



REAP Completion Report Pharmacy Practice 3 (PP3), School of Pharmacy

Project Sign-off

1. Project achievements

*Have all **project activities or deliverables** been completed? What, if any, work remains outstanding from your plans for this academic year?*

Two projects were undertaken within the School of Pharmacy. One involved establishing a database of prescriptions that could be used by MPharm year 3 students to facilitate revision in a competency based subject and the other to establish an electronic system of feedback on assessments for MPharm year 1 students. Both of these have been completed. Work remains to be done on assessing the effectiveness of these changes and in publishing the findings.

At the end of the project, do you feel you achieved the aims and objectives identified at the start? What is missing? What have you done that wasn't in your original plans?

The majority of the aims and objectives have been achieved. The overall objective of the project was to identify how assessment activities within the MPharm programme could be linked into students' e-personal development portfolios (ePDP) with the aim of improving the link between assessment and attainment of the students' educational and professional needs. The assessment activities focussed upon have been re-designed and the changes implemented. Students have as a consequence an improved understanding of their educational and professional needs. There has been limited linkage of the identification of these needs to the ePDP. This has occurred in the third year of the programme but has not yet been implemented into the first year ePDP.

Within the third year class, Pharmacy Practice 3, the aim was to develop an on-line VLE based tutorial. This was to be hosted on the Strathclyde Personal Interactive Development and Educational Resource (SPIDER) the VLE used within the Faculty of Science and the School of Pharmacy at the University of Strathclyde. The tutorial consists of a database of prescriptions in which students were required to identify the errors. This on-line tutorial was developed to

- allow students additional practice identifying problems and illegalities in prescriptions out-with the timetabled laboratory and tutorial sessions
- allow exposure to prescriptions for medicines that are not possible within the laboratory sessions due to the limited stock available
- incorporate self-assessment with students asked to find errors in prescriptions and explain why
- provide individual feedback to the students on the prescription exercises with answers linked to the Pharmacy Practice 3 class notes and other class notes within the School of Pharmacy
- provide a personalised feedback which will inform the student's ePDP so that key competencies that the student lacks can be identified and addressed with the help of the Counsellor
- provide a framework for developments in other classes
- identify the difficulties that students perceive with this class.

All of the aims for Pharmacy Practice 3 have been achieved albeit that some specialised mock prescriptions have still to be incorporated.



2. Impact on students

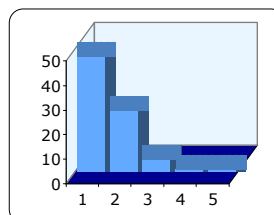
What has the impact of the project been on students? Have marks, attendance, retention, progression or other key indicators changed or improved (please give details)? Do students demonstrate differences in their satisfaction with the class or course? What evidence can you draw on (please give details)?

For Pharmacy Practice 3 the impact on students has been assessed by analysis of the pass rates (a pass or fail exam), a questionnaire and focus groups. With respect to the pass rates there has been an increase during the 2 years of the REAP project. Pass rates at the first attempt in 2004 and 2005 were 68 and 71% respectively rising to 81 and 87% in 2006 and 2007 respectively. The results of the questionnaire on the prescription” tutorial “are shown below in which a scale 1 (strongly agree) to 5 (strongly disagree) was used.

1-1: The tutorial was easy to access

1	47	59%
2	25	32%
3	5	6%
4	1	1%
5	1	1%

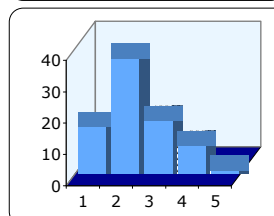
respondents: 79



1-2: The tutorial was helpful in identifying problem areas

1	15	19%
2	37	47%
3	17	22%
4	9	11%
5	1	1%

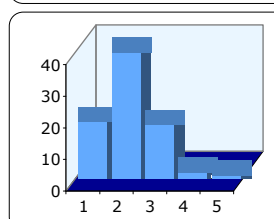
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1-3: The prescriptions were similar to the ones seen in Pharmacy Practice 3

