

Using IVLE to Teach Large Classes– A Personal Experience

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ABSTRACT

Large class teaching has always been a challenge in higher education. Some of the problems faced by the lecturers and course coordinators of large classes are: diversity in the backgrounds and aptitudes of students; less opportunity for teacher-student interaction; more detached students; time factors in managing the course. The NUS online course management system, Integrated Virtual Learning Environment (IVLE), has several tools that facilitate lecturers in managing their courses. In this paper, we will look at how these course tools can be deployed to help resolving the above problems based on the author's personal experience.

KEYWORDS

IVLE, large class teaching, discussion forum, course tools, online quizzes, chat room, survey, Webcast

INTRODUCTION

Integrated Virtual Learning Environment (IVLE) (Chandran, Chia, Sun, Wu & Wong, 2000) is an online course management system developed by Centre for Instructional Technology (CIT), NUS in 1998. It provides the tools, resources and techniques for student-teacher communication, group interaction and interactive support. It proves to be particularly effective when used in courses with large class sizes. Teaching large classes has always been a challenge in higher education. One of the main difficulties faced by the lecturers of large classes is the diversity in the backgrounds and aptitudes of the students. There is also less opportunities for teacher-student

interaction in the lecture theatre and therefore this results in more detached students in class. Course coordinators also find it very time-consuming handling large classes. For example, marking tests and entering scores for 1000 students can be quite tedious even with the help of graders. With more students, the coordinator also receives more enquiries, requests and complaints from them, which means that he or she has more emails to reply.

There are many good references on the methodology and personal experiences of teaching large classes (Goh, 2000; Koh, 2000). In this paper, I will share with you my experience of using IVLE in big classes. In particular, I will elaborate on how some of the IVLE tools can be deployed to help resolving the abovementioned problems arising from large class teaching.

PERSONAL EXPERIENCE

I have taught a Linear Algebra course (MA 2102), an essential module for Math major students, of which the enrollment can exceed 200. I have also coordinated a first year compulsory Engineering Math module (MA 1506) for all engineering students and the class size of this module is about 1500.

I have always been interested in using IT in teaching. Before CIT developed IVLE, I created my own course webpage and designed some simple online quizzes for my modules. When IVLE was launched, I was excited to see a number of 'tools' that can be incorporated into teaching and managing huge classes. The IVLE tools I have used in my large classes include: Course Outline, Discussion Forum, Assessment (Online Quiz), Chat Room, Survey and Multimedia (Webcast).

There are also plenty of online course management systems in the market, many of which are associated with major publishers of textbooks. The clear advantage of using a university based platform is that the system is linked with the students' database. This makes course management easier. The technical support is also swifter when help is needed. You may even request for certain customized functionality to suit the needs of your course.

HOW DO I USE THE TOOLS?

1. Course Outline

IVLE is the *de facto* website for NUS students to get information about any module. Therefore, I usually put up some basic information about the module I teach as well as a link to its 'official' webpage on the Course Outline before the term starts. This will divert a large number of students to look up for module information there instead of asking me the same questions via emails.

The fact that IVLE is also linked to various NUS resources and databases provides convenience to both lecturers and students. For example, the 'Texts & Readings' section of

IVLE is linked to the NUS libraries. Through the link, I can request for reference books to be placed on the 'Reserved' shelves. Students can also check the availability of these books in the libraries via the link conveniently. Furthermore, the 'class roster' link allows me to get updated information about class enrollment and send weekly group emails to students to update them about classroom activities and upcoming events or just give them a piece of advice or two. In this way, I bring myself closer to the students who may otherwise feel ignored in a class of over 200.

2. Discussion Forum

I create at least one forum for each module for students to interact with me as well as among themselves. This is an excellent discussion platform for large classes. Usually, a discussion forum is not quite successful if the class size is too small, unless participation is being assessed (Golden, n.d.). Many students who visit the forum are the 'silent majority'. If there are too few active participants generating the discussion, it will usually die off after a while. In this regard, modules with large class sizes have the advantage of possessing a critical mass of active participants who keep the discussion going. This will in turn encourage other less active students to join in occasionally, hence cultivating a habit of discussion among the students. I am glad to see the better students helping out the weaker ones in the forum (see Figure 1).

