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THE IMPORTANCE OF PROMOTING SOCIAL DYNAMICS IN THE COMPUTERIZED CLASSROOM

Efrat BARANETZ

Moldova State University

This paper begins with the description of the new conditions for culture and social life especially recognizable in the education field. It acknowledges the change and innovation educators are obliged to cope with in the globalization of the 21st century, with emphasize on constructive learning as a social matter. 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. In light of all this, findings are presented regarding technology integration in teaching in Israel, Moldova, UK, and USA. My paper contributes to the overall conversation and my future research will aspire to bring more definite answers regarding effective teaching using ICT to promote social dynamics in the omputerized classroom.

Keywords: *social dynamics, the computerized classroom, technology, constructive learning, effective teacher.*

IMPORTANŢA PROMOVĂRII DINAMICII SOCIALE ÎN CLASELE COMPUTERIZATE

Articolul începe cu descrierea noilor condiţii de cultură şi viaţă socială, recunoscute mai ales în domeniul educaţiei. Astfel, în condiţiile de permanentă schimbare şi inovare educatorii sunt obligaţi să facă faţă procesului de globalizare, punând accent pe învăţarea constructivistă cu problematică socială. Având în vedere că utilizarea TIC nu va fi nedeterminată, pedagogia avansată a secolului XXI, recomandă integrarea acestora în curriculum, urmând să argumenteze rolul esenţial al unui profesor eficient în promovarea interacţiunii sociale în clasa computerizată. Prezenţa tot mai mare a tehnologiei impune educatorii să fie mai imaginativi şi îi încurajează să utilizeze metode de predare, care sunt mai atractive pentru elevi. Având în vedere toate acestea, în articol sunt prezentate concluziile în ceea ce priveşte integrarea tehnologiei în procesul de predare în Israel, Republica Moldova, Marea Britanie şi în Statele Unite ale Americii. Lucrarea noastră va contribui la iniţierea unui dialog de cercetare, care să ofere mai multe răspunsuri clare în ceea ce priveşte predarea eficientă şi utilizarea TIC pentru promovarea unei dinamicii sociale în clasele computerizate

Cuvinte-cheie: *dinamică socială, sala de clasă computerizată, tehnologii, învăţarea constructivistă, profesor eficient.*

Introduction

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 [Cochran-Smith in 2; 13]. This is especially recognizable in the education field, where teachers, student teachers and their instructors are obliged to cope with change and innovation [15].

Globalization emphasizes teaching and the quality of teachers, there are extremely high expectations for teacher performance in the 21 century [2]. In its 2005 report "Teachers Matter", the OECD (Organization for Economic Co-Operation and Development) points out the importance of high quality teaching and the central role of teachers: "teachers are central to school improvement efforts. Improving the efficiency and equity of schooling depends, in large measure, on ensuring that competent people want to work as teachers, that their teaching is of high quality, and that all students have access to high quality teaching" [24, p.1].

The fast paste 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 paste of these changes forms a gap between a child's everyday life and the learning environment school is offering him [16].

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 [28]. 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 [21].

Nevertheless, No research was conducted to investigate the effect of using ICT in teaching on promoting social interaction between the learners, and there is relatively little discussion of this issue in the literature. Moreover, most of the research mentioned above, examine the impact of using ICT in teaching, on learners of high education such as students in universities and collage.

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" [6, p.3].

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 [6]. 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 [6] believes that experimental schools lead the move of shifting from the perception of reform change to the perception of planned and controlled change.

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 allotted for educational programs integrating ICT [20].

The Importance of Social Interaction in the Process of Learning (via an examination of the constructivist approach)

According to Dabbagh [2006, in 9], Constructivist theories of learning assume that meaning is imposed by the individual rather than existing in the world independently. People construct knowledge and understandings based on what they already know and believe, which is shaped by their developmental level, their prior experiences, and their sociocultural background and context. Learning involves mastering authentic tasks in meaningful, realistic situations. Instructors can foster learning by providing guidance that encourages meaning-making without imposing a fixed set of knowledge and skills. The role of the teacher is to support knowledge construction rather than communicate knowledge, to be a guide rather than an expert transferring knowledge, to encourage the student to reflect on his experience and to seek alternative view point.

Wilson [35] defines a constructivist learning environment as: "a place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem-solving activities" [35, p.5].

