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THE IMPACT OF NEW TECHNOLOGIES ON THE INSTRUCTIVE- EDUCATIONAL PROCESS

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Abstract

I have taken into account the current requirements for student-centered education, based on direct and indirect activities. Contemporary society is a permanent and unique challenge to education. The new technologies have produced changes in all areas, and it was expected that at some point this progress would influence the teaching-learning process, with pupils having to learn to manage an impressive number of information, analyze it, make decisions, and develop their knowledge to meet the challenges of today's technology. The existence of each individual as well as of the entire society as a whole, hence, is becoming more and more alert, becoming increasingly marked by the need for immediate knowledge, complete and correct knowledge of the surrounding reality, so that decision-making can be made firmly and competently. The use of ICT means supports the development of critical thinking and creativity and develops a critical and reflective attitude towards information. The interdisciplinary approach is replaced by innovative ideas from everyday life, where the personal footprint will be an integrated approach to learning. I consider it necessary and I am going to assume that it is necessary to apply modern technology in teaching content to classes because the pupil has to take advantage of his / her abilities to interact with them and to have the necessary educational needs for the society we live in.

Keywords: Multimedia, ICT, teaching model, information, science, computer.

1. Introduction

The interdisciplinary approach is replaced by innovative ideas from everyday life, where the personal footprint will be an integrated approach to learning. I consider it necessary and I am going to assume that it is necessary to apply modern technology in teaching content to classes because the pupil has to take advantage of his / her abilities to interact with them and to have the necessary educational needs for the society we live in. Modern technologies applied in the classroom can influence an up-to-date education of our century, broadening the student's horizon in the digital era, making it possible for an innovative education, this way of learning being both an individual direction for the student and a social one for school as a whole, gathering knowledge, skills, socio-cultural compliance. These should not be a mere addition to the curriculum, they must be fully integrated into the education process at all levels of the school system. Teachers must be formed to cope with change and innovation. The use of these methods in the classroom is part of the natural evolution of learning and suggests an elegant solution to the modern challenges to learning and student needs. The increased complexity of schools and learning environments suggests the need to carry out in a manner of educational activities.

The digital era, also known as the programmed world, the knowledge society, the information era, is governed by information, which, according to Webster, "has a vital importance in our day's world not only because there is a greater amount of information than has ever existed before, but also because this particular information plays a specific strategic role that runs through the core of each action we take". <own translation> (Webster, 2002).

The elaborate processes of production, of usage and of processing the information are subject to continuous change and they have major implications on the processes of socializing and inevitably on education. First of all , as far as the world is considered, the act of socializing refers to the transmission of social culture to the individual who is in the process of life learning process. this particular idea can be easily verified if a curriculum analysis, alongside with an analysis of the pupil's books in school and of the resources and methods used in the process of teaching and learning is being made. Second of all, as far as the person is concerned, socializing is a part of him becoming complete, of his developing as human in the social background. Socializing defines the way in which a person interacts with the world in which he lives in and therefore, the emergence of this programmed world represents an inbred stage of society evolution, even though it hides or masks powerful, economic interests and at the same time it promotes a rule and domination of technology and "cybernetic order" <own translation> (Robins &Webster, 1989).

2. Problem Statement

2.1. The role of the teacher

Those who find themselves against the domination of technology and everything it implies, claim that "the teacher is not more competent than data bases grids which transmit knowledge, the teacher is not more competent than the inter-disciplinary teams which create new games and moves." " <own translation> (Lyotard, 1979).

The supporters of this cybernetic order, on the other hand, claim that exploring these new technologies in education facilitate the transition to a new paradigm of interactive learning because these

new technologies allow an active learning process to happen (also called learning by doing) and the creative play with information. The implications of this process take into consideration the transition from classical pedagogy to creating learning partnerships between different cultures, changing the way of perceiving the entire process of learning from the torture of studying to learning through play, thus the role of the teacher being upgraded from a knowledge sender to a supporter of the process of learning. (Tapscott, 1998).

According to Warschauer, the teacher has a somewhat degree of autonomy and the influence of these new technologies is not direct and complete because the teacher can mediate it through changing his/her own style in teaching, through adapting the scholarly strategies and exploring new technologies as resources. (Warschauer, 1999).

3. Research Questions

Robins and Webster are convinced that even the concept of "computer literacy" is meant to hide real problems of nowadays world, defined as work literacy, thus changing the balance of power and relationship between strength and knowledge. As a consequence, there are a series of questions whose answers are still looked for in order to give a proper definition of education in this modern world we live in: "What is being taught in school?", "Why do we teach what we teach?" , " Who is this teaching for?" and more than this, "What is omitted in the process of teaching and why?" <own translation> (Robins &Webster, 1989).

4. Purpose of the Study

4.1. The impact of ICT on pupils

Next , it was aimed to highlight the impact of ICT use on teachers and their students. Changes in the intellectual, emotional, social behaviours of students are translated and embodied in aspects such as:

1. increased interest in learning;
2. increasing frequency in classes;
3. getting better concentration;
4. stimulating teamwork;
5. improving school outcomes;
6. developing communication skills;
7. optimizing project management;
8. developing problem solving capacity.