1	18	23%
2	40	51%
3	17	22%
4	2	3%
5	1	1%

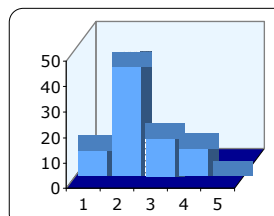
respondents: 78



1-4: The tutorial was user friendly

1	10	13%
2	43	54%
3	15	19%
4	11	14%
5	0	0%

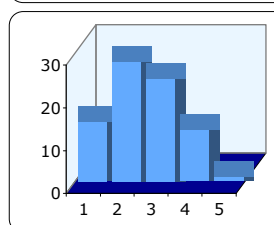
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1-5: The feedback given in the tutorial was helpful

1	14	18%
2	28	35%
3	24	30%
4	12	15%
5	1	1%

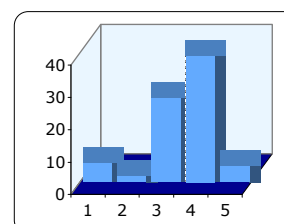
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1-6: The prescriptions in this tutorial were more difficult than those seen in the Pharmacy Practice 3 lab

1	6	8%
2	2	3%
3	26	33%
4	39	50%
5	5	6%

respondents: 78

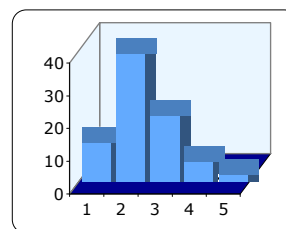




1-7: I would use this tutorial (frequently) for revision

1	12	15%
2	39	49%
3	20	25%
4	6	8%
5	2	3%

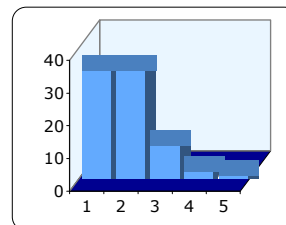
respondents: 79



1-8: I would like this tutorial to be expanded to include other types of prescriptions

1	33	42%
2	33	42%
3	10	13%
4	2	3%
5	1	1%

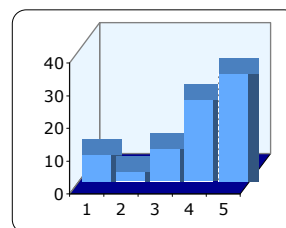
respondents: 79



1-9: I would like the marks from the tutorial to be included in the class assessment

1	8	10%
2	3	4%
3	10	13%
4	25	32%
5	33	42%

respondents: 79



It can be seen that the majority of students found the prescription tool to be useful, provided useful feedback, used it for revision purposes and thought it should be expanded to include more specialised prescriptions. It is interesting to note that the students wished this to remain as formative rather than summative feedback. The focus groups in year 1 of the project identified the problems that students perceived with this class, a major one being the lack of opportunity for revision out with the taught sessions due to the practical nature of the class and the need for a high staff; student ratio. Revision is difficult for the students without feedback on their performance. Following the implementation and use of the prescription tool, students in the second focus group commented favourably on the following:

- Simulated exactly what it would be like to carry out a check on a prescription, therefore, allowing us to experience the difficulties involved and enabling us to discover where we needed improvement
- The tutorial was an excellent resource and learning tool to supplement our class.
- Using actual Rx prescription forms allows us to see real life situations
- Similar to the scenarios found in class tests etc
- Provides a way to revise for Practical Class
- Highlights issues to look out for with prescriptions
- Very easy to use & access
- I like how it details the errors & shows where & how many marks were lost to show how serious the mistake made was.
- I don't think I learnt anything extra from the tutorial that had not already been mentioned in class although it was excellent practice in the run-up to practical exams and clearly highlighted areas I need to focus on."

Some changes that would improve the tutorial were also noted:

- I think it would be useful to set a timescale for each Rx to train ourselves to check Rx's under time constraints & pressure.
- It could be useful to add Rx which require dilutions & more interactions to mimic the labs more. It would also be useful if the feedback detailed where information on mistakes could be found.
- Have all the various types of prescription available at all times
- More examples are necessary



- A disadvantage was the fact that the same prescriptions were continually emerging - perhaps making program sensitive to scripts already checked by user would be a good way to eliminate this problem".

