A Postgraduate’s Experience of Teaching

This article gives a brief insight into the thoughts and experiences of a current PhD student on undertaking teaching duties in a mathematical sciences department.

Teaching experience

I am now entering the 3rd year of my PhD. During both the first and second year of my studies I have had the opportunity to assist a lecturer in supervising computer laboratory sessions in a Mathematics for Sports Technology module. This module introduces first year Sports Technology students to the computer solution of mathematical problems through Matlab and uses applications from the world of sport to motivate the mathematics.

Impressions prior to and at the beginning of teaching

Before embarking on my teaching duties as a postgraduate it always struck me as somewhat unusual that PhD students are able to and expected to be capable of undertaking such duties with very little (or if given) suitable training. In my own university it is a requirement that postgraduates who will be teaching undertake three professional development courses, including ‘Preparing to Teach’, ‘Promoting Learning’ and either ‘Supervising Practical Activities’ or ‘Working with Small Groups’. This type of training forms what could be classed as generic training, where students from all disciplines attend. However, this does not incorporate subject specific training and in my experience there is a great reliance on the advice and instruction given from an individual module lecturer. This invariably means that the guidance received differs from postgraduate to postgraduate, which can be advantageous in many situations, but does mean the subject specific training is non-standardised.

As with many postgraduates I was slightly apprehensive before my ‘first encounter’ with the undergraduates. However, many of the worries subsided as the weeks and months went by and as my confidence, in my own abilities as much as anything else, grew.

Teaching can take various forms. In addition to whole class discussions there is generally the opportunity to help students either in small groups or even on a one-to-one basis. These allow you to see just how much help you can be to the students, particularly those who are weak in the subject. Such students may also find it easier to ask a postgraduate ‘simple’ or ‘stupid’ questions that they otherwise may not feel comfortable asking their lecturer. Perhaps this is because they can relate better to postgraduates who may not be much older than them and who are likely to have recently been in a similar situation as the undergraduate themselves.

What you should know in advance

Perhaps two of the most important aspects to know by way of preparation are the content and structure of each module you are involved in. For example, what is the scope of the material to be covered and in what order. This is not always as simple as it sounds, particularly getting hold of the detailed content of a module. However, the advent of virtual learning environments means that, increasingly, information about modules together with other learning resources are readily available. It is important that you know and are confident with all the material as it can be very disconcerting for undergraduates.
to have a postgraduate who gives the impression that they don’t know the material in their module. It is also useful to understand the ways in which the students will be assessed as they are likely to ask you about this aspect. Are there coursework elements of the assessment? Are computer-based assessments used? What is the contribution to the module mark of a final examination? If you know the answers to these questions students are much more likely to feel you have a handle on the module and are taking an interest in their learning.

It is naturally the case that the onus is very much on the postgraduate to spend time familiarising themselves with the material, which may turn out to be quite time consuming depending upon the module. For example, in my situation I had not previously used the software (Matlab), which was used in laboratory sessions for the module. This meant that I had to spend time gaining experience with the software. This was a burden, but in effect I was learning a new skill that I can now take and use elsewhere.

There may also be students in the group who have physical disabilities or learning difficulties, i.e. visual impairment, dyslexia. In such instances it is important that the postgraduate is aware of these and proceeds with their teaching accordingly, seeking specialist advice if necessary. Some tutors find it extremely rewarding to help such students to do as well as they can.

Teaching Performance

There are many skills needed to be a ‘good’ teacher and it can be difficult for the novice, i.e. the postgraduate, to obtain suitable skills without extensive training. However, as in many situations experience can be invaluable and so actually getting involved in teaching duties can act as a platform for the development of a postgraduate’s skills.

The list below shows just some of the things that need to be considered when undertaking teaching:

- Creating a good environment for student learning
- Engaging the students
- Monitoring achievement and progress
- Problem solving
- Subject knowledge

From considering such a list, the prospect of teaching may seem a little bit daunting to those who have not done any before. However there should always be an experienced member of staff outside the class who can give advice or assist with any issues arising. The postgraduate tutor should not be afraid to ask for help.

For the undergraduate to have confidence in the postgraduate as a teacher, ultimately it comes down to whether the postgraduate sounds like they know what they are doing. In order to achieve this it will require each postgraduate to develop in areas specific to themselves.

Learning from the Experience

One of the most important skills that you might want to develop through undertaking teaching duties is the ability to explain concepts and ideas to non-experts. This can be an excellent place to hone such skills as they will no doubt be useful in many other situations that you will encounter as a postgraduate, for example speaking to people at conferences etc.

Overall, there is a great deal to be gained for the postgraduate in undertaking teaching duties. Not only do they give you a break from the research that you will have been doing, they may actually give you some unexpected finds. They may allow you to see how yours or other people’s research is impacting upon teaching and in doing so broaden your horizons.

Key points for postgraduate’s considering teaching:

- Undertake appropriate training
- Seek advice from the module leader
- Know the module and its content
- Be prepared for each class
- Be conscious of the different students in each class
- Try and develop good teaching skills through the experience
- Be confident in your own abilities
- Enjoy the experience!