On Trial: Le@rning Federation learning objects

Good pedagogy allows students to deconstruct and reconstruct and make meaning of their learning. It is a process where the learner is actively engaged in constructing meaning, testing hypotheses and wrestling with ideas. The approach is predominantly constructivist presenting contexts and concepts that test an individual's understanding of a concept and promote the development of a deep understanding of this concept, skill or process in a way that makes sense to each learner.

The design of the ***Le@rning Federation*** (TLF)[1] learning objects[2], accessible through myclasses, makes the learner central to the process. TLF learning objects provide, and the myclasses software enables, scaffolding and feedback of information and ideas to allow a student to question and test individual understanding and to refine ideas through participation.

Effective curriculum integration of online resources requires that their use be embedded in the context of overall curriculum goals, specific objectives and desired learning outcomes – skills, knowledge and understandings of a curriculum area.

Teachers should recognise, when devising learning experiences, that TLF's multimedia learning objects have been designed to maximise the active participation of a learner in constructing and representing meaning. The learning objects, therefore, need to be contextualised and sequenced along with other non-digital and digital resources with this in mind.

Learning objects can be integrated into curriculum practices to support student learning in a variety of ways such as:

- to introduce a new concept or idea
- a component in an extended assignment or investigative project
- a means of practice, reinforcement, revision and review of content and skills
- exploration by an individual student or together in small groups
- stimuli and models for student creation and presentation of new learning.

Effective integration of learning objects depends on the available ICT infrastructure and facilities. Using digital content, software and tools requires careful consideration of the level of computer access for students and how students access and use the digital content.

Current Research Findings

The materials developed by TLF are based on research into how students learn and how teachers facilitate this learning. A teacher can choose the learning objects for students to engage and develop an understanding of the topics or concepts under consideration within a classroom. Interaction with the learning objects will be only a part of the total learning experience.

The myclasses software enhances the ability of schools to integrate ICT across the curriculum. Engaged learning through myclasses and the development of eLearning Folios (eLFs) can bring together information technology and telecommunications with teaching and learning strategies to:

- facilitate instruction of concepts, procedures, applications, and skills from the basic to the more complex

- simulate concepts and practices difficult to replicate in standard school classrooms because of safety, time and cost
- encourage interactive exploration of new ideas using multimedia reflecting the students' world outside the school
- allow for self-paced learning and opportunities for students to revisit and revise content and skills
- cater for different student learning modes and abilities
- allow for more selective and discerning choice of online content
- use as an adjunct to a range of other non-digital and digital content and tools, e.g. experiments, field work, search and use of World Wide Web content, spreadsheets, databases; publishing and presentation software and tools, concept mapping software, online quizzes and tests, and collaborative discussion tools
- foster ICT skill development and stimulate teachers' and students' imagination to create their own learning objects.

The myclasses software suite is different from other products as it not only supports existing teaching practices but also presents an interactive approach to ICT in the classroom. myclasses supports collaborative programs aimed at building learning communities and helps teachers benefit from the work of others thus minimising 'reinventing the wheel'.

Research has shown that high quality digital curriculum resources increase student engagement and motivation, and help teachers to reinforce the teaching – two key ingredients for improving learning outcomes.

Fundamentally, engagement results from stimulating an emotional reaction and thereby motivating the user to participate. This is often best achieved by providing the student with a role that is central to the learning activity within an authentic context. The student should be required to actively do something - manipulate the data and information - to connect the learning activity and the context. Some success in providing motivating and engaging eLFs and learning objects is being achieved through myclasses and the Learning Federation.

For further information contact the Learning Federation's Contact Liaison Officer Peter Carey on 9212 9243 or email carey.peter@cathednet.wa.edu.au Details can be found on the Federation's website at http://www.thelearningfederation.edu.au
Other resource links include:

myclasses
http://www.myinternet.com.au/products/myclasses.html

What are Learning Objects
http://www.eddept.wa.edu.au/cmis/eval/curriculum/learningobjects/

myinternet
http://www.myinternet.com.au/

www.ceo.wa.edu.au/home/carey.peter/index4.html
(and clicking on the "Learning Quests Online References" link near the bottom of the page)

[1]The Le@rning Federation (TLF) is funded by the State and Federal governments of Australia and New Zealand. Over the period 2001-2006 the TLF aims to develop online interactive curriculum content specifically for Australian and New Zealand schools. This content will support teachers in enhancing student learning and teaching in the P-10 years. The Le@rning Federation materials are based on research into how children learn and how teachers facilitate learning.

[2]A learning object is one or more files or 'chunks' of material, that might consist of graphics, text, audio, animation, calculation and an interactive notebook, and is designed to be used as a stand alone learning experience. By 2006, the TLF will have produced a substantial body of online learning objects in the six curriculum priority areas of Mathematics and Numeracy; Innovation, Enterprise and Creativity; Literacy for students at risk; LOTE: Chinese, Japanese, Indonesian; Science; and Studies of Australia.