Chapter I
Educational Technologies and the Emergence of E-Learning 2.0

Panagiotis D. Siozos
Aristotle University of Thessaloniki, Greece

George E. Palaigeorgiou
Aristotle University of Thessaloniki, Greece

INTRODUCTION

The creative and productive incorporation of new technologies across all frames and levels of education constitutes a promising frontier; however, up to now, it has not fulfilled the initial high expectations. Although corporate training and informal learning have, to a certain degree, utilized those technologies, the progress achieved in the field of formal education is clearly less evident: a teacher of the beginning of the previous century would have found his way around a modern classroom rather easily. There are two major reasons for this lag. The first reason is that social institutions (educational, political, etc.) do not always possess the necessary flexibility to adapt to the rapid rhythms of digital cosmogony. The second reason is that, in most cases, technologies were thought of as tools solving problems of quantity ("faster, cheaper, more," etc.), not of quality. More often than not, technological innovations take researchers, educational specialists and teachers by surprise.

A range of novel, much promising, information and communication technologies (ICTs) emerge and transform the current landscape of e-learning. Though long established as part of everyday life, the personal computer now sheds its familiar cloak (PC box-monitor-keyboard) and is introduced to our direct environment in many new forms (personal digital assistants [PDAs], intelligent mobile telephones, multimedia devices, gaming machines), extremely usable software, the effect of Internet connectivity and the social trends arising on the World Wide Web (WWW) complete the picture.

In this chapter, we attempt a comprehensive presentation of how new technologies are brought into the realm of education and we explore the potential and implications of e-learning. We also present the latest technological developments that may transform the look, feel and nature of e-learning. Our major objective is to create fruitful reflection on how to achieve creative learning synergies between information technology and the humanities.

THE IMPACT OF TECHNOLOGY ON EDUCATION

One of the basic assumptions of a sociocultural approach on human learning is that "learning" actually means "learning to do something using cultural tools" (Såljo, 1999 as cited in Sutherland, 2004). The concept of "tool" includes a wide range of artefacts and semiotic systems - both material and symbolic or mental - that control the interactions of subjects with their environment. A "tool," in a wider sense, can even denote another subject supporting a human action.

Every human action is mediated by tools, while every historical period is determined as much by the available tools (artefacts), as by the ways they are used. Using a tool does not merely facilitate an action (which would be realised no matter what), but induces essential qualitative changes in the flow and structure of the action itself. Therefore, tools can either strengthen or deter an action. This characteristic of utilizing artefacts is of exceptional importance when it comes to exploring the role of technology in human learning.

However, the acceptance of a cultural tool is not always a linear process and should not be taken for granted. A characteristic example is found in the Platonic dialogue "Phaedrus" (Plato, 1986), where Socrates is presented as one of the first critics of new media and technologies, expressing his scepticism about the usefulness of the "new technology" of writing and the effect it would have on human learning abilities. Socrates recounts a parable about how god Theuth presents to the king of Egypt, Thamus, his last inventions, such as arithmetic, geometry, astronomy and writing, and asks to be given to all Egyptians. Writing, in particular, Theuth argues, would "make the Egyptians wiser and improve their memory." Yet, the king appears sceptical; he believes that the inventor is not always the most suitable person to judge his creation and that writing might also have negative repercussions (Plato, 1986):

For your invention will produce forgetfulness in the souls of those who have learned it, through lack of practice at using their memory, as through reliance on writing they are reminded from outside by alien marks, not from inside, themselves by themselves: you have discovered an elixir not of memory but of reminding. To your students, you give an appearance of wisdom, not the reality of it; having heard much, in the absence of teaching, they will appear to know much when for the most part they know nothing, and they will be difficult to get along with, because they have acquired the appearance of wisdom instead of wisdom itself. (p. 123)

Further down the dialogue, Socrates recognizes certain advantages of writing (for writing down and recording poetry or laws), but insists that it does not necessarily constitute a suitable mean for teaching, due to its stability: the written text is fixed and tells the same story to all of its readers. According to Socrates, the most suitable path to learning comes through interactive and dynamic dialogue, as his "Maieutics" teaching method asserts (Klass, 2000). The fact that Socrates' opinion survived via the writings of Plato is certainly paradoxical, but it should not cancel the meaning of this parable. Similar arguments regarding the forgetfulness which the computers and the Internet would bring upon people are rather frequent.

Information and communication technologies constitute very powerful cultural tools and have much transformative potential. From a learning point of view, we may claim that, following language and writing, the computer is the third most important cultural tool. The use of computer and other information and communication technologies for facilitating teaching and learning gave rise to the field of e-learning and birth to many hopes and expectations.

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