

Where are the new paradigms? ♦

Nick Rushby Conation Technologies Limited

From time to time you can see complementary items in the 'For Sale and Wanted' columns of the newspaper: one person is advertising something for sale while another is asking whether anyone has the same article that they would sell. The coincidence is interesting. I have observed a similar coincidence in the appearance of articles in various periodicals and in conference presentations that remark on the search for new learning paradigms, juxtaposed with descriptions of innovative approaches based on virtual reality simulations that offer a new way of learning. This coupled with a current project on instructional design systems set me thinking about the way in which we use (or ignore) learning paradigms in the material we develop. Interestingly, this is not an issue that is being played out exclusively in the ivory towers of academe: there are some marked trends apparent in the training environment too.

The original search for technology based learning material that would take into account the individual needs of individual learners ran into difficulties when it encountered the reality of development costs. There is little doubt that highly interactive learning programmes that use extensive branching to tailor the material to the evolving needs of the learner are very effective. But they are also usually very complex and require significant resources to design and develop. This makes them expensive and cost effective only for situations where there is a large number of potential learners or where the costs of not getting the learning right are unacceptable.

In the world of corporate training we have seen a retreat towards simpler learning sequences that can be constructed semi-automatically using designers who concentrate on the words and graphics, and on questions to test understanding. The learning strategy is simplified into an essentially linear sequence, with branching limited to the handling of incorrect answers to various forms of multiple choice questions. The use of multiple paths has been put into the "too difficult and too expensive" basket.

The search for lower cost options for design and development is being driven in part, by changes in the way that learning materials are being procured. There is a trend towards purchasing e-learning material as if it were a commodity, similar to copier paper. If the main determinant is the cost of producing learning that covers a given set of topics, then producers will deliver solutions to that limited criterion and will not seek to maximise effectiveness. The skill set needed to produce a linear piece of e-reading interspersed with simple questions, is rather different from that needed to design really effective and efficient learning. There is little need for instructional design. What, after all, is there to design if all we have to do is fill in a template? The focus is now on graphic design which is much more visible and easier to sell to the client.

Similar pressures in the education sector have led to a version of the constructivist paradigm which appears to make a virtue of necessity. Faced with the impossible task of teaching more students with fewer resources, academia has embraced technology with virtual learning environments (VLEs) whose content is largely linear sequences of subject notes, taken from the lecture notes and put into hypertext with little thought of the effect that a

♦ This article was first published as an editorial in *The British Journal of Educational Technology* Volume 36, no 3, May 2005. It is reproduced here by permission of Blackwell Publishing.

change of medium might bring. The students read, hopefully learn, and then talk about what they have read with others through the medium of the VLE. We could argue that this parody of e-learning in higher and further education is not dissimilar from the mainstream of college learning over the past 100 years, but we should also lament for what might have been - and what can still be possible with the imaginative use of technology in the hands of a creative instructional designer.

We still appear to be some way from realising the dream of a practical, comprehensive learning content management system that can assemble and shape reusable learning objects into an effective learning programme to meet the needs of a specific learner, taking into account their specific learning needs and preferences. There are some who doubt that this is truly possible: my view is that we will achieve a partial solution but that its effectiveness may be compromised by the technology that is available. If so, we will again finish up with something that is far less than the ideal and again be trying to convince learners that this is perfection.

Meanwhile, in the 'for sale' columns of learning technology, a new paradigm based on virtual reality simulations is starting to emerge. Some of the research takes the basic approach of observing 'learners' using the system to try and establish whether indeed they are learning anything, but there are some serious attempts to develop purposeful instructional designs for these simulations, to deploy them to address real learning needs, and to measure the transfer of learning that takes place. Not all of this work is taking place in the education sector. Indeed some of the more dramatic applications can be found in corporate and military training. Perhaps we have an effective new paradigm at last!