4.2. Advantages of computer use in the educational process

The education process implies more and more the use of the computer. Thus, it becomes an important factor in the education process because it facilitates teaching and learning of new information. A study made by the Center of Innovation and Education shows that 63% of the participating teachers to the study claim the idea that Using the computer in schools and not only led to better grades and results for the students. More than this, 61% of the teachers claim that the students improved their capacity of working in teams and that they developed their problem solving skill. The results obtained in this study

demonstrate that the investment made in education in using computer and information technology has raised the level of performances for students and that technology has contributed to fulfilling educational, social and economical objectives.

5. Research Methods

5.1. Assessing methods and tools

This evaluative study was conducted through the survey method using questionnaire as a tool, a method that allows rapid data collection from an extended population. Since research is conducted in a multilingual context, the questionnaire presented is used in the same form and, if possible, in the same content.

6. Findings

Questionnaire

To realize an analysis of the effectiveness of the use of ICT in the instructive-educational process I interviewed 235 students of which 130 girls and 105 boys. The results are presented below:

1. Do you have a personal computer?
a. Yes   72.98%   100 students
b. No   27,02%   94 students

2. Do you know how to use the computer (tablets, phones)?
Answers given by students who have a personal computer (tablet, phone)
a. Very good   50.27%   54 students
b. Good   40,34%   40 students
c. Little   8.56%   9 students
d. Not at all   3.95%   4 students
Answers given by students who do not have a personal computer (tablet, phone)
a. Very good   1.14%   1 student
b. Good   13.79%   12 students
c. Little   36.78%   32 students
d. Not at all   48.29%   42 students

3. Where did you learn to use your computer?
a. At school   18.90%   38 students
b. At home, relatives, friends   80%   140 students
c. Other courses   13,12%   26 students

4. What is the computer good for?
a. To learn something new, to do research   71.06%   167 students
b. For entertainment   28.94%   68 students

5. Do you use Internet services?
a. Yes   99.00%   232 students
b. No   1.00%   3 students

6. How often do you use the computer?
a. Every day   83.80% 88 boys
60,76% 79 girls
b. Weekly   9.52%   10 boys
30%   29 girls
c. Several times a month   6.68%   7 boys
6.94%   9 girls

d.   Several times a year   0%   0 boys
2.30%   3 girls
7.   Do you think the computer is useful in the school?
a.   Yes   100%   235 students
b.   No   0%   0 students

8.   Enumerate at least three reasons why you consider it is useful using the computer in class.
The most common reasons were:
a.   It shortens the time spent for learning, for understanding the concepts shown,   for performing calculations, graphs and tables, etc.
b.   Lessons become more attractive.
c.   Laboratory experiments difficult to perform can be made on the computer.
d.   Checking knowledge becomes more objective.
e.   It develops creativity, thinking, the spirit of competitiveness etc.

9.   Enumerate at least three reasons why you consider it is not useful using the computer in class.
The most common reasons were:
a.   Insufficient endowment of computers in schools.
b.   Lack of high quality software.
c.   Teachers' and students' lack of experience in using computers
d.   Students' attention gets distracted from the teacher's explanations due to the students' tendency to play
e.   Affects health and relationships between humans.

10.   Do you thinks that by using the computer you will record a breakthrough, a stagnation or a regression in learning?
a.   A breakthrough   70%   162 students
b.   A stagnation   26%   60 students
c.   A regression   6%   14 students

11.   Which one of the ECDL modules is most useful for you at school?
a. Basic concepts of information technology   1.70%   4 students
b. Use of the computer and organizing files   3.40%   8 students
c. Word Processing   25.96% 61 students
        d. Calculation of Excel sheets   22.55% 53 students
e. Access databases   1.28%   3 students
f. PowerPoint Presentations   33.61% 79 students
g. Internet and mail   11.50% 27 students

7.   Conclusion

One could say that the integration of ICT resources in education is beneficial and leads to an increase in the students' results, if students possess knowledge related to the use of the computer. This involves the introduction of computer classes and ICT to all profiles and at all levels of learning. Also, teachers should work with small groups and classes should be equipped with modern computers connected to the Internet, there should be made libraries of programmes and expert systems in accordance with the curriculum from school that is being reformed, and promoting the spirit of using the computer should be enhanced. Teachers should possess the theoretical and practical knowledge related to the discipline they teach and also the abilities of using ICT. So, focus on the use of information technologies and communication by the teachers and by those who learn becomes a priority. More methodical researches on ICT implementation in education should also be made.

The computer "builds" contexts for application of concepts, providing for those who study the language through which they can describe their own activity. The use of computers is necessary in the

training sequences that the teacher can't organize and achieve with satisfactory results in ordinary traditional didactic activities.

Students are more likely to remember new information because they associate it with images. The student only needs to be careful and the brain stores the information from the first or second view.

Both the student and the teacher develop complementary skills such as computer use and new information technologies, presenting, creating projects for the lessons and collaborating with colleagues. The more practical the classes are, the more they use images and sound, the more the student is put to practice, the more he adds his attention to what the teacher teaches.

ICT must not be only a tool to present existing contents in another manner, it must lead to changing the way of thinking and teacher' style of teaching in class, a style crystallized in centuries with a traditional learning, when the student's personality and his possibilities mattered too little.

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