2011

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Zahra, D. (2011) 'Undergraduate student to postgraduate teacher: reflections from both sides of the coin', The Plymouth Student Scientist, 4(2), p. 1-2.
http://hdl.handle.net/10026.1/13945

The Plymouth Student Scientist
University of Plymouth

Undergraduate student to postgraduate teacher: reflections from both sides of the coin

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Coming from a Psychology background, reflecting on the pedagogic process brings to mind the work of Piaget and Vygotsky their discussions of the development of knowledge. It also brings to mind classic theorists such as Craik and Lockhart (1972), and their pioneering work on 'levels of processing' – which essentially said that the more you have to think about something, the more likely you are to remember it. But on a practical, front-line teaching level, it's about engaging students, and from my experience, it seems that if they're engaged in the task, not only do they get more out of it, learn more and retain more, but they enjoy it more too.

That's one of the reasons e-journals, especially ones which provide a forum for disseminating student research, are important in developing 'students as researchers', to borrow a phrase from a previous editorial (Kneale, 2010, p1). As a teaching resource, they provide an easily accessible source of examples of good research, and from the student perspective, they provide examples that can be easily related to. They shed light on the process of developing a hypothesis, reviewing the literature, and designing materials, as well as explaining the findings.

This is important because it creates a sense of community; a sense that the individual is one of many engaging in research, at whatever level, and this fosters discussion amongst peer groups. This discussion itself is an integral part of the learning process, and one I try and work into my own teaching. Having small groups of students discuss ideas, defending them to each other before defending them to a sometimes overzealous devil's advocate in the form of the teacher, encourages the deeper level of understanding which higher education is all about.

This can be a difficult thing to put into practice sometimes; both as a student, a teacher and a researcher. It's not so much about *knowing* the answer as about the process of *finding* the answer. Whereas schools have traditionally been about pupils learning lists of facts by rote, university is about developing understanding – encouraging students to ask *why* the items are on the list rather than just learning the list. One way of fostering this deeper understanding and critical evaluation is through discussions between students, and between students and staff, and an e-Journal can be a useful tool in creating this discourse.

It is encouraging that a lot of institutions and courses across the higher education landscape are beginning to recognise this, and embracing new teaching methods. Some of my most vivid memories from my undergraduate days are of interactive classes where we weren't just expected to take notes, but also to contribute ideas. But as beneficial as this process is, it can be daunting for students, especially those

in the earlier stages of a degree course, to who these approaches are new and the environment unfamiliar.

Other elements of the degree process, sadly, still lend themselves more easily to lecturing *at*, rather than *to* the students massed row upon row in a large lecture hall. It is difficult to overcome this as an educator when all you have to work with is such a huge space and a sometimes intimidating number of students. However, there are ways and means. The Higher Education Academy is doing a great job of providing online teaching materials for lecturers (http://www.heacademy.ac.uk/), with suggestions on how to break up the delivery of material and make the best of difficult situations. Many universities now have specific teaching courses that staff can enrol on which highlight new ways of teaching and new technologies – and projects like e-journals provide another great resource to help both students and staff.

Speaking now as a student, when I was about to embark on my final year project, I didn't know where to start. No-one really knew what was expected or what a dissertation should look like. At the time, a few paper copies from previous students were available from supervisors, and a few hidden in dark corners of the library. A resource such as an e-Journal of work by those who had gone before – embodied in The Plymouth Student Scientist – provides not only examples of good research, but also comfort that it can be achieved.

Writing for a student e-Journal also provides a valuable exercise in getting your work out there at an early stage. Having had my own work published in TPSS, I can see how such projects help orient students to how research and dissemination of ideas works in academia. This in turn helps students to understand the wider research process, broadening their focus from the particulars of a single set of experiments.

Furthermore, reading the work of other students teaches you how to write, how to structure a project, and how to express ideas in your discipline. This ability to express ideas clearly is not just important in science, but also provides a life skill with much broader applications. I would therefore encourage all students to try undertaking an independent research project if they have the opportunity, just as I would encourage all staff to support those students who want to take a more active role in inquiry-lead learning. Now that the journal is established, students can be referred to it as a source of inspiration and ideas, as a starting point for an approach where they can develop and explore their own questions.

Some staff use this to full effect, allowing the student to guide their own research. Others perhaps aren't as aware of the utility of such a resource. I hope this short overview of my own thoughts and experiences as both a student and a teacher serves to encourage both staff and students to make as much use of these new resources as possible.

References

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