Chapter XVII

Metacognition in Information Systems Education

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ABSTRACT

My interest in producing this chapter arises from the fact that I am mildly afflicted with Asperger’s syndrome and have some medium-term memory degradation. The level of introspection that I have had to develop onto my own mental processes in order to function has been useful to me in my role as an academic, because I can understand many of the learning problems that students face. Conversations at international conferences and email interactions suggested that my personal insights would be useful to other academics. Here, I present data from a six-semester period that suggest that it would be beneficial to change Information Systems curricula to incorporate metacognitive education. I also describe the changes that I have made to my own teaching methods and the elements of a metacognitive teaching program.

INTRODUCTION

Educators would state that learning processes are most effective when they are tailored to the cognitive style of the student. There are many instruments for assessing the cognitive style of students. Some of these, such as Myers-Briggs, address personality as a factor (Dewar & Whittington, 2000), while others such as Sternberg-Wagner (Benson & Standing, 2001a) focus on processing styles. However, the more sophisticated the instruments are, the more unwieldy they are in practice. No lecturer can afford the time and effort to present the curriculum from several perspectives, and it would be a logistical nightmare to divide the class...
into smaller parts. Consequently, many lecturers do not take cognitive style into account in their teaching practice. This last statement gives no indication of the stresses that many Australian academics face as they seek to achieve more with fewer resources. Increases in class sizes and decreases in government funding have occurred, while the number of academics has remained relatively stable. The introduction of performance management, quality controls, and the need to raise revenue combine with the aforementioned problems to add to the general levels of stress in the profession. Accordingly, most academics compromise when it comes to educational practice and aim to produce something that is acceptable rather than excellent.

TEACHING STYLES IN AUSTRALIAN UNIVERSITIES

One of the discussion topics being considered at the Australian Universities reform working party is whether Australian academics should have a teaching qualification. A teaching qualification has been a prerequisite for many academic appointments made in the last 10 years. Most Australian universities provide in-service courses for lecturers, and these include theories of learning and teaching. However, many academics are “time served” in that they have many years of teaching experience but no formal or accredited training. The evaluations carried out in most universities and faculties do little to measure the effectiveness of teaching and become instead measurements of lecturer and subject popularity. Many academics were appointed on the basis of research and publication, and good researchers do not necessarily make good teachers.

A distinction needs to be made between pedagogy and teaching style. The latter depends on a number of personal factors and is often idiosyncratic, because personality plays a major part in curriculum delivery. In an effort to examine the factors that influenced teaching style most, I interviewed 20 academics. While the interviews were informal, I found that the greatest influence on teaching style had nothing to do with teacher training or education. Instead, academics developed teaching styles and approaches based on their own experiences at college and university, basing their teaching practice on academic role models they had found personally appealing, while avoiding practices and styles used by lecturers they had found boring, ineffectual, or inept. All interviewees had some awareness of personality types and cognitive styles, but only two used this in their own teaching. It would seem that the remaining members were teaching to classes they imagined to be predominantly like themselves. The potential for teaching and cognitive style mismatch between staff and students is quite obvious. In addition, I found myself asking whether the mindset of Australian Information Systems Academics was suited to the present conditions.

THE INFORMATION SYSTEMS ACADEMIC MINDSET

By the early 1970s, Information Systems was beginning to appear in the curriculum of major American universities. As an emerging discipline, it was neither pure science nor social science, and its paradigms and infrastructure were ill-defined (Benson & Standing, 2002;
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