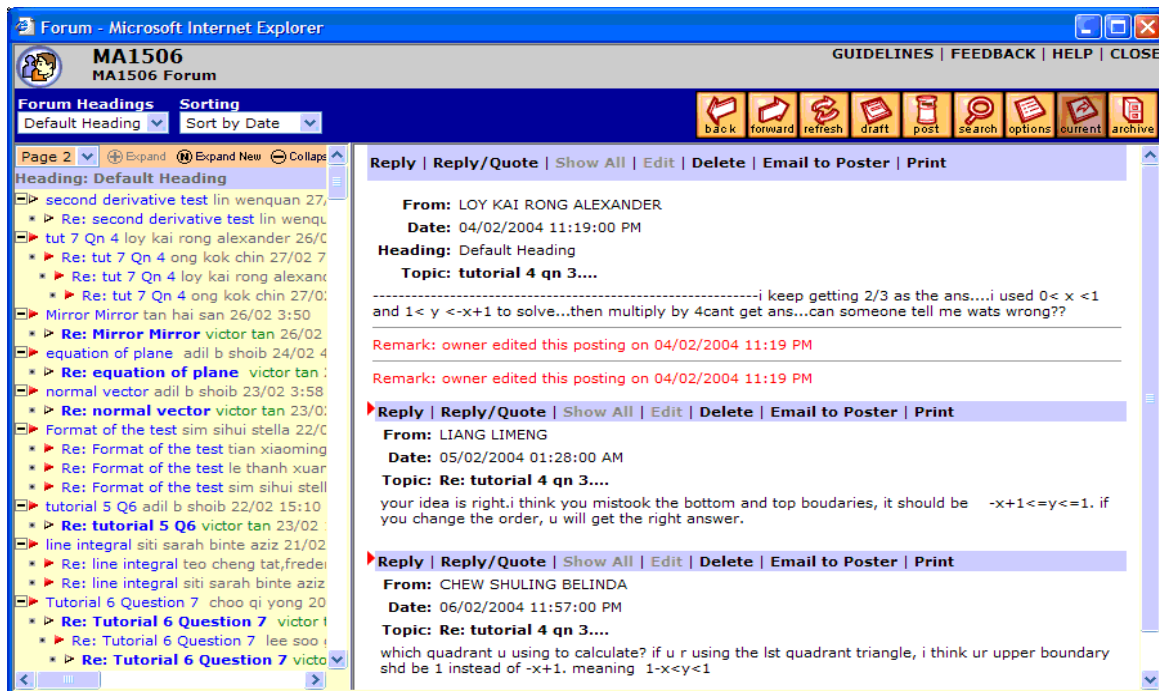


Figure 1. An example of a discussion forum

As mentioned, one of the difficulties with large classes is students' diverse abilities. Therefore, when it comes to setting tutorial questions, they should not be too difficult so as

not to demoralize the weaker students. The drawback is that the good students will find the tutorial questions boring or not challenging enough. I have tried to remedy this by posting some additional problems (usually more challenging or open-ended ones) on the discussion forum to target the better students. Students who come up with constructive arguments will get bonus points. It is heartening to see students sourcing for additional information on the Internet or making headway by generalizing solutions to the problem.

When creating a forum, it is good that the lecturers are actually involved. Otherwise, it does not add much value to the students' learning process. I keep track of students' discussions closely and post my comments when necessary. In this way, it will be more beneficial to the students and they will be more willing to participate in the discussion. Furthermore, the interaction between students and I, which would otherwise be difficult to foster in the lecture theatre, can be greatly enhanced through this channel.

3. *Assessment*

I use this tool to create online quizzes. It is ideal for Multiple Choice Questions (MCQ) and True/False type problems to test students' concepts. Assessing large classes is a big problem for course coordinators. Although there are graders to help mark the assessments, the consistency of the marking is an issue. Furthermore, the process of entering and compiling assessment marks is tedious. Therefore, coordinators of large classes usually try to minimize the number of assessments. Using computer-based assessments (Golden, n.d.), such as the IVLE assessment tool, which comes with the auto-marking features, allows me to build in a variety of continuous assessment components in the form of online quizzes for my large classes. I can generate and analyze the outcome of the assessment instantly. Having said that, you will still need to invest some time initially to design the online quizzes as well as build up the question bank.

