Editorial

Distinguishing features

By chance – or probably not so, as I shall explain in a moment – the papers which appear in this issue of *ALT-J* all deal, directly or indirectly, with investigations into how students interact with computers, and how they might learn most effectively.

Scott Grabinger's article – the longest we have ever published, going way over the normal limit of 5,000 words – is a comprehensive overview of REALs (Rich Environments for Active Learning), a discussion of many aspects of educational theory, and a wide-ranging review of the relevant literature. The referees for this article made almost identical comments: it fits within the criteria set out in the guidelines for authors, it is worth publishing for both its new perspectives and its review of current thinking, and it cannot be cut down to the normal word limit without losing most of the value of what it says. Grabinger's bibliography alone will, I hope, prove a valuable research resource in its own right.

The piece by C. K. Ramaiah and colleagues presents the results of some interesting experiments concerned with student skills in handling new technology; they thus tangentially encompass learning theory. Oleg Pilipenko and Helena Komissarova do so more directly in dealing with the ways in which learners interact with computers. Gervase Phillips, who proposes that the distinction between the activities of History students and programmers is artificial, touches on the same theme. Anne Groat and Tim Musson deal with the fascinating question of learning styles. And the report by Naidu and colleagues, on ways of improving instructional effectiveness with computer-mediated communication, naturally involves learning theory. Even in the book reviews in this issue, there is a bias towards educational theories and how we can best put them into practice.

These facts are the result of two interlinked things. The first is that while theorizing about education is hardly new, we are seeing more and more of it in the area of educational technology – so much so that at ALT-C '95, I heard more than once the view expressed that we ought to be getting on with the practice of education and leaving the theory to those who live in the clouds. What a relief, I was told by one delegate, to come to a conference where the vast majority of presentations were concerned with people's actual

experiences as practitioners, as opposed to airy-fairy, holier-than-thou pronouncements, in jargon-ridden and often impenetrable language, about this or that obscure theory. I quote: 'Let them actually produce something and try it out in the real world of the tutorial room or computer lab; only then will they be worth listening to – and we might then also understand what they're talking about.' And aimed straight at me by another delegate: '*ALT-J* should be publishing more about what ALT members have actually done, and are actually doing'.

Well, the second thing is that referees for *ALT-J*, following the guidelines sent to them, tend to reject papers which merely describe what people have done, are doing or are intending to do, unless such papers say something really new – and, paradoxically, genuine innovation is actually quite rare in our highly innovative field. Most purely descriptive papers report the implementation of a piece of software, and perhaps some student reactions to it, with no worthwhile analysis or independent judgement of it. Students may say they like a piece of CAL software, but that is not the same as saying that they have learned much from it, or have learned in some better way from it, or have learned anything from it that they could not have learned by some other less expensive means (you can buy a lot of books with the amount spent on developing some CD-ROMs). Assessment of the value of CAL must be based on comparisons with alternatives. In three years as Editor of this journal, I can count on the fingers of one hand the number of papers I have received which make even an indirect attempt at such comparisons using proper research methods (as opposed to 'feelings', or vague and sometimes dubious anecdotal evidence). Of course, for certain aspects of CAL, it is hardly necessary to prove the case. Distance learning is one example. Here, the balances between the costs and the benefits of sending digital data down telephone lines instead of having face-to-face contact are often fairly clear, and in any case (as with the Open University) usually carefully assessed, before, during and after implementation. Furthermore, the justification for using communications technology, whatever the cost, is often self-evident; indeed (as at the Open University), such technology is sometimes indispensable. But there are other areas where one wonders if the team of people who have written a piece of CAL software have not started from the assumption that CAL is a Good Thing (or, worse, have received funding and to Hell with whether it is or is not), never questioning its value when set against its costs except for the occasional nod in the direction of real-worldliness – costs not just of development, but also costs to an institution persuaded to spend large amounts of money on equipment to deliver the software, and an army of technicians to keep it all up and running. Let me emphasize that I am not arguing the case against CAL. I am hardly likely to do that, given my belief in its huge potential in so many aspects of university activity. I am arguing for a level of *self-assessment* on the part of those involved in it. A paper which does no more than describe what a development team has done, with no real analysis, nor showing any evidence of rigorous methodology in its judgements (if they are there at all) does not advance our cause. If *we* do not look critically at what we do, if we do not present incontrovertible evidence of the benefits of CAL set against its cost (and, if necessary, be honest about its failures), others who know little about the subject will eventually take a cool look at what we are doing and conclude that we do not know either.

Thus, we have an issue of *ALT-J* which is biased towards learning theory, and which, I

think, reflects the view that the use of educational technology is an intellectual challenge as well as a practical means of teaching and learning. Rightly so. We are academics. We should doubt all claims of success, all evidence which has not been subject to critical scrutiny. Nearly all the papers which the referees rejected for this issue failed to take a self-critical look at what they described (described rather than analysed). Where were the control groups of students who had learned the same material delivered by some means other than a computer (difficult, I know, but not impossible)? Where was the testing of a theory? Where were the cost-benefit analyses? Where was the research methodology? Where were the papers which discussed why students *disliked* an implementation? Do *all* CAL implementations result in favourable student reaction?

So it is not by chance after all that this issue contains so much theory, even if much of it is inextricably linked with practice. Theory inevitably involves intellectual activity, and automatically attracts analysis, critical assessment, and detached evaluation of evidence. The referees have reacted accordingly.

Gabriel Jacobs