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POSTGRADUATE CERTIFICATE IN TEACHING IN HIGHER EDUCATION

Cylch Dysgu 1 | Teaching Cycle 1

Keeping Students Interested During Large Classes

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Keeping Students Interested during Large Classes

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Introduction

University undergraduates reading a three-year subject spend about one hundred weeks at University. Assuming a student spends five hours a week in lectures, the student spends six hundred hours in lectures. It should be noted that science and engineering students may spend double this amount in formal lectures. So an average of about eight hundred hours is spent in lectures. Assuming that the lecturer uses PowerPoint slides at a rate of fifteen per lecture our students are being subjected to twelve thousand slides during their undergraduate lives. (The figures here are by no means accurate and are given to show the scale of information given out to students. Also many lectures do not use computer slide shows and use other techniques to communicate with their students.)

Trying to keep students interested over all these lectures requires thought about approach, management, technique and effectiveness. This report looks at the experiences of the author over a three year teaching period.

Teaching large classes

From Biggs(1999) Davis and McLeod, large classes are defined as classes over 40 students or more. In Computer Science department I have been teaching classes of 30, 50 and several classes over 100+ students. These large classes can be found in all three years of the Computer Science degree scheme.

The biggest challenge I had to take on was how to keep 100+ students interested during my series of lectures and ensure that the content of my lectures were being understood.

I had taught smaller groups at university, local technical college and industry and had enjoyed the personal contact that small groups can achieve. Trying to take the benefits of close contact into the large class scenario would be a challenge indeed.

Preparation

Previous to my university career I had had the opportunity to attend training courses in presenting to large audiences and was aware that good preparation was the solid foundation of any presentation. Of course, a teaching presentation is vastly different to a sales and marketing presentation but I had experienced the act of public speaking and felt confident about that aspect.

Preparation for all my subject modules consist of creating and updating the following

- Module Web Site
- Lecture Slides (Powerpoint)
- Cartoons
Module Web Site
Like many departments in universities throughout the world, the Computer Science department at UWA runs a website for its undergraduates, postgraduates and staff. Each module has its own special section on this web site so that students can get copies of slides, notes and assignments. I also publish the timetable for the module giving days, dates, times and room numbers for the module. Changes to lecture slots are posted on the web site and emailed to all module students. Before each lecture I check that the latest version of the slides and any notes are loaded up to the website.

Evaluation:
I discuss with the students what they want from the module website. Early on in the semester I take a check to see if they are using it. I change an item but do not tell them by email. I then ask them if they have read the new information.

Lecture Slides
My lectures rely on a set of Power Point slides for each lecture. I do not use acetate foils or chalk although I make extensive use of board markers. (See “Delivering the lecture” below”) My belief is that acetate foils are only of use today if you are going to write on them in an interactive way to engage the students in the slides. I do not use chalk but recognise some disciplines may benefit from the use of “chalk and talk” when developing the proof of a theory, for example.

I attempt to make my slides uncluttered and contain the bullet points required to emphasise the major points presented. I do not use my slides as a set of notes. Usually I try to use no more than four bullet points per slide. It vitally important to ensure that people sitting in the rear of the auditorium can see the slides. As a colour blind person I sympathise with other students who may be in the same boat. I use white lettering on medium to dark blue backgrounds.

It may seem obvious but if your slides are difficult to read, for whatever reason, the students will soon lose interest as they cannot keep with the lecturer.

Evaluation:
Again I check with the class if they are happy with the slide sets. Through peer reviewed I have changed some of my font sizes to ensure readability.
Cartoons
I use cartoons such as the one shown to break up my lectures. The breaks come about every fifteen minutes and only take the time to read the cartoons. These breaks allow me to “change tack” slightly in the lecture. The cartoons have some relationship with the lecture and some times can be used to underline a point.

I have the permission from the cartoonist to use his work in my lectures for UWA.

Evaluation:
Most students I have polled like the cartoons as it breaks up the lectures a bit and gives some breathing space.

Speaker Notes
I don’t give out copies of my notes. I expect the students to take notes. But next year I hope to record a series of lectures and store them on the module web sites as MP3 files so that students can download and play them on their MP3 players.

I use speaker’s notes only to remind of the upcoming slide and some interesting extra points to be discussed and also to remind me of which anecdotes come next.

Evaluation:
I use the notes as prompts only and have asked students only to give feedback on what the lecture was like. They have told me that they dislike lecturers reading notes to them.

Knowledge
Knowing your subject well is the one of the keys to a successful lecture or lecture series. In 2002 I was in the unfortunate position of having to stand in for a colleague for eight lectures. I was not up to speed with this very technical subject and had no practical experience to fall back on. I found my lectures were dry and without “depth”. I felt uncomfortable throughout the lecture period and realised how important subject knowledge is.

Of course, subject knowledge is not enough. There are many cases of experts delivering poor lectures. Hopefully the situation is getting better though.
Evaluation:
The student feedback forms show that the students believe I am knowledgeable in my subject areas.

I know that in one module, a new one, that I will have to add/delete material before giving it gain based on my gain of knowledge reading around the subject during the course of the module.

Questions
For each lecture I now have a list of questions that I want the students to attempt answering. These are added to my reader notes. (See delivering lectures below.)

Evaluation:
In discussion with the students they state that they like the approach. It keeps them interested and feel “part” of the lecture.

