Chapter 7
Learning and Teaching Methodology: “1:1 Educational Computing”

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ABSTRACT
This chapter presents the ‘1:1 educational computing’, a methodology in which each pupil in the class has their own computer, which they use to participate in the learning activities. The continuous creation of new interactive multimedia digital material is an important effort that aims to enrich the resources available to the teacher, the student and the parent so as to transform learning into a creative, enjoyable, useful and efficient process. Lessons become more interactive and stimulating, while, at the same time, helping students to learn at their own pace. Educational Organizations that adopt the ‘1:1 educational computing’ methodology should begin with a set of clearly defined goals, including the expected outcomes. In closing this chapter presents two surveys that were carried out at an Educational Organization which implemented the project (2009 and 2017).

INTRODUCTION
“Children need to learn how to shape and develop interpersonal relationships, as much as they need to be educated ... maybe more so...” (Haydel & Roeser, 2002). With the New Technologies, communication has changed. Through the Internet, they broaden their encounters going beyond people in their class, their neighborhood or their city. They have the ability to chat with people who are thousands of miles away in any other country.

The world is becoming noticeably smaller and people of different cultures are coming into contact learning about one another and the other. Many, of course, have ‘accused’ the New Technologies of creating alienation and lack of communication with other people. If this position were true, it would also encompass a failure in education because it would have failed to help cultivate cooperation, solidarity...
and fair play among students. The aim of the school is to help children obtain the necessary skills and help them integrate smoothly into society.

These are the contemporary issues with which the educator is called upon to take a position, to prepare him/herself accordingly, to search for and find solutions, to be informed and adapt to the new requirements, so as not only to be able to cope with his new role, but also to make use of the new approaches for the benefit of the educational process and new perspectives that this process brings.

The aim of the article is to propose a global approach to a modern didactic methodology - intervention based on the use of technology in the educational process. For this purpose, the existing bibliography, a relevant “case study” and surveys carried out at two different periods during the development of the project implementation were studied.

The contents include: the necessary research on the initial assumptions, the effort to develop and document the proposal - educational intervention, the description of the case study (application), the two related investigations carried out, and the general conclusions

ASSUMPTIONS

It is important to study the data and proceed to documented assumptions before attempting any educational suggestion or intervention. This chapter is based on three important assumptions on the basis of which the educational proposal - methodology is presented and documented. The first is that we move towards a new education paradigm promoting Unity and not Uniformity (Koutsopoulos & Economou, 2016). The second is that the role of the teacher should change according to the current changes in the educational process and the 21st century skills that pupils have to acquire and develop. The third assumption is that students are changing as their digital capacity evolves.

Unity Not Uniformity in Education

The reality of the European pedagogical system shows that in order for the system to provide the two fundamental concepts in today’s education, namely unity (all schools to have equal opportunities, recourses and possibilities) without uniformity (avoiding “typical” common teaching and learning practices), there is: a need to work within a susceptible to present conditions educational paradigm; to have an appropriate instrument to be able to do so; and a suitable educational environment to apply these concepts.

The solutions for fulfilling these needs are presented in the form of three unconventional, but necessary propositions for education to move forward. The first suggests that we are in an era of a new network-centered education paradigm. The second is that Cloud Computing is the main instrument of this new paradigm (Koutsopoulos & Kotsanis, 2014). The third one proposes a new School, the School on the Cloud (Figure 1).

21st Century Skills and the New Role of the Educator

It is a fact that a radical reorganization of the role of the teacher in the classroom requires, in many cases, a change in habits, a fundamental revision of their pedagogical perceptions, and good preparation while providing and utilizing modern digital tools.