

The joy of e-learning: redesigning the e-learning experience

Presentation by Eva de Lera¹

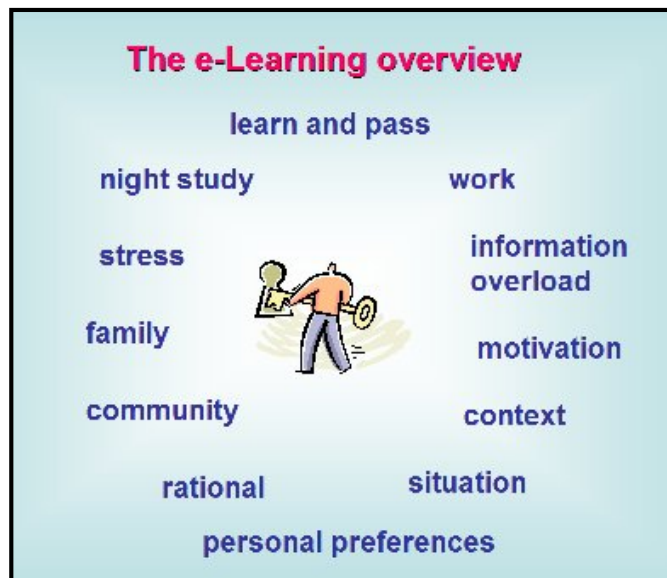
Reported by Ray Tolley

At a recent HCI conference (Lancaster, September 3rd, 2007) I was privileged to experience some challenging presentations by leading exponents of Human Computer Interface (HCI) thinking. One presentation was particularly moving, that of Eva de Lera. Reading the formal paper, by Eva and her colleague, Enric Mor, the topic may appear somewhat academic. However, her presentation, her belief in her work and the obvious enthusiasm for something which does not get a lot of attention particularly challenged me.

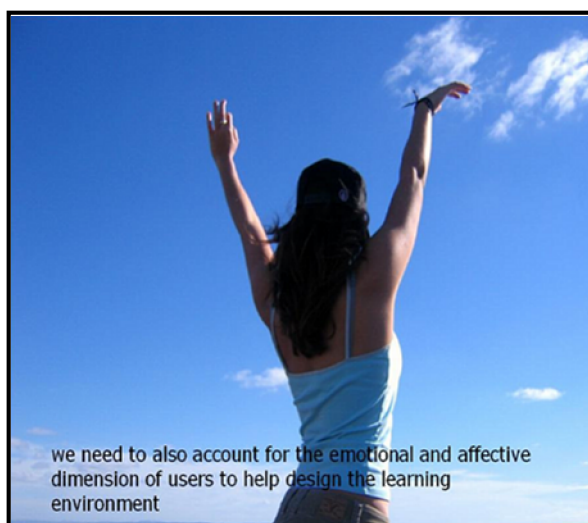
The following article, therefore, is my attempt to synthesise the abridged body of Eva's thesis with extracts from her presentation and an attempt to reflect on something of her motivation for this work. For simplicity some references to academic works have been omitted but can be viewed in the complete article at www.maximise-ict.co.uk/The_Joy_of_e-Learning.pdf

CONTEXT:

Imagine a generally impoverished and very large area of countryside, with a limited transport infrastructure, little ownership of personal transport, high unemployment and limited educational access. Here is a very real challenge, therefore: to provide a Distance Learning service which would meet the needs of a deprived, disparate and scattered community. Eva, at the University of Catalunya, needed to meet this challenge.



ABSTRACT



Not only is there a gap that we are trying to reduce between human computer interaction (HCI) and e-learning systems, but most of the work in HCI has focused on the "CI" more than the "H", the human aspects, so relevant in the study of the e-learning experience. This paper focuses on the work that needs to be done to reduce this gap and redefine the e-learning experience. We propose a methodology in which we also take into account the affective dimension of the user, as this can be critical to the overall experience, even more so than aspects

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such as effectiveness and efficiency, often measured. Integrating the affective dimension will help provide a set of guidelines for designing a virtual learning environment that engages and motivates students to learn and enjoy their e-learning experience.

1. INTRODUCTION

Very little has been written about the impact of interface development and design on the e-learners' learning process and experience; how it affects their motivation to learn, ability to find, absorb and understand what they are learning, as well as their overall expectations and perceptions as members of a virtual university environment. As Spillers writes, "*emotions govern the quality of interactions with a product in the user's environment and relate directly to appraisal of the user experience. Users generate emotion as a way to minimize errors, interpret functionality, or obtain relief from the complexity of a task*". This project examines the design of e-learning environments as an affective medium capable of motivating e-learners, with the objective to contribute increasing e-learners' abilities, motivation and overall satisfaction.



