LEARNING THROUGHOUT THE NEW TECHNOLOGIES: OPPORTUNITIES AND CHALLENGES

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Abstract

The significant role of information and communication technology (ICT) in improving education has been identified by educational systems all over the world (Kozma & Anderson, 2002; Pelgrum, 2001; Hennessy, Ruthven, & Brindley, 2005; Goodison, 2003; Kangro & Kangro, 2004), that invested a great deal in increasing the number of computers in schools and in the networking of classrooms (Pelgrum, 2001). There were debates and opposite visions about whether the integration of new technologies threatens or is beneficial to education, however the current 'digital generation' of learners are conducting the debate into an inevitable agreement that of accepting the new rules imposed by information and communication world. However, and though the importance of technology in education will continue to increase (Becker & Ravitz, 2001) its integration in the school curriculum continues to be a complex and challenging process (Cooper, 1998). This paper is a review of different works that tackle the benefits and the constraints of a technology based pedagogy.

Introduction

The use of ICT throughout the world is noticing considerable influence on the future of education, because to produce successful members of the global marketplace, they need to be highly qualified in the field of information and communication technology. Roblyer and Edwards (2000) propose five reasons for teachers to use technology in education: (1) motivation, (2) distinctive instructional abilities, (3) higher productivity of teachers, (4) essential skills for the Information Age, and (5) support for new teaching techniques. Pelgrum (2001) has recognized that ICT is 'not only the backbone of the Information Age, but also an important catalyst and tool for inducing educational reforms that change our students into productive knowledge workers' (Pelgrum,2001: 2). In his international survey

of 26 countries (Belgium, Bulgaria, Canada, Cyprus, Czech Republic, Denmark, Finland, France, Hong Kong, Hungary, Iceland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, New Zealand, Norway, Russian Federation, Singapore, Slovenia, Slovak Republic, South Africa, Taiwan and Thailand) he examines the application of ICT in elementary and secondary schools, mainly the major barriers related to the use of ICT in classrooms. The study results reported by Pelgrum point out three top obstacles to the integration of ICT:

- Insufficient number of computers
- Teachers' lack of knowledge/skills, and
- Difficulty in integrating ICT in instruction.
- Pelgrum has also noticed in his worldwide survey that some changes happened in the role of the educational community (teachers, students and parents) after to the introduction of ICT in society. The following table illustrates Pelgrum's comparison between education in the industrial society and education in the information society:

Actor	Education in the Industrial Society	Education in the Information Society
School	• Isolated from society • Most information on school functioning is confidential	• Integrated in society • Information openly Available
Teacher	• Initiator of instruction • Whole class teaching • Evaluate students • Places low emphasis on communication skills	• Helps students find appropriate instructional path • Guides students' independent learning • Helps students evaluate their progress • Places high emphasis on communication skills
Student	• Mostly passive • Learns mostly at school • Hardly any teamwork • Takes questions from books or teachers • Learns answers	• More active • Learns at school and outside school • Much teamwork • Asks questions • Finds answers to questions • High interest in learning

		to questions • Low interest in learning	
Pa rent		• Hardly active in the learning process • No steering of instruction • No life-long learning model	• Very active in the learning process • Co-steering • Parents provide a model

Table 1. Comparison of Educational Roles in the Industrial Society and the Information society (Pelgrum, 2001: 2)

ICT Definition and Use in Education

ICT stands for Information and Communication Technology, generally used to refer to 'computing devices such as desktop computers, laptops, software or internet for instructional purposes' (Hew & Brush, 2007: 225). But ICT also surrounds other technologies such as radio, television and telephone technology. In other words, technologies that are used to 'transmit, store, create, share or exchange information'. Tinio Victoria (2002) gave another broad definition of ICTs as 'technologies as radio, television, DVD, telephone (both fixed and mobile), satellite system, computer and net work, hardware and software, as well as the equipment and services associated with these technologies such as videoconferencing and electronic mail' (Tinion, Victoria L, 2002). ICT according to Ian and Lowther refers more specifically to the 'use of technology by teachers for instructional preparation, instructional delivery, and technology as learning tool for students' (Ian & Lowther, 2010).

In FL teaching for example, ICT has developed from the earliest stages in audio tapes, word processing and CD ROM (Becker et al. 1999, Evelyn & Oliver, 1987), to the use of internet, MP3s, IPod, smart phones, power point presentation, video teleconferencing, online interaction, e-mails and social net working. The use of internet has made it possible to combine many of the previous multimedia services as tools for creating a 'Virtual Learning Environment' (VLE) that offers a better content management, innovates teaching and increases the active role of the student.

Using Technology to Support Distance Learning

The earlier form of distant learning known in Europe and then in all over the world, was done through correspondence. Nowadays, distance learning became narrowly related to online virtual

learning, where in addition to the physical separation between the teacher and the learner, accessibility represents a significant element in achieving success. Accessibility was proved by Temperton to be crucial for the success of students. He argues that the students who succeeded in their studies were the ones who had accessibility .i.e. they had networks in place to back up their study where the net works derive from family or friends, work colleagues, other students or their tutors (Simpson, 2003: 22)

One example of such innovative tools for distance learning is Moodle, which 'enables the management of online learning, provides a delivery mechanism, student tracking, assessment and access to resources' (Jisc, 2008). This tool encourages the learner-centred approach and interaction among students and teachers. Moreover, this kind of platform is seen as a good provider of authentic materials in learning such as allowing the combination of the four skills in a single task in FL teaching.

