

Use of Information and Communication Technology for Creative Learning

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ABSTRACT

ICT taps into young people's interests and expertise, exploits their curiosity to explore, and provides a stimulating set of tools to produce creative outcomes for the necessity of creativity and innovation in educational sets. It focuses on three interrelated enablers for change: technologies, culture and pedagogy. Technologies are already accepted by the young generation, who are appropriating ICT tools and in particular web 2.0 applications in new creative ways. New pedagogies have to take into account what it means to be educated in our times, as the overwhelming presence of technologies in our lives brings about a change in the way young people and children learn and understand. A cultural shift is also required

in order to promote values that are not always recognized in a school environment, such as risk-taking, uniqueness and originality. Teachers are key figures to implement change, but they need support to understand and accept creativity in their practices.

Keywords:

Information and Communication Technology, use of ITC, Creative Learning, New pedagogies, interests and expertise, creativity

Creativity is often seen as a talent, or as a characteristic of eminent people. Distinctive personality traits have been identified to exemplify a creative mind. At the same time, a number of studies recognize that creativity can be enhanced

and cultivated. How well are educational systems enhancing this transversal skill and promoting students creativity? Are schools creating the conditions for creativity to flourish? And, most of all, why should school address creativity? In this paper it will be discussed that creativity in education is not just an opportunity, but a necessity. First, several emerging trends entail an alteration in the way young people learn and understand (Redecker, 2008). The generation of the 'New Millennium Learners' is characterized by multitasking, short attention spans, gaining information in non-linear ways (Pedro, 2006). Teachers have to attract their interest and attention in a new way, and as a result the development of creative approaches is called for (Simplicio, 2000). We can say that creativity in education is not just an opportunity ,but a necessity, several emerging trends entail an alteration in the way young people learn and understand The generation of the 'New Millennium Learners' is characterized by multitasking, short attention spans, gaining information in non-linear ways (Pedro, 2006). Teachers have to attract their interest and attention in a new way, and as a result the development of creative approaches is called for

(Simplicio, 2000). Secondly, the current and forthcoming cohorts of learners are growing up surrounded by video games, mobile phones, and other digital media. This overwhelming spread of technologies brings a new understanding of communication, information retrieval and meaning-making. The gap between the school and home digital environment is thus affecting learners' expectations (Pedro, 2006), building up a perception of the current educational framework and format's inadequacy(Selinger, Stewart-Weeks, Wynn, & Cevenini, 2008), asking therefore for a creative and innovative approach to learning and teaching.

Third, creativity has been seen as a form of knowledge creation (Craft, 2005); it is hence, necessary to understand what creativity is and how it can benefit learning. In education, the term creativity is often used but seldom defined. As Beghetto (2005) points out, teachers might ask students to use their creativity in the design of a project, or might refer to a student's response as creative, without explaining what they mean. The role of ICT for creativity and innovation in education has become an important one over the past

decade. The rapid development of technology, mainly as a result of the Internet, has brought about an upsurge of technological tools which young people are appropriating in their everyday lives. In the past few years, the emergence of a new wave of technologies has been observed. The rapid uptake of these technologies, generally referred to as social computing applications, has also taken many by surprise. Social computing applications vary from social networking sites (like Facebook; MySpace); sharing of bookmarks, sharing of multimedia (Flickr; YouTube), online gaming (Second Life) and blogging to mention but a few. These applications offer new opportunities for people to express their creativity, make it available to a large audience and get feedback and recognition. Creativity and to be innovative.

Creativity can be both at the individual level, as well as the collective level. These applications demonstrate variety of means of how users learn how to learn, which according to Rogers (1983) a major component of creativity is. The example of blogging shows that there are various ways in which children learn how to write for a public, how to link their work to

other works, how to network with other bloggers and how to utilize the blog for their eventual career paths. Such activities show that users have understood the technology and hence are able to make new and valuable connections between old knowledge and new one. Writing becomes not merely a tool associated with homework, but also a tool which a student can utilize to network with other students, to share and co-produce material and to communicate with a wide audience with all its consequences. The process involved in appropriating such new technologies suggests that users learn how to learn in new, creative ways. The potential of technology for creative learning and innovative teaching can also be exploited in schools.

Continuous technological changes mean that learners today need to develop on the one hand positive attitudes towards change and, on the other hand, adaptability (Hinkley, 2001). As Hinkley argues, students in the future will endorse 'portfolio careers', moving through several careers and different jobs, including jobs that still do not exist today. Hence, it comes as no surprise that substantial pressure is being addressed towards schooling systems to acknowledge

new creative and innovative ways of dealing with continuous rapid development of technology and knowledge.

