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Usability and Emotional Obstacles in Adopting E-Learning: A Case Study

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ABSTRACT

Emotions are important in interaction and open a vital perspective to e-learning. E-learning courses have higher dropout rates than the traditional courses taught in classrooms, and it seems logical to ask whether emotional processes could explain a part of them. This research investigates how emotions are involved in students' behavior during e-learning courses. As human emotions are not independent of human cognitions and appraisal, we also consider here how cognitive difficulties affect emotional stances in e-learning on the ground of feedback collected from an e-learning course. However, here the main focus of emotion relevant cognitive processes is related to competence and usability. Usability problems lead either to frustration and shame or pride or self-confidence. It seems that the usability threshold divides subjects emotionally in e-learning environments.

1. INTRODUCTION

E-learning is a still fast growing area in education, but the complexity of the field makes it necessary to look for new perspectives. Much of e-learning research has concentrated on technical and software aspects (Annapoomima & Soh, 2004; Brusilovsky et al. 2005). Recently, increasing interest has been directed to user problems, and consequently, to emotional aspects of e-learning (Branco et al. 2005, De Villiers, 2004; Yu et al. 2002).

The possibilities that e-learning opens up for social development makes this area important, and, therefore, it is vital to ask what kinds of things may prevent people from using this new method for improving their lives. Undoubtedly, some of the obstacles are related to emotions and should be explained on the basis of human emotional processes (Hiltz & Wellman, 1997; O'Regan, 2003; Rosen & Weil, 1995). One can even think that technophobia is involved in the adoption of earlier services (Branco et al., 2005; Lam, 2000; Pickering & King, 1992). It is thus important to investigate how emotional processes are involved in the use of e-learning.

However, cognition appears before emotions (Power & Dalgleish, 1997). Therefore, it is logical to ask, what kinds of cognitive factors may lead to negative emotional stances towards e-learning and eventually to its abandonment. It is particularly interesting to look at the relations of competence and usability in this context as emotions provoking factors.

2. RESEARCH METHODS

Case description: The Connet human technology network was established in 2001. It is a part of the Finnish Virtual University program as a cognitive science and cognitive technology teaching network. Connet has eight Finnish universities in this network. All the students from these participating universities are allowed to study in the network. These eight universities form a multidisciplinary teaching network. The background curricula include cognitive science, cognitive technology, psychology, philosophy, information systems science, computer science, work science, education, educational psychology and new media. The curriculum is very strongly problem-based. The most frequently used technologies in the Connet courses are Internet and e-mail. Also whiteboard, blogs and chat boards are being used. Each teacher can choose what technique to use in their course.

Data and analysis: The Connet students answered to the questions during two academic years, in 2002 and 2004. The students answered these open questions through e-mail and were asked to comment with their views on and experiences of the Connet network study and development ideas. Questions were sent to all the students in the Connet network by e-mail. All in all there were 50 students´ answers included to the analysis. The groups of students were not the same in both years. Students took different types and amount of courses during their Connet studies. Their answers were qualitatively analyzed to identify the cognitive reasons for emotional reactions behind dropping out from the e-learning courses. The most frequently cited reasons and emotions in the students´ answers in both years are discussed below.

3. RESULTS

In both years, the most frequently mentioned reason for dropping out from a Connet course was lack of time. The students regarded their own time management skills inadequate, and the e-learning courses seemed to be the easiest to drop. In their opinion, e-learning courses are not seen as binding as the traditional classroom courses due to the anonymity of the students in e-learning courses.

3.1. Problems with Competence in Technology

Technology was a source of frustration for the students but also gave them sense of pride for their competence. These kinds of feelings were reported in 20 out of 50 students' answers, or in 44%. Students had problems with the e-learning environment, e-mail and also experienced a need for home equipment. E-learning environment problems were related to the usability of tools. The software used for the courses was changed quite frequently and this created a lot of frustration but also positive reactions. Here are three of the students' comments: ***"After finally having learned the old software, I had to start learning a new one."***, ***"The tool is not user friendly", "I had problems finding what I was looking for".***

Course materials also divided the students. For some they were a source of frustration, for others irritation and also of joy. These kinds of emotions were reported in 30 out of 50 students' answers, or in 60%.

There were opinions about the material availability and quality. Availability of the books was sometimes very poor. Here are two of the students' comments: ***"It was hard to get the material; all the books you need for the course were not available in the library. You have to do special arrangements to get them, but might not have money to buy them after all.", "The courses were mostly based on traditional books, and those books are not available in the local library."***

Apart from the book availability problem, the students were pleased with the material and also with its availability, especially on the web. Here is what two of the students said: ***"The availability of the material has been excellent and has been corresponding to the content of the courses. Also the quality.", "The web material was good. Material gave a good overall picture and gave new thoughts for working with my essay."***

4. DISCUSSION

The data implies that usability problems have their emotional consequences, but that they are not straightforward. When students come across usability or organizational problems such as those reported above, their reactions are emotional, and this leads them to negative participation decisions. We can mostly characterize the negative emotions in terms of frustration.

Frustration is a common phenomenon among people using computers (Drennan et al. 2005; Hara & Kling, 2000; Shneiderman et al. 1995; Zhang et al. 2004). As the data suggests, frustration arises from failures while using the technology, from

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not finding what one is looking for and not getting from the teaching what one is expecting. Often frustration leads to dropping out from the course undertaken. This effect, which is due to emotions, can take place in traditional classroom teaching courses (Weare, 2004), and as the results suggest it also can take place in e-learning courses. Other negative emotions include irritation, embarrassment and shame. Students get irritated when they cannot find what they need or want, when material availability is poor or the technology does not work properly or when it makes it hard or even impossible to study.

On the other hand, a sense of pride for succeeding in an e-learning course was notable. This may be due to the fact that e-learning demands more from the student (Hiltz & Wellman, 1997; Kumar et al. 2001) than traditional teaching and requires more work in an unfamiliar learning environment; the students take pride for their own accomplishments. Feelings of embarrassment were prevalent at the beginning of the e-learning experience, but the successful students got used to the new systems and the required learning habits, and consequently less embarrassment was felt afterwards. Embarrassment / shame emotion has been associated with the felt difficulty and therefore it is a significant factor in the beginning of learning (Ingleton, 1995). A successful learning process turns shame and negative emotions into pride and self-confidence.

5. CONCLUSION

This study focuses on the emotions that arise from an e-learning experience and on how these might affect students who drop out from the courses. The study doesn't attempt a straightforward comparison between traditional classroom teaching and e-learning, i.e., how all the found results would have affected students in traditional courses. The results show that emotional aspects of computing are important to analyze when introducing an e-learning course. The outcome may be shame and frustration with dropout on the one hand, and pride and self-confidence with success on the other.

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