



New Trends and Issues Proceedings on Humanities and Social Sciences



Volume 4, Issue 3 (2017) 123-127

ISSN 2421-8030

www.prosoc.eu

Selected papers of 7th World Conference on Learning, Teaching and Educational Leadership, (WCLTA 2016) 27-29 October 2016, Danubius Hotel Flamenco Convention Center, Budapest, Hungary

The impacts of using ICT in the educational process today

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Suggested Citation:

Vladescu, I. (2017). The impacts of using ICT in the educational process today. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 4(3), pp 123-127. Available from: www.prosoc.eu

Selection and peer review under responsibility of Prof. Dr. Jesús Garcia Laborda, University of Alcala, Spain

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Abstract

The article presents new socio-cultural conditions which affect including education. We also demonstrated that educators who know how to adapt to change, and produce innovations are required to be within the globalization of the XXI century. Since the use of technology will not be indefinite, pedagogy advanced integration of our century recommend these goals in the curriculum. This explains the essential role of a teacher efficient central in promoting social interaction in computer class: the growing presence of technology requires teachers to be more creative and encourages them to use teaching methods that are more attractive to students.

Keywords: Collaborative learning, information and communication technology, learner, network, virtual classroom, interactive learning.

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1. Challenges of the Education Field in the 21st Century

The world today is not the same world ten or even five years ago. With the development of new markets, new technologies and new communication systems, the global society sets up unfamiliar challenges. New conditions for culture and social life are created rapidly. This is especially recognizable in the education field, where teachers, student teachers and their instructors are obliged to cope with change and innovation (Law, Pelgrum & Plomp, 2008).

Globalization emphasizes teaching and the quality of teachers; there are extremely high expectations for teacher performance in the 21 century. Evidently, in its 2005 report "Teachers Matter", the OECD points out the importance of high quality teaching and the central role of teachers. In the past few years, researches have shown that the skills and qualifications required to the job market are changing as a result of the development of new technologies and their rapid penetration to everyday life and the global financial. The fast pace of technological changes influences directly on every aspect of a child's life. The difficulty of the education system to adjust and to update itself in the pace of these changes forms a gap between a child's everyday life and the learning environment school is offering him (Ben-Peretz, 2009).

"The demands on schools and teachers are becoming more complex. Society now expects schools to deal effectively with different languages and student backgrounds, to be sensitive to culture and gender issues...to use new technologies, and to keep pace with rapidly developing fields of knowledge and approaches to student assessment. Teachers need to be capable of preparing students for a society and an economy in which they will be expected to be self-directed learners, able and motivated to keep learning over a lifetime"(Ben-Peretz, 2009, p.78).

Governments and education systems around the world have regarded the use of information and communications technologies (ICTs) as an important issue for improving the effectiveness of teaching and learning in schools (Plomp, Anderson & Quale, 2009). As more and more technologies available and affordable along with the rapid expansion of computer network capability in both primary and high schools, there have been continued research efforts in investigating how teachers use ICT to promote student learning (Lebaron, Robinson & McDonough, 2009).

2. Innovation and the Nature of Change

Innovation is defined as: "Change, based on a new idea, differs significantly from the existing. The idea also carries a chance to improve the existing situation or the solution to the problem" (Chen, 2006, p.3)

Innovation in education has varied expressions, such as innovative organizational structure, inserting a new teaching method or computers and communications integration in education.

According to the theory of organizations, an organization that does not develop, change and grow, is sentenced to incompetence and withdrawal (Chen, 2006).The education system is one of the biggest and complex organizations in the world. The reason for its complexity lies in the fact that on one hand, education deals with a complex of human knowledge that is under continuously change and growth, and on the other hand, it nurtures small children that develop via the process of learning. Although the education system is a complex system, it is a conservative organization. The ideas and innovation of the 21 century did not cause an essential change (Chen, 2006).

Chen believes that experimental schools lead the move of shifting from the perception of reform change to the perception of planned and controlled change.

Schools, which are a reflection of society and means of preparing learners for life in a rich technology society, are bound to confront change and innovation (Hargreaves & Goodson, 2006). Education systems aspire to assimilate innovation and generate a change in schools and thus to give

learners the essential tools for life in the society of knowledge. As a result a lot of time and resources are allotted for educational programs integrating ICT (Law, Pelgrum & Plomp, 2008).