I also use the assessment tool for online self-assessment quizzes. The students can take these quizzes at their own time and pace, thus catering to the varied capabilities of students. The tool has the 'instant feedback' feature to help the students during a quiz session. Again, I can monitor the students' performance through the results generated. I have once used this tool to improvise an online version of the tutorial set where the 'instant feedback' is used to guide the weaker students who need additional help.

When online quizzes are implemented as continuous assessment components, ideally we should have a centralized test venue. But technically this is quite impossible for large classes. If we allow students to take the quiz anywhere, the possibility of cheating could be an issue. The assessment tool has a 'randomize' feature which can re-order the questions as well as the options for MCQ questions. It can also select questions randomly from your question bank. This will greatly discourage students from cheating.

4. *Chat room*

I use this tool to make up for the lack of interaction between my students and I during lectures. I usually chat with students on the days before mid-term test and final exam. To me, it is an opportunity to collect feedback from students in real time. To the students, it gives them a chance to clarify their last minute doubts. Whether you like it or not, many students only give full attention to the module you teach just before the final exam. This is the time when many unclear concepts surface and students start queuing up outside my office or flooding my mailbox with requests for consultation. One way to handle this problem is to post the commonly asked questions on the web page. Another way is to divert the students to the chat room. On the eve of the exam, my chat room will normally be 'overcrowded' with students. Like the discussion forum, many of them are just passive observers. But there will be enough questions to keep me busy. Sometimes, questions come so fast that I have to give some a miss. In general, students find this channel of communication interesting and appreciate my effort to conduct the chat sessions.

5. *Survey*

Lecturers will no doubt receive feedback from some students at some point during the course. However, such feedback may be biased, especially in large classes. All NUS students have a chance to evaluate every module they take but only near the end of the semester. The lecturer will only get to read the feedback after the module is over when it is too late for him or her to respond to some constructive comments from the students.

In order to make timely adjustment for an ongoing module, I will use the survey tool to collect feedback from my students midway during the semester. This will give a more generic view of the whole class as compared to just the comments of one or two students. Like the Assessment tool, the survey results can be generated easily. Another advantage is that I can tailor the survey form to my specific concerns. During the university-wide students' evaluation exercise, only a few standard questions are being asked. With the survey tool, I can get the students to respond to specific questions pertaining to my module.

6. *Webcast Lecture*

Webcast Lecture (Lim, Soh, Lew & Wong, 2000) is not really an IVLE tool. But in a broader sense, it is also part of 'virtual learning'. For large classes, there will be more students who miss certain parts or a whole lecture (for valid reasons). There are also slower learners who need to review the lectures again before they can grasp the concepts. Webcast lectures provide them with another chance to recapture what the lecturers have gone through in class. In this way, it will also help to reduce the number of detached students in a large class.

Besides recording all the regular lectures, I have also Webcast some additional preliminary and revision lectures. This tool is especially helpful for large classes where students come from different academic backgrounds. For example, in my engineering math class, there are

students who did both Math 'C' and 'F' math at 'A' levels but there are also those who did only Math 'C' at 'A' levels and then, there are also polytechnic students. Certainly the double math students will be better prepared as they have already learned some basic concepts needed in this course that the other groups of students are not yet acquainted with. In order not to repeat the same lessons for this group of students, I prepared some preliminary lectures on such concepts using Webcast for students to view and pick up the additional information themselves. In this way, I can free up time to cover the difficult topics in more detail.

CONCLUDING REMARKS

We have discussed some ways that the IVLE tools can be used in dealing with large classes. After all, a tool is just a tool. The effectiveness of the tools depends on how they are being used. This in turn depends on the amount of effort a lecturer puts in to design the courseware using the tools. Is it worthwhile? Is it necessary? I leave the answer to individual lecturers. In any case, if you do believe that IVLE, or technology at large, does help in teaching, I am sure that, with some innovative ideas, there will be more ways that these IT tools can be exploited to overcome problems faced with teaching large (or small) classes.

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