

EJEL Editorial

e-Learning has survived a number of phases: the initial tentative fully on-line courses: the dot.com hype that e-Learning was going to result in a 'shake out' of learning providers, and result in a small number of global giants, making huge profits; and the inevitable disillusionment that followed. And where are we now? We are now in a typical new technology consolidation phase, in which the financial hype is discarded, and the serious players in the business - of teaching and learning - are focusing on the value of e-Learning, and consolidating its basic building blocks. The key value that the "e" adds to learning is *networked, interactive, collaborative* learning. And the key building block is the Learning Object.

Learning Objects, like the rest of "Internet" education, have gone through a similar new technology growth cycle. First it was thought that Learning Objects would provide the financial holy grail for university administrators - the first fully commoditised learning packages, that could not only be exchanged across courses, institutions and countries, but could be rearranged in any way you liked: a global currency of global 'intellectual capital'.

That too has passed. Learning Objects are very useful, but they are generally not that exchangeable, and they have to be re-versioned, if not re-designed even for similar courses. They also can't just be added together, and expected to make up a 'course' - a lot more thought needs to go into how courses are designed, and what kinds of learning objects are best suited to what kinds of teaching and learning tasks. We might usefully differentiate between *Discussion, Information, Skills, Research, and Assessment Learning Objects*. And above all, as Stephen Downes says, doing e-Learning is much more like conducting an orchestra than managing a linear process - good e-Learning should take advantage of the flexibility of Learning Objects and networked interaction; it should expect the unexpected, and welcome it; it should be far more like a participatory workshop of peers than a formal induction into predetermined ways of thinking and applying ideas by 'experts'.

So the challenge is to make Learning Objects work - primarily for teaching and learning. Adams et al provide an interesting application of the principles of collaborative (paired) learning to the design and development of Assessment Learning Objects, applying peer-review, and just-in-time learning, with rapid, interactive feedback. Schneider discusses ways in which assessment in a virtual university environment can be achieved at scale, using sophisticated testing techniques. Stav et al discuss the detailed design and application issues in what is the heart of Learning Object systems design and management - the management of Learning Objects using metadata formats, which provide powerful ways to categorise Learning Objects not by their content, but by their use, within a learning context. This still has a way to go, and various formats are discussed. But it heralds a possible revolution in the way in which learning and teaching repositories are structured. Tavangarian et al explore one of the consequences of 'commoditised' learning tendencies, namely that the learner becomes homogenised. They also pick up

on the metadata issues, and emphasise that “XML based document description languages have been proven tools for a time to achieve reusability and media independence of learning materials” They operationalise these ideas in their *Multidimensional Learning Objects and Modular Lectures Markup Language* or “ML³”, (“em-el-three”), which enables them to create learner specific documents. Tsalapatas et al discuss a e-content management platform, for the publication and management of educational content, which provides services for all user groups, specifically for asynchronous e-Learning process. Vossen and Westerkamp report on their experience in providing e-Learning facilities via the growing platform of *web services*. They too, like Adams et al, apply the principles of modular Learning Objects to break down the “central functionalities of an e-Learning system” into several stand-alone applications, which can then be accessed as Web services. This allows learners to access, compile, and navigate through a variety of resources, to construct their own learning path.

These papers explore some of the key issues in both the potential benefits and pitfalls of an object-oriented approach to learning design and development. As I said above, we are now in the painstaking consolidation phase – there are clearly solid, useful, tools and frameworks here, which will contribute to the consolidation and further development of e-Learning.

Roy Williams
Editor.