As pedagogues work toward the pedagogical aspects of e-learning and learning technology professionals work toward delivering an obstacle-free educational environment in which the e-learning objectives take place, this project aims at exploring the gap between these two efforts and understanding how the design of the e-learning systems impacts the learning process, and more importantly, the student's motivation to learn. Our overall objective is to go beyond a satisfactory e-learning experience and achieve an enjoyable and motivating e-learning experience. It is not sufficient to deliver an efficient and effective e-learning environment; it needs to empower the students to learn.

2. SPECIFIC OBJECTIVES

The project described in this paper aims at identifying methodologies to help redefine the e-learning experience. Our work aims at providing guidelines to help design a suitable and enriching e-learning environment. Some of the questions we would like to answer are:

- Can the e-learning environment motivate people to learn?
- Can its design contribute to increasing students' optimism, and therefore, desire to learn?
- Can e-learning technology help the student excel and do better in his or her studies?
- Which design elements cause the learner's frustrations?
- How can a change in interface design impact satisfaction levels?
- What are the elements of joy that will influence the way a user feels at the time he or she has to absorb the knowledge?
- At what points during the learning experience should these elements be found and used?
- Which ones are to be used? When and How, in the learning process?

There is a need to evaluate the critical aspects that may be correlated between interface development and design, and the user experience and motivation to learn, to contribute to their overall e-learning experience.

3. RELEVANCE

E-learning contributes to the effective integration of ICT in education and training. Therefore, it seeks to mobilise the educational and cultural communities, as well as the economic and social players worldwide, in order to speed up changes in the education and training systems for a move to a knowledge-based society. In this context, instructional design and technology enhanced learning are currently driving this change, with an identified need for user-centred design processes and methodologies.

New and improved technologies will allow for the implementation of new types of relationships between students and teachers, between students and the content, etc. If information technologies are to be successful in education and training, developing and designing technologies that motivate users, are obstacle-free and contribute to the users' satisfaction, is an integral part for achieving e-learning's overall objectives. Therefore, user-centred factors are key factors in e-learning.

4. METHODOLOGY

This project aims at defining a new user centred methodology, the Global User Experience (GUX) methodology, one that enforces User Centred Design (UCD), Learner Centred Design (LCD) methodologies and also includes other research methodologies that help identify and analyze the users' profile beyond their interactions with the system. Some of the elements that GUX will account for are user expectations, feelings, desires, aspirations, aesthetic preferences, interests, social behaviour, etc.

5. THE JOY OF E-LEARNING

Understanding e-learners, their lives, the technology they use and the e-learning process will help us identify the elements of interaction and interface design that are related to affect, providing us with a set of guidelines to develop an online educational environment that motivates students during their e-learning experience. Some of the questions we would like answered are:

- What motivates a student to learn?
- What motivates him or her to do well at school?
- How can they be motivated to continue studying?
- How do professors convey affect or emotion in an offline classroom setting?
- Can we identify where and how to implement elements of joy in the development of e-learning technologies?



During the second phase, which aims at identifying a methodology for virtual universities to guarantee the satisfaction and motivation of the student during the e-learning process, we will design a prototype of a learning environment or modules designed specifically to motivate e-learners and increase their overall satisfaction and results. This prototype will be assessed implementing several validation methodologies, which also includes the use of a portable



usability laboratory, specific to help evaluate technological applications, as it is a more controlled environment.... Software records the user speech and face, along with the computer screen and the user interactions with the tested application. Observers can follow the evaluation in real-time from other computers. Other methodologies such as the 10-emotional heuristics will be utilized to assess the participant's interaction with the prototype. Some of the questions we will answer in this second phase are:

- How do we define the GUX methodology?
- Are all human aspects taken into account in the design process?
- Which methodologies will help us measure and assess the e-learner's positive state and motivation?
- Is our e-learning environment motivating the user? When and how?
- What elements of design are influencing the student's affective state? Which are not?
- What design process will ensure knowledge acquisition?

Some work has been done with interesting results. UCD methods and techniques have been successfully applied in the design and development of a new virtual classroom for the UOC virtual campus.

In summary, we wish for the future learning technologies to not only facilitate the learning process, but to become a system that enforces students to learn, a motivating and enjoyable environment in which to grow and learn.

IN CONCLUSION:

As Eva reflected, for a worker coming home late in the evening, possibly in an isolate situation, the motivation to study is not always that high, home and social pressures again make study not an attractive proposition. For these willing and voluntary students a welcoming, user-friendly and collaborative interface can make all the difference.

Although this study focuses on how one university has approached the problems of on-line learning there are salutary lessons for all educators. Perhaps in schools, with a captive audience we presume too much. At a time when both Learning Platforms and VLEs are beginning to proliferate, the need to demonstrate a considerate approach to the learning interface and what motivates our students is timely advice.