

Course:

Foundation Maths on Science Foundation course

Type of data collected: Usage rates

During which period: 2008–10

Textbook in use:

Foundation Maths, 5th edition, 2010, Croft and Davidson

MyMathLab course structure

Course design

Our experience is that ‘broadening access’ students, who are learning maths from scratch, are successful in understanding the large amount of new maths material they are presented with every week for ten weeks, but without regular practice they cannot absorb or remember it. For motivated students of this type *MyMathLab* has provided a structured, convenient and efficient way to gain this practice throughout the course. These students have typically been enthusiastic and effective users of this system.

Many students have studied maths at GCSE, or higher levels. They are typically unaware of how much they have forgotten since then. If given a set of online problems that they would previously have been able to do, they are able to independently ‘rub the rust off’, either by rapidly confirming their previous learning with correct answers or using the provided worked examples to refresh their memory.

Assessment

As the system does not assess the ability to write maths, we kept our normal pattern of written course tests (short in weeks four and eight, and long in week 12).

Implementation

We made *MyMathLab* use a compulsory part of four of our five CHE-based science foundation

maths courses in 2008–09. Weekly ‘Workshop’ formative assignments, with up to 100 questions, were set up with practice material for the week’s topics. These opened at the requisite time and stayed open for subsequent practice and revision. Four summative assignments were set up to be open for a specific week. These could only be attempted once but could be completed over the course of the week and were typically a subset of the practice questions with different values – different values for each student.

Our modules consist of two lectures and two workshops per week and we roomed one workshop per week in an IT lab so that access and acceptance of the system could be monitored and supported. We were also able to encourage students to practise writing the problem from the screen, and working through it on paper before entering the answer for checking – for all but the most trivial questions.

Conclusions

We have had few technical problems. We found (with relief) that with very clear instructions registration of 100 students on the system in induction week was wholly successful. Students found the system straightforward to use and, with few exceptions, adopted and used it with enthusiasm. However, opportunity to raise queries in an IT lab was probably valuable at the start of the year.

A preliminary look at useage rates shows that all top students have been using it extensively. Good students were completing up to 100 formative questions a week and perceived it as being an

efficient way of using their time to gain useful and effective practice. The system is student-centred and effectively promotes independent study and learning.

Students also realise that having invested in the book and system in their first year, the exercises remain available to them throughout their degree programmes, and they are able to return to them for practice as and when required. This has led us to realise that the system may have wider usefulness in the Science faculty, particularly if other staff are aware of it and know how, why and when they might wish to recommend it.

Who else might find *MyMathLab* useful?

The Science Foundation course is not unique in

the Science faculty in having a mixture of students arriving with varying maths ability, confidence and background. The reasons for implementation given above may also apply in other science schools at level 1.

Many science courses (at all levels) experience problems with students having insufficient maths skills to tackle the required new material. This may typically be because they have not used these skills for a period. Students might usefully be referred to an appropriate section of this online system. This could then be used in an independent study mode, with the student recommended or required to achieve a particular standard on specified material before starting a module, or during the first few weeks of it, in preparation for later work.