Savery & Duffy [1996, in 35], have derived a number of instructional principles from constructivism. They are also emphasizing social interaction in learning:

- Students' ideas should be tested against alternate views through social negotiation and collaborative learning groups.

The social environment is essential to the development of our understanding, and the construction of knowledge. We check and confront our understandings against understandings of others in the group. Knowledge is constructed through the development of social dialogue [Savery & Duffy ,1996, in 35].

Shared learning in a group frame creates, inevitably, relationships and a sense of unity [Hiltz, 1995 in 8]. The social relations that are created inside a learning group comprise an important part of the learning, and eventually affect the results of the learning process. Good social relations enable effective learning dialogue, successful conflict management and increasing involvement of members of the group in the dialogue [Anderson & Kanuka, 1997 in 8].

Ernest [1998, in 1] also points out that, children partly construct their knowledge as a form of collaborative meaning making based on their interaction with others.

Ernst and Clark [11] identify a situation as collaborative in nature when three conditions are met: "if peers are *(i)* more or less at the same level and can perform the same actions, *(ii)* have a common goal, and *(iii)* work together" [Dillenbourg, 1999 in 11, p.9].

Multifaceted tasks that necessitate various proficiencies and abilities have been identified by Neilson [2002, in 11] as most efficiently performed by a group. He explains that the logic and associated evidenced-based findings identify that a group's problem-solving skills and knowledge exceed those of any single contributor.

Modern constructivist learning environments are technology-based in which learners are engaged in meaningful interactions. Emphasis is on learners who interpret and construct meaning based on their own experi-

ences and interactions. Therefore, if educators are to adopt a constructivist approach, they are now challenged to adapt and change instructional design strategies to actively engage learners in meaningful projects and activities that promote exploration, experimentation, construction, collaboration, and reflection of what these learners are studying.

Design of constructivist learning environments is important in enabling the effective use of collaboration. Learners share information to collaboratively construct socially shared knowledge [17]. Successful interaction between learners in the constructivist sense results in peers being identified as resources rather than competitors [32].

The development of meaning may take place within a social interaction that gives its individuals the opportunity to share and provide warrant for these meanings [29].

Richardson [29] claims that the psychological constructivism has been an important contribution, particularly for pedagogical processes.

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 [34]. Vadmani [34] 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 [9] 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.

Brithaupt, Fisher, Gardner, Raffo & Woodard [5] 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. Technology should be integrated seamlessly into the curriculum.

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

The Role of the Teacher and Effective Use of Technology

Teachers are essential to support learners as they interact [Yackel, 2002 in 1]. Moreover, ICT loses its advantages when lacking the correct guidance [8]. Since it is often hard for teachers to give up old habits in favor of new, they need support and guidance [Borko, Davinory, Bleim & Cumbo, 2000 in 1]

Vadmani [34] agrees, she claims that when integrating technologies the teacher cannot simply teach. Training must be provided both to teachers and to teacher students.

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.

The diagram 1 sums up her main conclusions.

In its 2009 report "Creating Effective Teaching and Learning Environments-first results from TALIS", the OECD [25] found out 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.

Ben Peretz [2] 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.

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 [Alexander & McKenzie, 1998; Bound & Prosser, 2002, in 8].

