



## **Chapter IX**

# **Integrating E-Learning Technology**

## **Introduction**

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Information technology has been used in teaching, learning, and assessment for many years, from programmed learning and on-line tutorials, which are teaching-centred, at one end of the spectrum, to computer-supported collaborative environments, which are learning-centred.

The term e-learning has developed over recent years to subsume these and related terms. The UK Joint Information Systems Committee (JISC) provides the following useful explanation:

*E-Learning can cover a spectrum of activities from supporting learning, to blended learning (the combination of traditional and e-learning practices), to learning that is delivered entirely online. Whatever the technology, however, learning is the vital element.* (JISC, n.d.)

A number of specifications and standards are starting to emerge around e-learning. For example, relating to the Communication Interface: how resources communicate with other systems or meta-data; how to describe e-learning resources in a consistent manner and packaging; and how to gather resources into useful bundles. Organisations such as the IMS Global Learning Consortium<sup>1</sup> help contribute specifications in this area.

In this chapter we will focus on the pedagogy and identify relevant aspects of e-learning technology that we believe are particularly relevant to problem-based learning.

Ron Oliver (2001, p. 407) points out that “e-learning, when done well, can improve learning and deliver enhanced learning outcomes,” which is certainly encouraging, but the qualifier “when done well,” requires rather more explanation to avoid the pitfalls along the way.

Oliver provides a useful model to describe on-line learning designs and help analyse the balance of a particular learning design. The model is summarised in Table 9.1.

These critical elements are interrelated, but the real benefit of this model is that it helps the learning designer to identify any particular emphasis in a learning design. For example, teacher-centred learning places most emphasis on learning supports. As we would expect, resource-based learning (RBL) places most emphasis on learning resources—particularly the content. Oliver argues that designers of on-line courses spend far too much of their time on the production of “content.”

So, what is the right balance? Where should we place the emphasis? Peter Goodyear, following Oliver, emphasises the importance of learning *tasks*:

*We are committed to the view that educational outcomes are unlikely to be enhanced through networked learning unless careful attention is paid to the design of learning tasks, the learning environment, and the social dynamics of learning. In particular, we believe that designers need to have their eyes firmly on what the learner will be doing.* (Goodyear, 2001, p. 97)

*Table 9.1. Framework describing critical elements of online learning settings (Oliver, 1999)*

Learning design elements	Description
<b>Learning tasks</b>	The activities, problems, and interactions, used to engage the learners, on which learning is based
<b>Learning resources</b>	The content, information, and resources with which the learners interact, upon which learning is based.
<b>Learning supports</b>	The scaffolds, structures, encouragements, motivations, assistances, and connections used to support learning

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