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Devices and digitized content in Primary Education.

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Contribution

Devices and digitized content in Primary Education.

Due to the latest changes in our society, it is necessary to offer students of different school stages new skills and abilities in line with current challenges. The digitization of curricular contents, the web accessibility and the use of mobile devices in the

classrooms constitute one of the conditions to establish the new pedagogical order that is demanded for schools in the 21st century (Lindgren, 2015; Mishra & Koehler, 2006; Unesco, 2012). Education professionals must be aware that changing the media to transmit the curriculum content does not guarantee the achievement of good academic results. All of this makes us wonder: to what extent the presence of technologies can stimulate changes in teaching models? And, what are the functions of digital content in schools?

Undoubtedly, the different administrations have been, for years, promoting experimental programs that promote the transfer of technologies to school systems (e.g. Digital Culture Plan at School). Among these programs, we highlight those that provide technological equipment and Internet access in educational centers and, on the other hand, those that introduce the use of mobile devices, such as tablets, for curriculum development in the classroom. Both lines of action are linked to guidelines laid down by the field of production and distribution of digital content (Bustamante, 2011).

The presence of these technologies affects both the design and development of the curriculum (Gimeno, 2015) and the management of the institution. In fact, the migration of content in traditional format —the textbook— to the digital one is linked to the demand to facilitate a new model of government in the centers. The "management revolution", as Ducker (1993, p. 51) points out, has succeeded in placing "management" first, leaving "the factors of production" in the background. Management is "providing knowledge to find out how existing knowledge can be applied to produce results".

The inclusion of tablets in classrooms, along with other didactic resources, does not lead to the consolidation of a non-hierarchical management model, as Díaz, Civís y Longás (2013, p. 219) point out. It is alluded to a management model where centralized control is maintained, in which accountability is presented through continuous assessments of contents, formats and knowledge produced and reproduced in classrooms.

In this contribution we present the evolution of a research that analyzes the implementation of digital devices and the transformation of curricular contents. This research begins in a pre-competitive research project funded by the University of Valencia, where the transfer of technologies is studied as a resource that offers to the educational institution a new organizational and management system. Specifically, it offers the analysis of the transition from the traditional textbook to the digital one. Once finished, we tackle a new project of the National R&D&I Plan (Escuel@ Digit@l, EDU2015-64593-R), which continues the objective of analyzing the current state of production, distribution and use of didactic materials in digital format.

Method

Through a qualitative methodology, we study the transformation of the traditional textbook by using materials and resources in digital format. In this project, our main objective is to analyze and identify the main strategies in the design and distribution of the curricular materials in a digital support. We are interested in studying the position held by the different educational agents involved: publishing industry, teachers, families and students.

Based on the contributions of several authors (Álvarez-Gayou, 2005; Buendía, 1997; Gibbs, 2012; Shulman, 1989; Taylor & Bogdan, 2010), we assume that the adoption of the methodological approach is justified. With this approach, we aim to build knowledge by focusing on subjectivity and intersubjectivity in the context of the events. It is based on the descriptive discourse of the understanding of a concrete phenomenon (Angrosino, 2012; Gibbs, 2012).

The procedures and research techniques used to facilitate triangulation are: the document analysis, interviews, surveys and discussion groups. The process has been carried out in three phases of analysis: (1) review of the state of the art, development of the template for data collection and script interviews; (2) documentary analysis, conceptual mapping, semi-structured interviews and transcripts, reports, surveys; (3) elaboration of a Protocol for the selection of curricular materials in digital format and its subsequent validation among the participating teachers.

Expected Outcomes

From the process followed we infer that the use of mobile devices in the classroom increases students' motivation towards learning; innovating in education means going beyond the introduction of technologies. A methodological change is necessary to open new spaces for dialogue, participation and collaboration between those involved in the teaching-learning process, corresponding with the studies of Dewey (1916).

We observe that the most important functions of school education institutions, within the framework of the new ecology of learning, are focused on helping students construct meanings about themselves that enable them to continue learning, as Coll (2013) puts it.

The agents involved recognize the need for the Administration to accompany the teachers in the process of change. This demand materializes in the endowment of resources and permanent formation in the use of devices and digitized contents. This task requires the formation of its practical thinking as well as understanding, decision-making and actions, which are outlined areas by Pérez Gómez (2012).
As a result of the first study, we have designed, validated and implemented a Protocol (http://roderic.uv.es/handle/10550/53577) for the evaluation and selection of digital curricular materials (Peirats, Gallardo, San Martín & Waliño, 2016). In this way, we started reflection processes among teachers for the improvement of educational practice, through the analysis of resources based on pedagogical, technological and economic criteria.

We propose new lines of research: study of professional teacher development, strategies for selection and use of technological tools, design and elaboration of curricular contents in digital format and, finally, institutional strategies to integrate new resources into the school organization.

In short, our work shows that the implementation of digital devices and content in Primary Education represents an improvement in the motivation of students, although it requires greater coordination among administrations, training and adaptation of procedures of access to new resources.

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