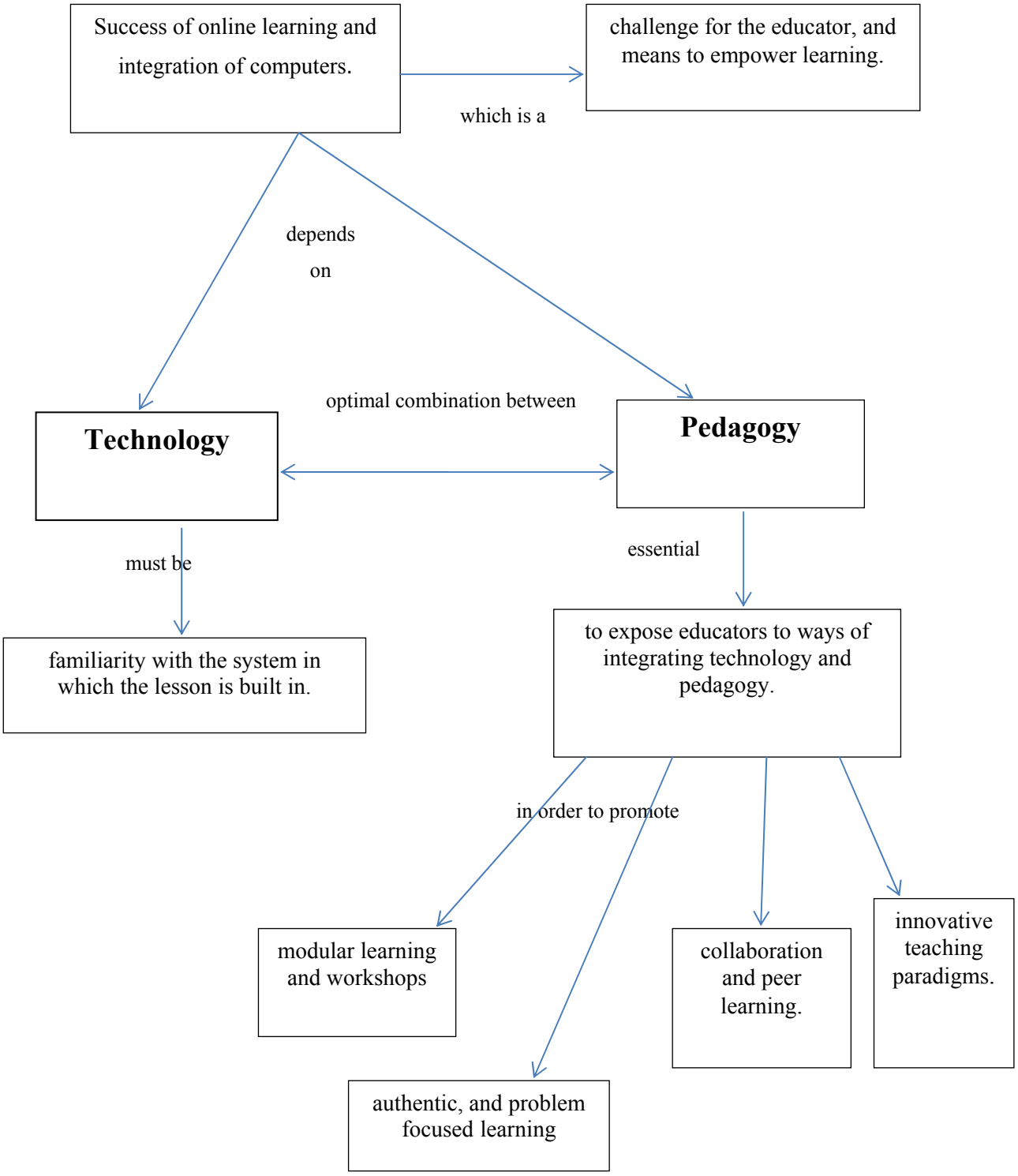

Diagram 1. Training for successful teaching.

Integrating Technology to Increase Interaction

Rising information and communication technologies could considerably enhance interaction and collaboration [11].

Knight, Almeroth, Mayer & Chun [19] claim that collaboration is one area in which technology consistently appears to improve student learning experiences. The following diagram 2 sums up their main conclusions.

