Chapter V

Existing Theoretical Approaches to Learning Technologies, Learning Activities, and Methods of Technology Selection

Introduction

In the 1990s, flexibility of where and when learning took place grew in significance to learners and providers of learning. For learners it meant they could learn at times and in places that suited them. Flexibility gave many students access to education that had previously been denied due to commitments such as work and family. Managers of higher education saw flexibility as a way to increase participation rates without a concomitant increase in resources and staff. In human resource development, flexibility meant that learners could learn when it suited the organization or the task and hence maximize performance gains while minimizing time away from work. In both contexts, flexibility of the time and place of learning was seen a way to increase the efficiency and effectiveness of learning. Flexibility in learning is generally characterized by the use of information and communication technologies (ICTs).

These are generally used for some or all of the:

- •   Provision of learning materials.
- •   Mediation of interactions between learners.
- •   Mediation of interactions between learners and facilitators.

If ICTs are used to provide flexibility of where and when follows learners learn, it follows that the design of online learning or e-learning entails the selection of ICTs used in learning. For the purposes of this book these are referred to as learning technologies.

The selection of learning technologies in the contexts of higher education and human resource development occurs at two levels: the strategic and the tactical. At the strategic level an institution or organization may decide to invest in a high-cost technological system such as an learning management system (LMS) or a system of videoconference endpoint and bridging technology. At the tactical level, personnel responsible for the design of learning events will match technologies, or elements of them, to learning activities. To do so in a manner that is appropriate to the learners, the material, the context, and the budget, designers of learning events often need guidance. It is argued that this guidance can be provided by tools that provide theoretical understanding of the technologies; the activities faculty and students undertake in the process of learning; and a practical method for the selection of appropriate technologies. Specifically, they need a theoretical framework of learning technologies, a theoretical framework of learning materials, and a technology selection method that matches technologies to activities using the frameworks. In the following chapters these frameworks and method are described and exemplified. The literature on learning technologies, learning activities, and technology selection in the contexts of higher education and human resource development has been investigated to ascertain the suitability of existing theoretical frameworks in these areas to the purpose of technology selection. Unfortunately, while rich in case studies, this literature remains under-theorized.

As discussed in Chapters III and IV, attempts have been made to categorize and classify learning technologies with the intention of providing guidelines, methods, and models for the selection of learning technologies. However, the attempts reported in the literature are not suitable for the design of online learning for the following reasons. The older of the attempts have little relevance to contemporary learning event design as the technologies they were designed for have been superseded or newer technologies are now used in parallel with them. Some attempts have little to offer the designer of learning events as they appear to state the obvious by classifying technologies by their characteristics. For example, Leshin, Pollock, and Reigeluth (1992) classify learning technologies as "human, print, visual, audio/visual or computer-based" (p. 256). Other attempts categorize technologies by the learning functions they serve. For example Laurillard (2002) develops a "teaching strategy" and divides it into several sections. She then categorizes learning technologies into

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