New Perspectives in Science Education
International Conference
NEW PERSPECTIVES in SCIENCE EDUCATION


The Educational and Didactic Enhancement of the Technological Learning Environment

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Abstract

The concept of a learning environment emerges within the constructivist paradigm as an evolution of the notion of context; the systemic theories and those on group dynamics have provided the theoretical starting point for the construction of reflections on the new learning contexts changed in the age of technology. According to the studies analyzed, the learning environments are described by three fundamental characteristics: the setting, the teaching methodology used and the reference theory that legitimizes and makes the educational process effective. The purpose of this article is to examine some positive and negative effects of technology on teenagers' learning styles and group dynamics. From a methodological perspective, it will be provided a systematic review of the existing literature on both contemporary teaching experiences, by examining the types of learning contexts experimented, and on educational strategies aimed at promoting positive effects through the analysis of the relationships between technology and learning processes. By comparing empirical studies and international experiences, it can be suggested that technological learning environments play a key role in the revival of the educational function and in the promotion of scholastic success, as the effective use of technology could facilitate and decree the educational success of the students.

Keywords: *didactic methodologies, media education, technology , learning objects*

1. Introduction

In the circle of the studies on the educational strategies, the theme of the technological environments of learning (namely the environment of innovative learning sets to the center the development and the involvement in the process of learning of the social and emotional abilities, the exploitation of the individual differences strengthened by horizontal relationships) is to the center of a debate multidisciplinare increased in the last twenty years in concomitance with the advent of the digital era [1]. Unlike the blanded communities, in which the didactics in presence is integrates with the absence of interaction thanks to the use of the technology, the technological environments of learning exploit the potentialities of the technologies to mostly make the learning in effective and involving presence, to personalize the lessons on the individual differences of the students and to hardly experiment usable theoretical paradigms in a frontal lesson centered on the teacher [2]. In the contemporary neoliberal and post-capitalistic system, the mediation in the process of teaching/learning of the computer technology has become essential to the point to be considered at the researchers as a basic literacy inside a global standardized curriculum [3]. In this learning community the discussions are finalized at group products or shared learning. The pedagogical idea, that starts the training process, is the construction of collaborative knowledge, thanks to the interaction between the members and non pre-built previously knowledge. The specialized literature underlines as the evolution of the use of the technologies employed in the formation is passed by the phase of planning and experimentation to that today's of monitoraggio, evaluation and ri-planning.

2. Materials, methods and positive effects of digital learning objects

A systematic review of the existing literature on the topics of Media education, Technology and Learning objects (elements of the environments of technological learning) that have been used as keywords to search for articles in the main international databases. Finally, the contributions were selected looking for abstracts and articles published on the themes of this study. In general, many studies consider the development of learning objects (LO) as a valuable element, in fact they have noticed that although they are effective in didactic practice they are monolithic and few transferable so much that the studies of the last decade have focused on the development of international standards [4]. The LO (digital tool usable for the learning, the education and the training) have been planned for the contingent purposes of the formation till now, never for reuse and this it poorly makes them adaptable to new educational demands. The challenge lies in the sustainable development of LO

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technologies, in which we must combine the pedagogical perspective of building an LO aimed at a clear and specific goal and then making it reusable in another context. This purpose can be pursued with a partial modification of the LOs which determines its adaptability.

keywords	Studies analized (2012-2017)
Media education;	n.8
Technology;	n.7
Learning objects	n.12
	Total n.27

Table 1. Number of studies analyzed in this paper

In a Systematic Review [5] has been shown that digital LOs are used more in higher school settings and to motivate students; they are mainly used in group work and applied above all in the study of the humanistic disciplines and science. It is hoped that the research will address toward the education of adults and early childhood also through the use of digital games. Active participation through LOs in educational tasks and social relationships produces a sense of affiliation that it influences the roles and identities of the members and decrees the formative success of the experiences. The logic of LOs is that of networking, in which technology allows to assemble the attention both in the individual learning that collective, both on interactions individual-individual that individual-group [6]. Among the most successful LOs in international teaching practice are the products of shared culture in the form of WIKI, although they set themselves the goal of building a shared encyclopedic knowledge are of dubious scientific value if it is not supported by the validation of the teacher.