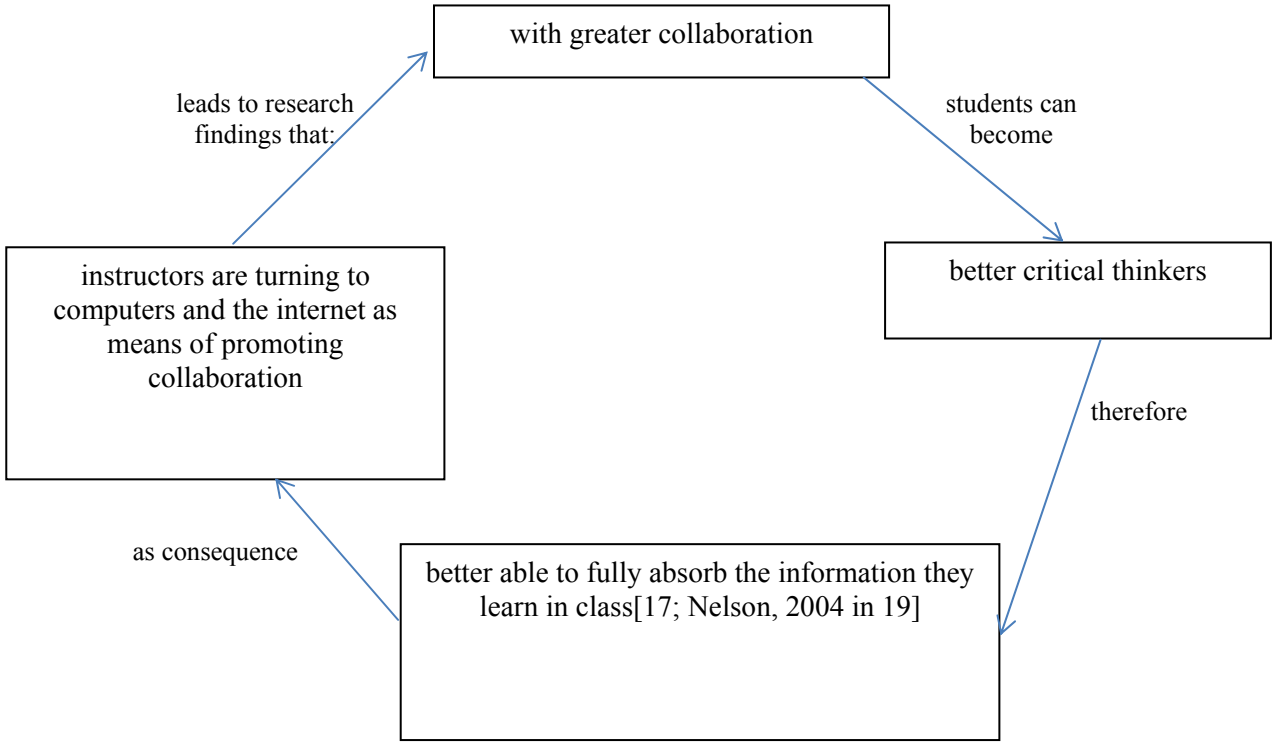

Diagram 2. Collaboration & Technology

Knight & others [19] divide interaction into two main classes as shown in the following diagram.

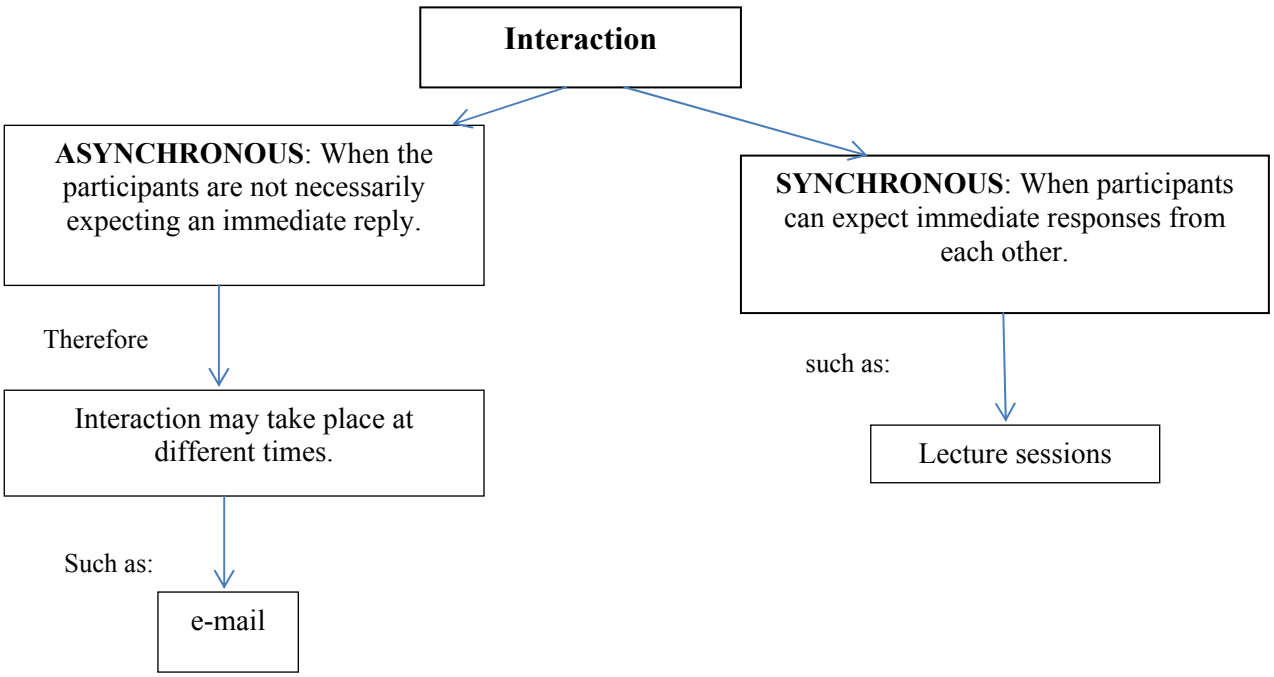

Diagram 3. Two main classes of interaction.