Kerkeb (2015) carried out an investigation to gather data concerning Moodle from the upcoming initiative to integrate it into the learning/teaching process at the University Centre of Ain Témouchent, Algeria, up to its point of use by teachers and students. For that intention, an interview was held with the prime engineer responsible for the installation and launch of the platform.

The results of Kerkeb's (2015) investigation shows that 'despite the good will for integrating new technological tools in the University Centre of Ain Témouchent' (Kerkeb, 2015: 6), direction towards that technology does not deliver a good turnout:

Moodle still remains unknown for the great majority of the Centre's population. Indeed, according to the latest verification (of 14 September 2015), the total number of Moodle members was only 711, comprising 620 students (including a few anonymous users from outside the country) out of 6000 students enrolled in the University Centre and 91 teachers out of 242 teachers overall. (Kerkeb, 2015: 6)

Kerkeb (2015) has related that lack of Moodle's popularity among the University Centre population to a number of issues. Simultaneously, she shads light upon crucial conditions that would determine the efficiency of the integration of a technology in our educational system:

1. Preparing the users: though the administration of the Centre organized study days (one day for teachers and one day for students) and provided the students with guides, additional effort still needs to be done in the practical field, by organizing workshops for example, especially for users who are not ICT specialists or may not be ICT savvy. One day is not sufficient to learn how to use new technologies or materials or to understand best practices because 'students need training in how to approach online texts with hyperlinks, for example. They need training in developing critical literacy skills (Vie, 2008 in Arnó-Macià, 2012: 99) and evaluating websites, and help in appreciating different genres of writing' (Luzon-Marco, 2002; Arno-Macia, 2012, in Kern, 2013: 102).

2. The promotion of the platform: though Moodle is an outstanding system that serves well distance learning and a learner-centred approach in higher education, the platform has not yet caught the interest of the main part of the target population, who find it much easier to communicate via Facebook or Skype. Therefore, the integration of any new technology does not depend just on providing the means and the tools with which that technology functions only, but it also and indeed mostly relies on a complete strategy being put in place that facilitates the installation of that technology and that can guarantee it will be embraced and adopted by the target population.

3. Changing minds: today's "digital learners" cannot be taught with the same centuries-old teaching methods any more. Being for or against the use and integration of new technologies into the educational system cannot change the fact that hereafter the strategies and methods of learning of the new generations of students will always call for, in one way or another, the use of the latest and the best technology that serves and facilitates their learning. Hence, for the present and future generations of teachers, their perceptions about the teaching methods should evolve and develop according to the options and the alternatives offered in that era, where information and communication technologies increasingly represent the standards of our lifestyles.

Unfortunately, and despite the clear demonstration of the benefits of using technology in education, there continues to be a marked reluctance by academics to engage with online learning (Anderson, 2008). Heaton-Shrestha, May and Burke (2009) found teachers to be much less positive than their students about the learning benefits of an online learning component. Becker and

Jokivirta (2007) also found that academics worldwide reported low enthusiasm for using technology in learning.

More recently, a large-scale study (over 4,500 teachers) by Allen et al. (2012) found that 65% of faculties were more afraid of teaching with technology than they were excited by the prospect. Over the past 15 years several factors have been identified as discouraging academic staff from teaching in online environments, including inadequate support and training, time for developing online materials, fears of failure, and beliefs about the value of technology in education. Mansvelt, Suddaby, O'Hara, and Gilbert (2009) presented findings from an online survey of 408 teachers and 40 qualitative interviews ascertaining beliefs and experiences of staff regarding elearning professional development. They found that managerial support, individual beliefs, and time allocation influenced the attitude of faculty to attending training to improve their use of technology in teaching. Allan (2007) also argued that using online learning for professional development would not be effective unless account was taken of two factors: the extra time involved in networked learning, and for people new to e-learning to adjust to this type of study. Greener (2009) reported that 'online, the teacher's status can easily be eroded, as learners can compare teacher-designed resources with video lectures from across the world on similar topics and chat directly with experts in the field through their blogs' (Greener, 2009: 267). The potential for such comparisons inclined teachers to be reluctant to expose themselves to ridicule or unflattering comparisons.

Conclusion

A number of studies have found that beliefs about the usefulness and effectiveness of technology influenced whether teachers integrated technology into their teaching (Aslı Özgün-Koca & İlhan Şen, 2006; MacCallum, 2011). Christie and Jurado (2009) also found that being convinced of the effectiveness of technology was necessary before teachers would fully engage with it.

In addition, and from the researcher's personal experience, one may conclude that integrating a technology-based form of training takes into account a number of inseparable factors wherein readiness is the crucial element that determines the success or not of that integration. In other words, the concerned educational population needs to consider (1) its psychological readiness, which

is its beliefs and conviction about the efficacy of the technology vis-à-vis success and failure in learning, (2) its enthusiasm for being trained and using that technology, (3) its readiness for providing and managing financial resources in developing a strong infrastructure.

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