An Exploratory Analysis of the Role of Emotions in E-Learning

M. A. Rentroía-Bonito
Instituto Superior Técnico, Portugal

J. Jorge
Instituto Superior Técnico, Portugal

C. Ghaoui
Liverpool John Moores University, UK

INTRODUCTION

Technology-rich environments are assuming a key role in the individual learning processes. Still, one of the major IT challenges identified in the education field is to establish e-learning as a credible and viable complement to face-to-face education. This represents a paradigm shift in the way of learning, which is driving changes at individual, process, institutional, and societal levels. However, despite last-decade advances in the application of usability principles in system design, there is still a need to better understand the people-technology fit in learning contexts. Current results, gaps, and issues define the challenges that dictate new requirements. Among these new requirements, minimizing the impact of the distance factor on communication and learning effectiveness calls for alternatives approaches. Due to the importance of communication among instructor and students in learning, the scope of this work focuses on exploring the role of emotions within the user and learning-support technology fit.

Research work in related fields, namely in neurology (Damasio, 1994, 2000), affective computing (Picard, 1997), captology (Fogg, 2003), social psychology (Bandura, 1997; Coleman, 1995), usability (Preece, Rogers, & Sharp, 2002), education (Clark & Mayer, 2003; Martinez, 2001) attest the impact of emotions on cognitive processes. This body of knowledge could contribute to human-computer interaction (HCI) community to pursue its main goal: designing more natural, productive, satisfying, and enjoyable user experiences.

However, to satisfy this goal, development teams should approach the design of technology-assisted learning experiences thinking out-the-box and searching for innovative and multi-disciplinary solutions. This is in order to capture and monitor emotions, and other individual- or group-related variables that could influence engagement rates and learning results, as the process evolves. Though this is a difficult task that involves technical, pedagogical, contextual, process-related, and individual issues, we think that supporting the role of instructors, as process managers, could minimize the negative impact of sources of learning events on learner emotions. Given the adequate articulation between business strategies, process, technology, and people skills, this will also contribute to learning cost-effectiveness within organizational contexts.

Based on the literature and some empirical work, the main objective of this work is to conceptually describe the role of emotions in technology-assisted learning experiences and share some preliminary results. These results were obtained within a blended-learning experience that we run during the Spring Semester 2004/05 at our university, when lecturing the multimedia content production course. This was a first attempt for a better understanding on the dynamics of emotions of online learners within a real instructional setting. In order to achieve the objective of this work, the next section presents a proposed conceptual framework based on reviewed literature. The following section summarizes preliminary results and lessons learnt. The fourth section identifies some future trends. Last section presents a general conclusion.

BACKGROUND

Within learning environments, current results have yet to show consistent and integrated findings to support
An Exploratory Analysis of the Role of Emotions in E-Learning

the effectiveness of e-learning (Britain & Liber, 2004; Jenks & Springer, 2002; McGetrick & Boyle, 2004). Two are the main causes. A first cause relates to the structure of a technology-assisted learning experience, namely process and technology issues. Systems are not designed to tightly support learning processes within organizational contexts. Current learning environments are designed to sustain educational practices, commonly and mostly based on behaviourism. That is because behaviourist approaches have proven useful for humans to adapt to contexts, especially conditioned behaviour. Human adaptation is done by assimilating induced stimuli. Results of reaction-induced stimuli and internally regulates the organism to react toward system patterns supports those individual responses. An emotion is a somatic (physical) and an affective component. Thus, this involves perceptions, action plans, and associated feelings. In fact, emotions, as an integral part of cognitive processes, give automatic responses to assure the survival of the organism (Damásio, 2000). This definition is two-fold.

First, the consistent emotional response when facing same significant stimuli means a biological design prepared to systematically react by producing specific responses and regulating those responses. The uniqueness of individual configuration of neural system patterns supports those individual responses and internally regulates the organism to react toward induced stimuli. Results of reaction-induced stimuli reinforce behaviours and actions by rewarding, or not, the link between behaviours-survival values of context. This way, emotions sustain individual reactions facing
Related Content

Socializing in the Online Gaming Community: Social Interaction in World of Warcraft
[www.igi-global.com/chapter/socializing-online-gaming-community/30818?camid=4v1a](www.igi-global.com/chapter/socializing-online-gaming-community/30818?camid=4v1a)

Construction of Bayesian Models
[www.igi-global.com/chapter/construction-bayesian-models/29089?camid=4v1a](www.igi-global.com/chapter/construction-bayesian-models/29089?camid=4v1a)

Visual Culture Versus Virtual Culture: When the Visual Culture is All Made by Virtual World Users
[www.igi-global.com/article/visual-culture-versus-virtual-culture/169935?camid=4v1a](www.igi-global.com/article/visual-culture-versus-virtual-culture/169935?camid=4v1a)

The MENOS Organization
[www.igi-global.com/chapter/menos-organization/18091?camid=4v1a](www.igi-global.com/chapter/menos-organization/18091?camid=4v1a)