Technology has not remained static over time, newer technologies are being developed that may soon replace the old ones. In conclusion, Knight & others [19] recommend educators to continue to use technolo-

gies to their advantage, since it can help them extend interaction within and beyond the classroom, and thus to increase opportunities for collaborations.

Pineteh's [26] research shows that using this approach can promote quality peer interactions and collaborative learning.

He also reminds us that this current generation of learners is more technologically conscious and brings to school and university "a wide range of life experiences and interests" [Lillis, 2003 in 26, p.192].

As a result of the increasing presence of technology, educators are forced to be more imaginative and it encourages them to use teaching methods that are more stimulating and appealing to learners [26].

Critics of technology in education contend, that overexposure to social networks (e.g. facebook), infantilizes learners, affects academic performance and sometimes creates misleading impressions about learning [Considine et al, 2009; Scharber, 2009 in 26; 36].

Both Wintour [36] and Cross [2004, in 36] warn that virtual interactions, that include connecting with a wider population of peers, has had negative implications for the way learners socialize online and in the classroom.

Integrating Technology in Teaching in Israel

A decade ago, the Israeli educational psychologist Prof. Salomon, who received the Israel Prize for Education in 2001, claimed technology constitute the platform on which all learning and training are conducted. He believed that the more technology tools involved in the learning process, the higher and useful the construction of knowledge will be. Salomom added that effective use of these technology tools will enable the construction of knowledge and will encourage the learner to a process of making decisions [30].

After the first decade of the 21 century has past, Salomon [14] warns the education system of overloading computers in the classrooms. He urges the Israeli ministry of education to stop and think about the high hopes involved, in the past and in the future, in the power of computers to change the education system. Salomon agrees with most educators who claim that there is no advantage to the use of computers and technology as long as there is no change in the traditional role of the teacher.

Unfortunately, in 2010 policy document "Education in the 21 century", handed both to the prime minister and the minister of education, the conclusion is that the affective and fast way to promote the education system and meet the requirements of the 21st century is to provide more computers, via an implementation model called "Digital Schoolbag" (p.22).

It is surprising, since the document presents the data that 52% of school children in Israel think that school does not prepare them to the future and does not provide them the necessary skills to integrate in the job world of the 21st century. It also acknowledges the fact that the education system in Israel is not prepared to cope with the challenges of the current century and with globalization processes.

It is very disappointing that while reaching a conclusion, teachers and teaching methods were again neglected. Davidovich and Suan [8] explain that technology surged forward, leaving pedagogy far behind. Forkosh Baruch [13] adds that even today, many teacher training college lecturers are still not ICT literate [Goldstein, 2009 in 13] hence are not familiar with effective use of ICT environments and adapting them to innovative pedagogical paradigms [Reeves, 2003 in 13].

Vadmani [34] advises, in light of observing a beginning of awareness and doing in some schools, to keep using technology effectively in order to create a significant contribution that is relevant to life in school, and to form a growth lever for teaching and learning processes.

In the 2005, Israel "Strategic Plan for integrating e-learning to the educational system stage 4 draft 4.1", the writers acknowledge the growth of schools in which e-learning has become a natural everyday part of teaching and learning. Therefore they recommend on one hand to organize and distribute e-learning pedagogies and ICT teaching models, which were developed in these schools, and on the other hand to keep encouraging the entrepreneurs and developers to enlarge the teacher circles that take part in these processes.

Integrating Technology in Teaching in Moldova

The Higher Education (HE) institutions from Moldova are characterized by a limited use of digital services, limited ICT integration in their on-campus teaching, and a very low proportion of e-learning courses. Moreover, the provision of formal retraining for teachers from HE Institutions from Moldova for ICT implementation in the curricula is seldom and uncoordinated [18].

The WETEN[1] (western-eastern teacher education network) Project, a network of university teachers from European HE Institutions, is built to share expertise on effective learning and teaching in universities.