3. Technology and Pedagogy

With view that using technology will not be indefinite, we must use an advanced pedagogy that is suitable for the 21 century. This pedagogy uses Technology in order to create a more profound understanding by means of transferring the responsibility to the learner (Vadmani, 2011). Vadmani says that this pedagogy consists of researching issues, team work, informative complex tasks which are interdisciplinary and multidisciplinary and relevant to the reality of life.

Dede urges the field of instructional design to recognize that learning is a human activity diverse in its manifestations from learner to learner and even from day to day. He suggests that the emphasis should shift to "developing a pedagogical media that provide many alternative ways of teaching, which learners select as they engage in their educational experiences" (Dede, 2007, p.28).

Brithaupt, Fisher, Gardner, Raffo and Woodard (2011) distinguish between "pedagogy-driven" approach, where desired and essential learning objectives guide the lesson design and choice of instructional and technological tools and approaches. And "technology-driven" approach, where teachers try to determine how a specific technology can be integrated into a lesson with little attention to how that tool helps them meet their teaching and learning goals. In other words, teachers give in to the temptation to use instructional technology for its own sake (Brithaupt et al., p.90).

Technology should be integrated seamlessly into the curriculum. Pitler, Hubbell, Kuhn and Malenoski (2007) reference Schacter and Fagnano (1999) to state that: "applied effectively, technology implementation not only increases student learning, understanding, and achievement but also augments motivation to learn, encourages collaborative learning, and supports development of critical thinking and problem-solving skills".

This explains the central essential role of an effective teacher in promoting social interaction in the computerized classroom and hence, student learning and understanding.

4. The Role of the Teacher and Effective Use of Technology

Teachers are essential to support learners as they interact. Moreover, ICT loses its advantages when lacking the correct guidance. Since it is often hard for teachers to give up old habits in favor of new, they need support and guidance. In their research, Aldcus, Seymour and Hand (2007), developed a framework for teachers to combine different aspects of mathematics teaching and learning which includes "embedded writing-to-learn strategies (MRA)". They found out that teachers who used this framework improved their ability to support dialogue interaction across time along with other pedagogical skills important for promoting dialogic interaction.

Vadmani agrees, she claims that when integrating technologies the teacher cannot simply teach. Training must be provided both to teachers and to teacher students (Vadmani, 2011, p.81).

Moreover, since the new technologies of today, are the old technologies of tomorrow, it is important for teacher-collages to conduct a continuous monitoring after new technologies and collaborate these technologies to appropriate pedagogies. These pedagogies, should be taught both to teachers in schools and teacher students.

Forkush Baruch urges to take into consideration that as far as technology, it is a whole system to learn, including characteristics and the way it works. Whereas pedagogically, this is actually a new specialization, of matching the technology and best use it to empower teaching and learning (Forkosh-Baruch, 2011, p.68).

The report reveals that the reasons that had prevented the teachers from participating in more professional development (given by the teachers themselves) were mainly: conflict with work schedule, no suitable professional development and family responsibilities.

This report also provides a solution to this problem. It recommends compulsory professional development, "because the skills and knowledge the development activities aim to enhance are considered important for teacher quality. In some cases participation in such activities may even be required for teacher certification" (OECD, 2009, p.64).

Ben Peretz adds that both global external factors and local cultural social factors are perceived as having an impact on curriculum and teaching, and therefore directly affect teacher trainings. She thinks that the voice of local procedures must be heard alongside the attention to global changes and ways. One of the means suggested to navigate between the pressures, sometimes contrasted ones, is to build parts of the educational policy in the local level, by professional educators who do not ignore the impact of socio-cultural ties over education (Ben-Peretz, 2009, 67).

The opponents claim, that the development efforts invested in ICT learning focus especially in the teachers and not the learners. These efforts consider lesson plans and presenting the material using new technologies, instead of focusing on the question how students learn using new technologies.

5. Conclusion

In this essay described the new conditions for culture and social life especially recognizable in the education field. I also indicated the change and innovation educators are obliged to cope with in the globalization of the 21st century. With view that using technology will not be indefinite, advanced pedagogy suitable for the 21st century, is recommended to be integrated seamlessly into the curriculum. This explains the central essential role of an effective teacher in promoting social interaction in the computerized classroom: the increasing presence of technology forces educators to be more imaginative and it encourages them to use teaching methods that are more appealing to learners.

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