Chapter 21

Personal Learning Environments and Social Networks in the Traditional School System:
An Applied Case Study in the Greek Educational System

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ABSTRACT

An effort to integrate new technologies in learning and school life in general has been put forward by the ministry of education in Greece with an action known as "Digital School." One of the components of "Digital School" is the digital platform that includes all schoolbooks converted to an electronic format (e-books), enhanced with additional interactive educational material. This research focuses on how the enhanced 10th grade mathematics books could comprise a constructive learning environment beyond the classroom, facilitating pupils studying on their own and at their own pace. The results of the research show that social networks, digital tools, and the resources that pupils use on a daily basis can pave the way in this direction on condition and that they are utilized for the configuration of a PLE (Personal Learning Environment) by each pupil, which ensures the required communication and feedback between the community of pupils and teachers.

INTRODUCTION

The multiple facets of ICT (Information and Communication Technologies) and its broad applicability have subverted traditional teaching methods and have brought about an upgrading of the educational system through innovative pedagogical approaches. The far-reaching progress of the Internet, combined with its advanced communication possibilities, has radically changed the traditional learning environment (Anastasiades, 2009, p. 56).

The integration of new technologies in learning and school life in general has been pushed forward by the ministry of education in Greece with the "Digital school" action, a breakthrough program that involves, among others, the digitization of school books into an html format, their enrichment with interactive applications, parallel activities, such as digitized educational material for the final exams and tutoring support through the Internet, depository digital applets, teacher training, etc. One of the components of "Digital school" (http://digitalschool.minedu.gov.gr) is the digital platform that includes all schoolbooks in electronic html format, enhanced with additional interactive artifacts (animations, applets, hyperlinks), along with videos and digital educational games for each lesson unit. This material has been designed and implemented by primary, secondary and tertiary education teachers. Its goal through the use of enhanced e-books, is to make it possible for pupils to be able to study individually at their own pace beyond the classroom, so that the production of knowledge will not be restricted to the classroom (Greek Ministry of Education, 2010).

A series of questions, nevertheless, arises out of such a goal concerning the possibility of exploiting e-books within the educational process:

- Will digital books, enhanced with educational artifacts, be able to constitute a constructive learning environment outside the classroom, facilitating pupils to study on their own without the actual presence of teachers or classmates? Are these means suitable tools of supplementary learning, or even typical tools of distance learning education for pupils who are unable to attend real classrooms for a given amount of time?
- How could pupils, who are already familiar with social networks and make daily use of them, create their own digital learning en-

vironment, by means of which they could utilize these e-books, share notes, and communicate with their classmates and teachers in order to receive the required support and feedback? Will they be able, within this framework, to retrieve, act, connect, publish, revise, improve, and ultimately create and share knowledge?

Research Goal: Research Questions

Research was carried out so these questions could be answered, which

1. Investigated whether enhanced e-books can actually be utilized as learning material for supplementary distance-learning through a personal digital study-space for each pupil.
2. Explored the ways in which the required communication between pupils and teachers could be ensured beyond school units through a PLE (Personal Learning Environment), designed by each pupil via the iGoogle tool, exploiting Web 2.0 technologies, such as wikis and social-network environments.

Out of all enhanced digital books that are currently available, this study focuses on the 10th grade mathematics book since mathematics constitutes a basic general education subject, which typical school education lays great stress on.

There are no researches on the way the produced digital material can be utilized in the educational process since "Digital school" is still at its outset. Furthermore, an objective of this research is to make a teaching/learning suggestion for the pedagogical utilization of web 2.0 technologies and social networks that pupils make daily use of, along with the substantial exploitation of the learning resources of "Digital school."

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