

# Chapter 17

## Portals, Technology and E-Learning

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### ABSTRACT

*E-learning promises to improve the learning process through the application of technology, including portal technology. Portals can provide the personalisation and interactivity functionality that e-learning requires. However, the long-held promise that technology will improve learning has often failed to deliver. This paper examines the promise of this technology and compares the specific demands of e-learning to the actual capability of portals and the underpinning Internet and World Wide Web. It then identifies four “costs” of using technology for e-learning, and points to existing project management tools that may minimise the effect of these “costs”.*

### 1. INTRODUCTION: THE CHALLENGE

The 1999 science fiction cinema classic *The Matrix* provides one future view of e-learning (Wachowski & Wachowski, 1999). Trinity and Neo steal a helicopter to rescue Morpheus. After telling Neo that she doesn't know how to fly a helicopter, in seconds Trinity is able to download a helicopter pilot program into her brain. This se-

ductive promise works on two levels. First, in the future it will be possible to learn instantly. Second, and more importantly, it feeds the mystique that technology by one means or another can meet any need of pedagogy, the study of teaching. That future promise has existed for decades. Former US Federal Communications Commission chairman Reed Hundt (2000) describes a 1993 meeting he attended with US Vice-President Al Gore and others regarding the Information Superhighway, an Internet precursor:

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*'Telephone lines are surely in every school's principal's office,' I said. 'But if we want to make a difference in the way teachers teach and the way kids use technology, we have to build networks that connect to kids in their classrooms.'*

The immediate goal is modest, while the promise is large: improve the quality of technology available for teacher and student use; this will improve the overall effectiveness of education.

From an enterprise perspective, many information technology projects appear to follow the same logic: install a program or portal for electronic learning or knowledge management and it will 'make a difference'. Evidence for this is ambiguous. McKinsey Global Institute (2001) reviews technology and fails to find evidence that spending on information technology per se leads to an increase in productivity, but rather is part of a complex and not fully understood process. Specifically, information technology investment may fail to raise productivity, or as in the case of retail banking may lead to less improvement than expected. In an application such as industrial process control or a financial spreadsheet, where tasks are clearly defined and IT systems complete them more quickly and accurately than people, then it is likely that the technical outcome will be approximately what was expected. Even here the change management implications (change to work practices, the organisation's structure, training and hiring practices, and the organisation's informal culture) may be extensive and unexpected. When we come to less clear goals such as learning or knowledge management the relationship is far less clear.

This paper examines a range of expectations or hopes that technology is currently promising to e-learning. It then examines underlying Internet, World Wide Web, and portal technology characteristics to point to gaps between the expectation and the inherent technology capability. The effect of these gaps is shown to be an ongoing challenge in the application of technology to requirements.

It then suggests that tools of project management can reduce the dissonance between technology promises and e-learning needs. This work builds on research into the unexpected results of Internet investment (Adamson, 2004). This work is multi-disciplinary, but takes a primarily technological view of the challenges of e-learning.

## **2. WHAT TECHNOLOGY OFFERS EDUCATORS**

The promise list for e-learning infrastructure is long. The following is a typical set, drawn from a recent e-learning conference call for papers by the Interactive Computer Aided Learning (ICL, 2010), with a description of each topic added.

1. Web based learning (WBL): Learning based on the ubiquity of web access, familiarity of the interface and the hyperlink and search functionality.
2. Lifelong learning: Education as an ongoing process requiring a range of tools available to a people of a diverse range of ages.
3. Adaptive and intuitive environments: Teaching environments that modify what is presented to a student based on identification of needs for a particular student, using the Internet or other means.
4. Responsive environments: Environments that use sensor technologies to modify and augment the learner experience.
5. Mobile learning environments and applications: Access not bound to a desk (or desktop computer) but available on a range of devices anywhere and at any time.
6. Platforms and authoring tools: Technology that facilitates preparation of material for the non-technical educator.
7. Educational MashUps: The ability to gather multiple information streams and present these in a single view useful to a student.

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