Peer reviewers stated that I use questions to effectively engage the class in the lecture.

Start
I always attempt to get to lecture 5-10 minutes early to check out the equipment and set up my slide show with a welcome slide showing on of the Galsbergen cartoons.
My lectures are all given a “start”. I use a mixture of triggers to show the lecture is starting. I move the slide on from the cartoon to the first “formal” slide showing the module name and number and lecture subject. I also take off my jacket as I always lecture in shirtsleeves. Then I speak, in a voice which carries to the back of the audience, to tell them we have started.

Evaluation:
I know that my lectures start much better. By the use of simple techniques I have the class underway much quicker than when I started.

Structure
The structure of my lectures is question orientated. I introduce a subject, briefly describe it and try to get them to expand on what I have said. Their answers should ideally be the basis of the next couple of slides.

Evaluation:
I have not prepare the questions I asked which I realise was the wrong thing to do. My next task is to go through my lecture notes and add all the question I need to ask and place them in order.

Delivery
I use a mixture of techniques in delivering my lectures. Major points are:

Moving about
White board emphasis
Not reading slides
Asking questions
Anecdotes
**Moving about**

It is remarkable that students insist in sitting in the back rows of the lecture theatre. To get near to these students I walk about, up and down the aisles, back and forth from left to right. I leave the lectern or desk very early on in the lecture and only return to emphasise an important point. I have found out that student alertness is heightened when they know you are walking near them!

I also use eye scanning. As I deliver the lecture I try to look at everyone at least once – eye to eye. This, it is claimed, makes the listener feel more involved in the group.

**Evaluation:**
I haven’t really evaluated this aspect of my teaching skills set. The students I have spoken to seem to accept the fact that I may speak from any part of the lecture theatre at any given time. I have noticed that the usual “back of the room” sitters tend to move about from lecture to lecture as they know I will come to them even if they don’t come to me.

**White Board Emphasis**

In the last year I have used the white board to emphasis certain points and to get write feedback from the students.

**Evaluation**
Please see “Asking Questions” below.

**Not reading slides**

Knowing the subject well is the key to be able to do this. As previously stated my slides only contain bullet points. I hardly refer to the slides to carry out the lecture but I do point at various bullet points to underline the importance of a particular point.

Knowing the subject allows me to take the briefest glance at the slide to ascertain its raison d’etre and then talk directly to the audience. This allows my voice to be carried to the back of the lecture theatre and allows me to make eye contact with students.

**Evaluation:**
Peer observation reports state that my delivery is confident and I know my subject. My students also like the fact that I am not reading from the screen or notes on a lectern. I have talked to them about lecturing styles and they seemed unanimous in their dislike of note readers.

**Asking questions**

Perhaps this is one of the most important changes I have made to my lecturing. When I first started lecturing to large groups I just presented the lecture allowing students to ask questions during and at the end of the lecture. This was fine as long as there were people who were used to asking questions. After seeing some lectures by Dr Mark Ratcliffe (Department of Computer Science, UWA) I immediately realised the power of asking the students questions. Here seemed to be a key to getting students engaged in the lectures and enriching the learning process. I carry out mini brain storming periods in a lot of lectures now. All the points raised are whiteboarded and then sorted into some logical framework.
Evaluation:
As the semester wears on I have observed that more and more students become involved in the Q+A sessions. One reason is that they are becoming group orientated and hence more confident. Another is that they are getting used to having an input into the interaction.

Anecdotes
Before joining the department I had over thirty years of industrial experience. In all the subjects I teach I have industrial practical experience and use anecdotal techniques to enhance my lectures. Relating the lecture content to actual cases allows the students to see the reason why they are learning the subject.

Evaluation:
Student feedback forms show that students like the introduction of anecdotes to back up the lecture. They like the sense of purpose that anecdotes give to the material.

Ending Lectures
I have not resolved the ending of lectures yet. I have tried a few end scenarios such “What we studied” or “What is in the next lecture” and as soon as they appear the students are packing up ready to go.

Evaluation:
I will try to evaluate different approaches here to leave. Perhaps a “What you should now know” slide or slides with hints that the points are on these last slides point to areas where examinations question may arise from.

General Observations
Keeping students interested in attending lectures is of great importance. There are so many other interactions that students come across in day-to-day life. Television, film, the Internet and computer games all present information to students in attractive ways. Education material presented by television is now excellent and students expect and demand that their lectures are interesting and use quality materials and techniques.

Lecturing staff need to reviews and reflect on their material, techniques and styles on a regular basis as we face a far more diverse and more demanding student population.

Student feedback and implications
I base my evidence on the TWEEK system used by Computer Science. I consistently get above average for my lectures in all modules and mark my lectures as well taught. This is not to say that there is no room for improvement. Slides are a case in point. It is so easy to use the same slide sets over and over. I take the comments I get in lectures from students and mark the slides for corrections there and then. Normally during the break in semesters and the summer break I update my presentations to reflect comments and suggestions put by the students.
In attempting to improve my lectures and keep students interested I have made changes over the last three years. The major difference has been the interactivity that I have introduced into all of my classes. At first I thought that this may interrupt the flow of the lectures, that it would slow down the flow of information from me to the students but I can see that it has worked. Getting the students involved really does get them interested.