

Chapter 1

Individual and Socio–Cultural Framing of E–Learning

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ABSTRACT

Considering e-learning as a socio-cultural system acknowledges that individuals are embedded within different contexts, influenced by the culture and the society the individual lives in. Designing beneficial e-learning scenarios means respecting these socio-cultural contexts and providing appropriate framing. This chapter introduces several aspects influencing e-learning from an individual and socio-cultural perspective. It firstly deals with the aspect of learners' collaborative knowledge construction in e-learning and introduces what this perspective means for the design and implementation of e-learning scenarios. The chapter looks at tools and shared external representations and shows how they can beneficially support learning processes and outcomes. In a third step, it looks at the individual's learning characteristics, for example an individual's prior knowledge, and socio-cultural biases relating to gender, ethnicity, and socio economic background, and discusses how these may be an obstacle for e-learning and how e-learning may help learners to overcome their biases. Finally, the chapter focuses on the issue on evaluation and provides suggestions to evaluate environments for e-learning from a socio-cultural perspective.

INTRODUCTION

E-learning is supposed to provide particular learning means with respect to different goals and target groups. It has evolved since the beginning of the 1990ies with respect to technology and scope. According to Learnframe.com (2005) it often has a focus on the acquisition and use of knowledge, which is distributed and facilitated

by electronic means. Initially this meant offering text-based material on physical media like CD-ROMs. Nowadays e-learning provides multimedia contents that may be selected or personalized by the learners and used in online and offline learning scenarios. Unfortunately, changes in media often did not come along with adequate changes in instructional concepts, leading to two major problems: the explicit presentation of knowledge

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for memorizing and training allowed learners to reproduce it in tests, but learners often failed to transfer it to new situations (see Renkl, Mandl, & Gruber, 1996). Furthermore, working through e-learning courses often led to motivational losses and a low acceptance by the learners due to several reasons, on a technical as well as interpersonal level (see Bürg, Kronburger, & Mandl, 2004).

Besides technology, also the needs for learning have changed over the years. Considering our current society as *knowledge society* (see e.g. Drucker, 1969; Nonaka, 1994), it is obvious that knowledge is a major factor for the success of individuals and organizations. Within this *knowledge age* (e.g. Bereiter, 2002) the role of knowledge has changed fundamentally. According to the concept of knowledge age, gaining knowledge goes beyond memorizing facts and practicing procedures. Such repetitive activities were often required from learners in traditional learning scenarios, in which a teacher or trainer actively elaborated his knowledge and learners were expected to memorize and rehearse (see Ertl, Winkler & Mandl, 2007). Knowledge age, however, means that learners construct their knowledge based on situations and experiences (see Greeno, 1998). Lave and Wenger (1991) elaborated on the situativity of knowledge construction and the importance of the social context for learning. Yet, knowledge society does not only relate to learners constructing their own knowledge, it also emphasizes the creation of new knowledge, often in complex environments (see Nonaka, 1994). Taking up these issues, we will introduce constructivist learning approaches postulating that each learner has to construct new knowledge actively to appreciate the applicability of knowledge. Consequently, e-learning should place learners in a collaborative scenario that enables them to construct knowledge actively in collaboration with learning partners. This kind of

e-collaborative knowledge construction requires collaboration partners to interact frequently with *content-specific* activities: Learners work together at the same (virtual) place to construct one joint product or mental artefact (see Bereiter, 2002).

Furthermore, e-learning environments rely on ICT, which mediates collaboration partners' communication, e.g. by the provision of newsgroups, chats, wikis, instant messaging tools or audio-visual communication. Therefore, the computer screen has to provide instructional elements for facilitating collaboration. Generally, collaboration partners *share* a computer desktop—even if located in different places, or see the same contents on their individual screens. In other settings, they may share the same interface structure and contents, but do not necessarily see the same picture simultaneously when accessing the environment due to personalization options. By these kinds of tools, instructors may implement specific contexts for the learners and take the benefits of each context to facilitate particular aspects of collaboration processes and outcomes (see Ertl, 2008).

Finally, learning with technology, collaborative learning and discussions are often subject to individual and socio-cultural learning characteristics. The most obvious is a learner's prior knowledge that is the base for a learner to build new knowledge on (Ertl & Mandl, 2006; Shapiro, 2004). Yet, studies (particularly from school contexts) have shown that female often show less self-confidence in the context of information and communication technologies (see e.g. Ertl, Helling, & Kikis-Papadakis, 2010). These results may have implications for the acceptance and performance of female learners in e-learning scenarios, which are strongly based on the use of ICT for learning. Similar phenomena may result from ethnicity and socio-economic background, which are out of the direct scope of this chapter.

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