3. Results and discussions

In this section, the main contents of the selected literature will focused on negative effects of technological environments of learning. The present study provides interesting theoretical ideas on the basis of which subsequent studies can be made to investigate the positive and negative effects of the LO in the environments of digital learning. LO's uses are still scarce in the fields of well-being, health and psychopathological risk in adolescence. The use in geography, especially of localization software, requires further development for the unacceptable scarce precision of the information in a scholastic context. Scarcity of equipped laboratories and suitable tools are the basis for the construction of technological learning environments [7]. A disturbing negative effect regards the difficulty in selecting the useful information when the search tool used is the web. Another disadvantage concerns the research samples; in the consulted studies the sample used is always relatively large and, instead, studies are scarce on single subjects, on individual differences or on special needs of students, even though the technological environments of learning are aimed at small groups. If the process of learning is exclusively submitted to the methodology of the technological environments of learning, it may risk that the contributions of the members may be of scarse quality, especially if we consider the age variables and purposes for which the educational context is used. Sometimes to escape from demotivating drifts towards the study or a lack of interactions it is necessary to integrate also other teaching methods (tutoring, peer to peer, etc.). However, technology has not always been blindly followed by students, since it has been demonstrated that when students of music education, for example, are questioned about their preferences between teacher or computer feedback, they had answered to prefer a human feedback to that provided by a computerized program, thus demonstrating the relational and emotional value of education not yet achieved by technological tools [8].

Positive effects	Negative effects
• Used in higher school settings	• Scarce use in the fields of well-being, health and psychopathological risk in adolescence
• To motivate students	• Scarce precision of localization
• Used in humanistic disciplines and	• Scarcity of equipped laboratories and

science	suitable tools
• Social relationships and a sense of affiliation	• Scarce studies on single subjects, on individual differences or on special needs of students
• The formative success	• The difficulty in selecting the useful information on web

Table 2. positive and negative effects of LO

4. Conclusions

Although the technological environments of learning are the educational novelty of our millennium, it needs further studies and experimentations that explore all the potentialities of this system. The risks of technology connected to mobile devices and social networks are an extremism of individualism and a leaving from social relations [9]. Technological learning environments, even if they are closed communities, can become a cell of inclusive societies inside ampler global fabric. The exchange between them, thanks to LOs, becomes continually virtual and real trying to reach cooperative behavior among the members [10]. The use of technologies in learning environments expands the interaction space and more possibilities to actively express themselves for the students.

From a psychological point of view, in these communities the proactive behaviors and the problem solving are developed and it is improved communication even in intercultural contexts. In these dynamics emerges a new concept of identity mediated by the processes of learning that implies a reconstruction of the image of the self that the web fragments into a multiplicity of identities [11]. Identity emerges through a dynamic relationship with others and this makes significant technological learning environments in the process of cultural and social construction of oneself. The LOs studied in this paper are subject to a double review: from a side the search for greater adaptability and reusability in educational contexts, on the other a specialization in relation to the disciplinary differences of the lessons given at school related to LO that can develop skills writing, communication, visuals, audio etc. According to the studies consulted, the inefficiency of LO depends on the lack of sufficient experimentation and theoretical reflection on the topic. The didactic practice for building multimedia classes involves, in addition to using computers, the use of CDs, Projectors, DVD players and LD / VCDs, blackboard LIM, amplifiers and software. Today, there are programs that have been developed to allow students without cultural background to create research. However, there are many hesitations to incorporate technology into the classroom. Many of these hesitations can be attributed to the lack of knowledge of available programs. Linguistic skills for example, are no longer needed to compose or write a school research, but WIKI technology for creating cultural text also allows those who do not have the traditional study to do writing texts for school. Technology also allows students to express their cultural ideas more easily, allowing them to participate while being culturally disadvantaged.

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