Web-based student support and course management

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Introduction

Students on the Mathematics degree programme at Sheffield Hallam University are supported by a custom designed website that integrates the basic delivery of module information with four separate key features:

1. Student coursework loading is managed by an assignment scheduling system. This allows staff to enter coursework (and exam) details, limited to three deadlines per week, and provides a graphical display of the assessment pattern for the session;

2. When adding a new assignment, staff can choose to allow students to submit their coursework materials electronically. Students will then be able to use the website to upload their coursework. This is collated by the system, which then sends confirmation emails to all concerned;

3. For each of the assignments entered on the system, feedback can be entered using templates, stored in a database, emailed to students and summarised for reference or for quality assurance (QA) purposes. Students can access their current and previous feedback whenever they like; and,

4. The website also provides access to an electronic log, in which students reflect on their progress, identify problems, develop action plans for resolving them and report on progress towards doing so. They also are expected to show they have read and responded to the feedback provided, as described above.

This paper will illustrate the integrated system, discuss its advantages with regard to managing and communicating with the students as individuals and report some of their reactions to it.

SHUMaths Student Support Strategy (SSSS)

Class contact time is an increasingly limited resource. There is therefore a correspondingly greater need than ever before for student support mechanisms that can to some extent compensate for this. This might appear at first to represent a poor ‘second best’ to face-to-face contact; however with the right support strategy there are many ways in which students may actually benefit. Providing students are not completely ‘lost’ in a given topic area, this approach can encourage students to develop better study skills, supporting the general aim of helping them to become lifelong learners. Typically, such a support strategy might include the provision of:

- self-study guidance and materials;
• drop-in facilities, e.g. “Maths Help”;
• a peer support network;
• a library / learning centre / resource room; and,
• a website.

At Sheffield Hallam, all of the above are provided, with the additional support centred around the course website, at
http://maths.sci.shu.ac.uk. This website offers all of the normal support features, but in addition provides some innovative mechanisms for course management, student support and tracking. It:
• provides basic access to course information and module materials;
• enables student access to their progress files (PDP log and portfolio);
• provides a framework for managing coursework and feedback;
• provides additional mechanisms for staff-student contact; and,
• helps staff keep track of students, and to monitor their engagement.

Inevitably, there is a resource implication as it takes time and effort to monitor and maintain the site, but it does provide major benefits in terms of student success, engagement and satisfaction. It also gives the website currency.

As described in the abstract, the five linked facets of the website that help deliver course material and provide student support are:
• The module web page, providing basic information and materials. An example is the page for Digital Signal Processing, a final year module is:
http://maths.sci.shu.ac.uk/units/20-6554/

• The assignment scheduling tool. An example of the view it provides to students of their schedule is:
http://aces.shu.ac.uk/assignment_schedules/deadlines/dates_full.php?cid=1&y=3
There is a facility for staff to enter details of their assignments, together with the expected number of pieces of work. This helps reception staff plan to manage the workload when the deadline approaches. Alternatively, staff can choose to allow students to submit the work electronically (see next item).

• Electronic coursework submission. Staff can allow this when making an assignment booking in the scheduling tool above, in which case students will see a link for this purpose when they log in to the main SHUMaths website. To submit work, they select the file or files to upload, optionally enter a comment, and the system does the rest. The work is collated by module and student name for staff convenience, and both student and tutor receive confirmation of submission by email.

• When marking the work, staff can use the electronic feedback system. This provides a template for the feedback, saves it to a database and allows staff to email it to the student. The feedback can also be published to pdf for quality assurance purposes. At any later date, students are able to recall feedback received for assignments by following another link on the SHUMaths website.

• Students are expected to provide entries in their electronic logbook (also known as (aka) the Progress File) commenting on the learning that has taken place, and reflecting on the difficulties faced and (hopefully) overcome. The SHUMaths Progress File system has been extensively reported elsewhere, e.g. [1], [2], [3].

