UAS Scheme

Physics Teaching in Schools Module

WEEKLY LOG SHEET 6

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Week from 11th Feb 2013 **to** 17th Feb 2013

What have you done?

- This week, I spent a lesson with a year 8 class to get a feel for the range of ages that a secondary school teacher teaches. This class is structured by topics in science rather than in separate sciences. As such, this was not an exact physics lesson, but was still taught by a graduate from a physics degree. In the lesson, I worked with small groups of between 5 and 7 to help with the revision that they were doing for exams later in the term. In this class there were a number of students who needed particular encouragement and attention to ensure that the work was done.
- I also revisited the astrophysics lesson. Here, I found that, as the students are getting used to my being in some of their lessons, they are more open to asking for my help when I was not working with a particular group. Again, I worked with a table at a time, which was about a quarter of the class, to discuss and explain the topics that were being taught.

What have you learnt?

- The style of the teacher in the younger student's lesson was different to teachers that I had observed before. He maintained a high level of professionalism from the students by strictly enforcing punishments for misbehaviour. This worked well for the type of lesson being taught, but would, I imagine, need to be executed carefully to avoid reducing the students productivity.
- In the second lesson, it was clear that there were some topics that caused confusion for several students, in particular Cepheid Variables, and so these could be flagged and discussed and explained to the class as a whole rather than repeated explanations of the same issues.
- I also had opportunity to talk with a small group of students who had excelled at the work and so finished early. These students clearly enjoyed the lessons and I asked whether it was the topic that interested them, or the teaching of the topic that kept them engaged. They all agreed that it was the teacher that made the subject interesting and kept them engaged. I

was interested to see that not all of them were high performing students in all of their studies, compared to the standard in the school, but that the methods used by the teacher were particularly effective.

Outline any problems encountered:

- Due to the adverse weather conditions, snow, the vast majority of the students who had agreed to come to the after school session I was holding left school immediately to avoid possible travel issues later on. One student did arrive, but it was decided to hold the first session after halfterm when there will be more reliability in the weather.

How did you meet last week's objectives?

- I was able to work with slightly larger groups this week, which represented a range of abilities from the class. In the group, I led discussions about a topic(s) that were causing difficulites and took on a greater teaching role in explaining some concepts.
- Due to circumstances outside our control, ie weather, the after school sessions have been postponed until after half term. It is likely that I will run them weekly now, in order to give the students a decent amount of practice while I am at the school. I also intend to give the resources that I make for the sessions to the school for use in future years for the same purpose.

What are your objectives for the coming week?

- Next week is half term for the students. As such, I will not be in school, but I shall use the time to write the next problem sheet for use in the second or third after school session. These will likely need updating following the first session to be held the first Monday back after half term based on how the session goes and the feedback I receive, but I will get the majority of the questions written, along with a detailed answer scheme.
- I am going to lead a 10-20 minute demonstration and explanation for the students in the year 9 class on transformers (step-up, step-down) after half term and so will familiarise myself with the equipment and the procedure I shall use and plan the part of the lesson I am due to lead.
- The second or third week back after half term, I am due to lead a lesson in its entirety to the lower 6th form class. This will be on the subject of waves and optics, in particular, single- and multi-slit diffraction. I have volunteered to do another demonstration in this lesson. I will use the time in the coming week to plan this experiment and the lesson to go with it.