There are different ways of how users interact with technology in learning processes. Interaction with technology is primarily based on how users understand the capacity of technology. Loveless calls this level of learning 'active learning processes. Interaction with ICT provides users new ways of doing things: 'extend or enhance ability; novel ways of dealing with a task which might change the nature of the activity itself, or provide limitations and structure which influence the nature and boundaries of the activity' When learning to use a new technology, there are different ways users interact with it. As Loveless argues it is the interplay of human intention and activity which exploits the potential of a technology. Technology is endowed with an immense potential to innovate education (Blandow & Dyrenfurth, 1994; Ruiz i Tarrago, 1993). However teachers need to modify their teaching methods to accommodate the changed interaction and behavior patterns. The effective use of new technologies requires innovative teaching skills. When students are not provided with

an adequate understanding of the capabilities of technologies, there is a high probability that they will replicate familiar forms and ideas using the new tools, as opposed to using the new tools to explore new connections and different ways of fashioning (Loveless, 2008). In order for innovative teaching to take place, teachers need to be aware of the available resources and how such resources may be useful. Teachers, who are not conversant with the technologies they use in their teaching, may not feel comfortable showing their lack of expertise in front of their students. As Shaffer (2006) argues, if a teacher cannot read, it would be difficult to identify whether a book is bad or whether their reading is inadequate to judge the book. When it comes to technology, similar behavior is noted.

Digital technologies can provide children with potential opportunities to extend or enhance their abilities. They can allow users to create new ways of dealing with tasks which might then change the nature of the activity itself, or can influence the nature and boundaries of the activity. Approaches to creative learning using digital technologies include:

- **Knowledge building:** adapting and developing ideas, modeling, representing understanding in different modes.
- **Distributed cognition:** accessing resources, finding things out, writing, composing and presenting informational.
- **Community and communication:** exchanging and sharing communication, extending the context of activity, extending the participating community at local and global level.
- **Engagement:** exploring and playing, acknowledging risk and uncertainty, working with different dimensions of interactivity, responding to immediacy. (Loveless, 2008; p.64)

Children need to be able to use ICT to support their learning across all areas of the relevant curriculum framework. Developing ICT skills helps prepare children for the world which is rapidly being transformed by technology. They need to learn the ICT skills necessary for work and everyday life, such as using the internet and email or computer programs for business,

home and study. Using ICT can help to promote children's early learning by helping them to learn how use a computer for word processing, develop pictures using 'paint' software, make tables or graphs, and access information via the internet. Practitioners should use ICT to support play and learning in other curriculum subjects in ways that are stimulating and enjoyable for children, according to their ages, needs and abilities. Working in partnership with families can support children's learning through ICT; you could provide opportunities for families to participate in ICT workshops, or request parent/career helpers for ICT activities. ICT can help to promote children's learning by enabling them to:

- access, select and interpret information
- recognize patterns, relationships and behaviors
- observe, explore and describe patterns in number,
- shape and data
- develop problem-solving skills including logic and
- reasoning
- experiment and gain knowledge from feedback.

- model, predict and hypothesizes
- test reliability and accuracy
- review and modify their work to improve the quality
- communicate with others and present information in a variety of ways
- be creative and imaginative
- gain confidence and independence.

Teachers need to help young children to develop their skills, competence and independence when using ICT equipment. Here is a brief outline of what you can expect from young children using ICT:

- Show an interest in ICT, such as playing with remote-controlled cars.
- Know how to operate simple equipment, such as playing a ‘tune’ on a musical keyboard.
- Complete a simple program on the computer and/or perform simple functions on ICT apparatus; for example, using an interactive whiteboard.
- Find out about and identify the uses of everyday technology.
- Use ICT and programmable toys to support their learning; for example,

using a digital camera and then presentational software to make a slideshow.

Conclusion

This paper argues for the necessity of creativity and innovation in educational sets. Creative learning is defined as any learning privileging understanding over memorization; creativity is thus a transversal skill facilitating a specific form of learning, requiring understanding, meaning-making and active participation. Creative learning is therefore increasingly relevant for the needs of the 21st century knowledge-based society. A shift in learning asks for a change in teaching practices and methods, this is why this paper also addressed innovative teaching, which is understood as the implementation of new teaching methods, formats and practices aimed at fostering teachers and students creativity.

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