The conclusions of the trainings were not surprising: "Besides the knowledge on the proposed topics, the trainings have given the participants knowledge and experience:

• In online communication and collaboration.
• In collaboratively using of Web2.0 technologies and applications.
• In creating Personal Learning Environments.
• In participating in communities of practice [18, p.37]".

This also reinforces my claim that interaction and collaboration are necessary for effective e-Learning.

Following a case study about the training of trainers organized in the WETEN Karlsson & others [18] state that to assure quality learning process in Higher Education, continuous training of teachers is a priority.

The aim of 2011-2013 Project, "Modernization of education in Moldova-preparation of pedagogues and students for e-learning methodology enhances the access to flexible education", is to support reforms in the educational sector and to improve access to education as an instrument of social development through mediation of e-learning methodology as a form of flexible learning. The purpose of the project is to train Moldavian teachers and future teachers, in e-learning, and thus to contribute to modernization of learning of ICT skills.

This project could be inspiring unless pedagogy was not forgotten behind. Although "preparation of pedagogy" appears in this project's title, there is no evidence for actual preparation of pedagogy alongside e-learning training in the specifications.

Interviewed on February 2011, Dr. Besliu[2], admitted Moldova has only two universities with curriculum focusing on ICT. He thinks that young children should have access to ICT tools, since they are able to absorb the technology very quickly. Dr. Besliu points out that Moldova currently has no legal framework for e-Learning, therefore formal credits towards degree programs are not available through online education. He also acknowledges that "some face-to-face interaction in the education process is important. Dr. Besliu explains that many instructors are already working part time in the private sector, for salary reasons but more important, it enables them to keep on top of new emerging technologies. He urges the politicians to understand the role of communications, computers and ICT education in the future of Moldova, and to enlarge its exposure into the education system from primary schools. Dr. Besliu concludes saying that it will help learners become computer/internet literate in their future workplace, and more important, in normal society of the 21st century.

Integrating Technology in Teaching in Britain and USA

In June 2009, the government of Britain launched a national ambitious program, called "Digital Britain" in order to turn Britain to a digital country that leads the knowledge economy in the world.

This program's vision puts the education system as center axis, carrying out this vision, therefore it has been decided to provide technological infrastructure not only to schools, but also to parents' houses, in order to develop digital literacy, which is an essential skill for learning, working and living in this age [10].

As a result, ICT must be a central inseparable part of the curricula.

The resources needed to build the education system should be provided, in order for this system to improve and develop itself constantly and with no need for central intervention. The goal is to create an education system that can absorb the technological innovations and turn them to an integral part of the ongoing learning process [7].

According to Facer [12] the key challenges that UK will have to deal with in future education, focus on the following areas:

- Redesign of the educational framework of communication and virtual networks in the world.
- Development of a systematic strategy to support complex learning processes, which are not limited in space and time.
- Re-examination of educational goals in the context of changes and uncertainty in the global economic system.

President Obama initiated a law, which was approved in congress on May 2009, to ensure that the citizens of USA will be able to integrate successfully in the future job market. According to this law, the existing

[1] The WETEN is a three years project funded within the E TEUS Programme.. The project started in 2099 and is coordinated by Kaunas University of Technology, Lithunia (Karlsson & other, 2011).
[2] Dr. Victor Besliu is chairman of the Automation and Information Technology faculty at Moldova Technical University.

curricula will be adjusted to the skills of the 21st century. This 500 million budget law focuses on creativity and innovation, communication, cooperation and information and media literacy.

This law also indicates the importance of preparing the educators and teachers to intelligently integrate these skills in the pedagogical process.

The education reform leaders in the USA, view technology as a major strategic tool, and in its implementation – providing a quality learning opportunity for all students, creating of conditions for teaching in new and varied ways, and effective evaluation of the processes at all levels.

Conclusion

In this paper I 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 emphasize on constructive learning as a social matter. 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. In light of all this, findings are not surprising. It seems that pedagogy was forgotten while technology invents itself daily. In the words of Salomon [30]: "The computer is indeed a lever for change, but the lever, as levers normally do, is not working on its own. It is inconceivable that a crane hoists objects and moves them here and there just because it has the power to do so? The crane has an operator and the operator has an executable program. Any program is due to a broader vision of what is intended to be achieved by operating the crane" [30, p.9].

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