From data available via SPIDER it has also been noticed that students are likely to log onto the tutor at times when academic staff are not available; often after 9pm or at the weekend.

3. Impact on staff

What impact has the project had on staff? Has workload changed significantly? Do staff members involved in the project feel differently about the class or course now that changes have been made? How?

The PP3 class co-ordinator has indicated that the project has not had a major impact on the staff in the actual management of the students, however, it has taken some of the pressure from the staff as we now have a revision tool we can direct the students to use thus reducing the contact time with individuals. There has been an increase in the workload of the staff directly involved in the development of the prescription tool as all queries from the students relating to the tool are directed at one individual. It is anticipated that this will fall as more staff become familiar with the tool and the editing process.

Feedback from the staff has not yet been obtained but it is our intention to collect these data.

4. Impact on costs

How do you think that the changes you have made will affect the efficiency of class or course delivery in the future? Have costs been reduced? Or has quality improved significantly with no additional long-term costs?

Costs have not been reduced but the quality of feedback has been improved in both classes. Increased use of the prescription tutorial, modified to include all types of prescriptions, will allow staff to concentrate more on the students who need additional help. These students may be self selected after they have accessed the tutor.

5. Sustainability

Explain how current project activities will continue in the department. What measures are in place to ensure that activities are embedded? Who is responsible for ensuring sustainability?

Manpower resource is available to continue to develop SPIDER and implement the changes associated with the ePDP. The staff involved in the project aim to continue to develop both tools and view this as a continuing commitment to introducing innovation within the curriculum.

6. Plans for further development

Are other courses or classes in the department planning to change their assessment practices as a result of your work (please give details)? What do you think would need to change in your department if your REAP-supported ideas were fully adopted across all courses and years?

The prescription tutorial has the potential to be used as an assessment tool by other Schools of Pharmacy, within degree programmes for medical and nursing students and within hospitals. Full adoption of the REAP- supported changes will have staff development implications as not all academic staff are familiar with the use of VLEs such as SPIDER.

7. Lessons learned

What changes contributed most to improving the quality of student learning?

As described above the quality of student learning was improved by:

1. The opportunity for revision in PP3 which included feedback.
2. The ability to access the PP3 revision tool at times convenient to the students.



What changes contributed most to reducing costs?

Not applicable

What implementation issues were most important?

It was essential to have a VLE that could be modified to suit the needs of the projects and to have the personnel who have the expertise to do this to a short timescale. Monitoring of the feedback process revealed that students did not receive uniform quality feedback and that this was a cause for concern for them. Some members of staff did not provide the feedback electronically as requested and this implies unfamiliarity with SPIDER. This remains to be fully addressed.

If you could start again, what would you have done differently? What lessons would you pass on to other departments undertaking similar projects?

If we were to begin the project again there is nothing we would do differently as we consider that we have made significant progress with both projects. We are of the view that such progress has been achieved by the fact that we have worked well as a team and that we have been prepared to prioritise the time needed. Thus advice for other departments undertaking similar projects is that substantial staff resource other than that provided by the funders will be needed together with the support of senior management.

8. Future Research

Have any issues emerged from the project which merit further investigation or future development work by your department, by CAPLE or by other organisations?

It has become clear that the prescription tool could be used to inform teaching within the PP3 class by identifying those aspects that the students have difficulty understanding. Thus it is planned that "just in time" teaching will be introduced to this class from next year using the prescription tool to inform what is taught in the formal tutorial sessions. Talks have also been held with the School of Pharmacy at Robert Gordon University and it is planned to make this a common tool with both Schools contributing to expanding and updating the database of prescriptions.

9. Dissemination

List the dissemination that has been done (or is being done) since January 2007 about project findings and outcomes, e.g. journal articles, conference presentations. Please give details.

A demonstration of the prescription tutorial was given in March 2007 to Robert Gordon University.

List any additional publicity your part of the project has received, e.g. press coverage, awards.