did not receive feedback via the pro-forma.

69% of students canvassed 'agreed' or 'strongly agreed' that they understood the feedback given to them and 66% 'agreed' or 'strongly agreed' that the feedback they received was helpful. 18% had a neutral response to both questions and between 14% and 17% of the class identified difficulties with the feedback process.

Table 1 compares the marks (expressed as class mean mark \pm standard deviation) received by those students who received or did not receive feedback using the pro-forma with the historic grades for the structured essay assignment. While initially it appears students receiving the piloted pro-forma performed less well (59 \pm 8%) to the students who received traditional feedback (63 \pm 9%), the performance in the assignment was in line with the performance of these students across all of their classes in the 1st year (as evidenced by the credit mark average).

Academic year	03/04	04/05	05/06
Average grade	Overall: 62 \pm 8% (n96)	Overall: 64 \pm 7% (n118)	Overall: 62 \pm 9% (n117) Pro-forma: 59 \pm 8% (n32) [Credit Mark Aver: 64 \pm 8%] Control: 63 \pm 9% (n85) [Credit Mark Aver.: 67 \pm 8%]

Table 1 Foundation Pharmacy historic grades and pilot group comparison

In summary, students receiving written feedback by the piloted pro-forma exhibited no significant gain in academic performance. These students did however report a higher level of satisfaction with the revised feedback process and unlike the students receiving traditional feedback none of these students found their feedback to be 'unhelpful'.

Benefits for students:

A number of students canvassed identified that the revised feedback process helped them to improve the draft version of their essay. Comments on the online questionnaire form included:

"the feedback form was especially useful, I found it easier to work from as it was segmented into the different aspects of the report I had written and had comments on both the strong and weak elements of my report..."

"[the feedback] was able to convey in a clear and concise manner the areas of my essay which required improvement"

"The feedback sheet clearly stated to me which points of the essay needed to be changed. I felt this was a very good way of providing feedback"

"constructive comments were given about areas which I didn't think needed improving and without them the report would have been submitted with mistakes..."

Some students who received verbal rather than written feedback from their counsellors expressed anxieties about missing vital information or felt, because they did not receive written feedback, that the counsellors had not read their submission prior to the feedback meeting:

"I didn't like the fact that some of the comments were not written down because I was worried that I had forgotten some of what my counsellor said..."

"It wasn't too helpful. I know counsellors are busy, however, if they were to fill in a feedback form prior to our meeting and know what we have done instead of reading it in the meeting and commenting, it would have been 100% more productive"

Clear synergies between assessment activities in both the Foundation Pharmacy and Personal Skills Development classes offer the opportunity to provide a mutually-supporting set of activities involving counsellors and integrating use of the ePDP tool across the MPharm degree. Of particular interest is the role that the Foundation Pharmacy essay assignment plays in helping students to understand the broad scope of professional competencies required in the practice of pharmacy, which may not always be clear to new students and may currently be a barrier in student's self-assessment of their skills on entering the MPharm course.

This improved perspective on the requirements of the course, and ultimately the profession, should provide a better context for students engaged in self-assessing their own skills and competencies and ultimately support students to develop a benchmark against which subsequent development can be assessed.

Benefits for staff:

The School of Pharmacy is keen to ensure that each student receives consistent feedback during the MPharm course and that there is parity in the quantity and quality of feedback received by student groups. At present, variations in the criteria used by staff during the feedback process can result in additional workload and stress for staff members because students often require repeat feedback opportunities when feedback has been limited or misunderstood. Students are aware of variation in the feedback they currently receive because they consult other class members and this has led to challenges from students who have subsequently received poor marks.

Seven of the eleven staff who participated in the pilot exercise responded to a questionnaire aimed at assessing the usefulness of the pro-forma. All of these staff agreed that the pro-forma was useful and that it did not inhibit discussion with their counselees. Some suggestions for improvement were that the pro-forma should be made electronic and incorporated into SPIDER, positive feedback should be incorporated, the number of sub-sections should be reduced and more use made of tick boxes. It is hoped that the structured nature of the feedback form will ultimately help staff to complete feedback in a more efficient way, especially when this form is completely electronic, an innovation planned for session 2006/07. However, there is some resistance among staff members who prefer to annotate scripts and from those still uncomfortable with using technology.

Further efficiency gains may result from the changes to course design outlined in the 'Future plans' section.

Critical success factors:

The School of Pharmacy believe that the critical success factor for the first phase of this pilot has been the recognition that feedback processes must be unified and integrated so that students receive timely and useful information which promotes reflection and self-assessment and which increases the efficiency of staff effort.

Dissemination activities:

To date because of the limited scale of this phase one pilot no dissemination activities have been undertaken.

Future plans:

During the academic session 2006/07, the School of Pharmacy plans to develop a completely electronic version of the current feedback form which will be embedded into each student's ePDP. The School of Pharmacy is investigating the use of a databank of pre-defined

comments to save staff time (although staff members would still have the opportunity to add free-text comments when required).

The School of Pharmacy is investigating the potential of changes to the Personal Skills Development class to fully capitalise on integration of ePDP activities in other first year classes. For example, student self-assessment against the criteria laid out in the skills template in the ePDP, which currently takes place during semester one, may be more effective in semester two after students have received feedback from their counsellor on their written assignment in the Foundation Pharmacy class. The School of Pharmacy also plans some revision of the skills assessment form incorporated in the ePDP to reflect students' own language (for example, using terms like 'strengths' and 'weaknesses'). Further integration of ePDP activities in more first year classes will be planned during this period.