This co-ordinated approach to student support, assessment and feedback has evolved over a number of years, supported through the Teaching Quality Enhancement Fund (TQEF) funding and, more recently, through the award of a University Learning, Teaching and Assessment (LTA) Fellowship. It has proven successful in many ways: in particular, comments made in the logbooks (see below) indicate that students find this very useful, and the department has scored very highly for student satisfaction both in the recent National Student Survey [4] (summarised in Excel [5], [6]) and in the Sheffield Hallam internal student experience survey [7]. A number of other subject groups within the University are now using some parts of the system.

Selected student logbook comments
The following comments were all entered in the student logbooks during the last few weeks of the 2006-7 academic session:

“Just spotted the feedback tab on the main page of the website. This is a really good idea and if everyone used this system, would be a great way of having all of the grade information together”

“I found it very useful and helpful because was a different way to contact with tutors and talk with them with informal way about the lectures and many other things”

“I feel that the best thing about the online progress file is obviously the opportunity it gives you to voice your opinion and analyse each teaching week… It also allows you to see for yourself how you have progressed, or dealt with any personal problems… In addition to this, we had the opportunity to bring up any problems which we feel unable to bring up directly, for example with certain lecturers”

“We can write … our views about a subject, our worries and in general our opinions for improvement of a unit material. Using this you have a personal approach with you tutors, they know you and can help you at any time.”

“My tutor knew what problems I had in each week for all of my modules”
“Talking about myself the first thing that I thought it was that it would be terrible due of my problem that I faced in English language. As the year passing, day by day I was feeling more confident to write everything that I wanted to ask or everything that I wanted just to say.”

“The first time that I understand how much useful was the logbook it was when I received my first answer from a tutor of mine that he explained me something that it wasn’t very clear to me in the class.”

“If I was worrying for any module that may I don’t pass in any assignment or I needed any help in any assignment I was writing it in my progress file and always someone was there to answer me so that to help me.”

“This was very helpful for me because some of my teachers send me an email or came to the university and asked me where I was stuck. Of course I could send them an email and tell them where I stuck but in the progress file I could write more informal so it was good for me.”

“It was a way to express my feelings without thinking of what my teacher will think about me. I like this very much and makes me more strong because when a teacher send me an email as a reply of what I wrote in the logbook I fell that our teacher really care about our progress. “

Key themes that emerge from these (and other) comments are that:

- Students appreciate the informal, communication with staff afforded by the system. They could see that their comments were delivering real benefits. In particular, they value the personal touch it brings; and,
- Students whose first language is not English find it helpful both because it improves their English skills and because it means they have the time to carefully formulate their question or describe their problem. In class, the language barrier inhibits their ability to ask questions.

End of module questionnaires also offer students the opportunity to provide staff with feedback. Here are a few examples:

“I have to comment on the standard of support from all the lecturers, it’s been absolutely wonderful. If I hadn’t had all the support and reassurance that I have had, I may not have carried on.”

“Thoroughly enjoyed the final year, there has been a lot of support from the staff.”

“I can’t think of a single way in which the academic staff could improve on what they/you do. You’re all doing a fine job and deserve a drink.”

“I’ve really enjoyed the course and it has been made much better by the friendliness of the lecturers and their willingness to help…”

“Most lecturers are extremely approachable which makes a massive difference.”

“Great course, excellent teaching and am very pleased with the amount of time and effort teachers were willing to give to the students.”

Summary

A co-ordinated web-based system for student support and course management has been described, and evidence provided to suggest it provides a significant boost to student engagement, success and satisfaction.

Such support and management tools may often be regarded as peripheral to the ‘main job’ of teaching mathematics by delivering traditional lectures and tutorials. While those are of course very important, our experience has shown that the supporting infrastructure can have major impact on students’ ability to absorb the course material and to succeed on their programme of study. With increasingly diverse student populations (with equally diverse levels of skill) and a climate of diminishing resource, this approach helps to ensure retention and continued student success.

References


