Innovating School Through ITC: a Pilot Experience in Sardinia

Chiara Belotti*

Author information

* Phd in Educational Sciences, Università Cattolica del Sacro Cuore, Milan, Italy. E-mail: chibelotti@gmail.com

HOW TO CITE

Innovating School Through ITC: a Pilot Experience in Sardinia

Chiara Belotti*

[Review of the book: *Innovare a scuola. Insegnanti, studenti, tecnologie digitali*, by M. Pitzalis, M. Porcu, A. De Feo and F. Giambona, Il Mulino, Bologna, 2016. ISBN 978-88-15-26412-1]

The Digital School as a strategic European objective has encouraged and stimulated important experiments and innovations in the school system of the countries belonging to the Union. Also in Italy important projects have started, sometimes personalized with ambition, competence and peculiarities.

Innovare a scuola (in English: Innovating at school) follows in the title the same ambition of the project to which it reports and which fits into the positive climate that associates ICT with the renewal of the entire education system. Many are the texts produced in literature, both ex ante (to provide explanations from the theoretical point of view and to justify strategic and educational choices) and ex post (to reflect on past experiences) by applying theories, personalization of the didactic paths and the fielding of expertise, network sharing and the vision of what can be left out of ICT in the classroom.

As a matter of fact, the book is a part of an ex-post narrative, a reasoned account of a journey that is concluded but aims at the future, in other words, a systemic action that has thrown the seeds for the growth and realization of a profound educational innovation. The text therefore reports experiences, data and results collected through a detailed research work, related to the project Scuola Digitale-Semid@s, that affected the entire Sardinian scholar system from 2010 to 2015. Semid@s is an ambitious project that engages in the positive vision that "Europe 2020" has about technology in education

* Phd in Educational Sciences, Università Cattolica del Sacro Cuore, Milan, Italy. E-mail: chibelotti@gmail.com

and that in Italy had been put into the effect by the Digital Plane[1] (In Italian: *Piano Digitale*). During years, the plan has been provided for the gradual and continuous introduction of ICT materials, the implementation of innovative activities of training, and the contribution of infrastructural changes to achieve that inclusive change so much desired in the document.

Through statistical and qualitative data analysis, the authors carry out a careful examination and a research of the project developed on the Sardinian island but the same can be generalized to what has been achieved throughout the national Italian territory. Actually, the Semid@s formula is the same that is noted down the Italian digital agenda: from the installation of an IWB (Interactive White Board, in Italian: LIM, Lavagna Interattiva Multimediale) in each classroom, to the training of teachers in different schools, to the scientific observation of changes.

The book, as the result of a collective reflection of the four authors, is organised into three parts and ends with several methodological appendices.

The first chapter, written by Marco Pitzalis and Mariano Porcu, moves from the results of the OECD-PISA surveys to reconsider them in a sociological perspective, according to Bourdieu and Passeron (1970)[2]. In fact, this section wants to support the hypothesis that the digital divide, or rather the difference in access to the internet and technologies, influences the processes of schooling both at a macro and micro level. In particular, the researchers revisit the Bourdieu's concepts of capital (1986)[3], adding a fifth type of capital, the digital capital. The inspiring idea is that of cultural capital, which is owned by everyone and determined by the context in which he/she is born, grows and operates. In this sense, the OECD-PISA surveys highlight the impact of ownership and technological competence in relation to school performance. So, the assist that the surveys provide to the research here presented, is very important considering that the educational institution is the place where the cultural gap is revealed and is going to undermine the path and the performance of the student. Indeed, in surveys involving students, the researchers have actually drawn up a ranking of the same considering

---

[1]   The National Digital School Plan (PNSD) is the address document of the Ministry of Education, University and Research for a new planning of the educational system in dialogue with the digital age and for the launch of an overall innovation strategy of the Italian school. See at: http://www.miur.gov.it/scuola-digitale

[2]   The authors place themselves in a critical attitude with respect to the scholastic system which, rather than favoring social mobility, tends to reproduce the social structure of belonging of the students. This happens because education does not spread knowledge but transmits habitus that relate to the relationship with knowledge.

[3]   The concept of capital is a set of goods that accumulate and become extinct. Usually only the economic one is considered. But Bourdieu considered also the cultural capital, the social capital, and the symbolic capital. These capitals are part of each individual, handed down by the social extraction of origin and may be the reason for social inequalities in terms of opportunities and social transition.

four variables ranging from possession of books and their quality, to the possession and use of technologies and the Internet, attitudes towards reading, school behavior and the prospect of future study. Digital capital is one of the components of cultural capital, but the real difference in social progress is determined, according to the convictions of the research team, by what is called "a proactive attitude towards school and culture" (p. 28).

The second chapter by Antonietta De Feo and Marco Pitzalis, reconstructs the experience of the design process by focusing attention on the role that the LIM has played in the "revolution" of learning. Starting from a constructivist point of view, an ethnographic research on students, teachers and school managers had been carried out about the inclusion of the IWB in the teaching-learning process, and about the changes made by it. The chapter dedicates the concluding space to the concept of interactivity both in its classic and common explication, by endorsing design choices thanks to the contribution of Beauchamp and Kennewell (2010)[4]. Then the IWB as an artefact that, like a material synecdoche, is increasingly identified with a) interactivity, which means the connection with the network, b) the interactivity of those who use it in relation to the instrument, and c) the interactivity *latu sensu*, that is to say the innovative contribution given by the IWB to teaching and pedagogy. The authors emphasize the polyvalent channels of interactivity: on the one side, the instrument improves capacity, technical and theoretical skills and knowledge of the users, and from the other side there is interactivity between teacher and student that also changes through the mediation of technology. Moving from a "school autonomy" (see the National Law 59/1997) perspective, with the aim of leaving white paper to schools so that they could express their vision at their best and their own educational mission, through a deliberate and well-chosen choice of new technologies to be included in the classroom, in an inclusive and positivist perspective aimed at improving the didactic offer.

The characteristic element of the text is the objective and critical narration of the whole design process: from its genesis, to development, till its conclusion. All this has been made with impartiality, especially underlining the profound changes that led to significant variations as compared to the hypothesis of initial realization, the motivations underlying the choices both economic and educational, the overall perception of the actors involved in the project and the acquired results. The result is an ambitious school slowed down by a bureaucratic overload that forces to resume its projects, to review them, recalibrate and propose them again. The entire text, while focusing on

---

[4] According to authors, the LIM stimulates the attentional capacities thanks to the sensorial stimulus and the activation of interactivity between the instrument and the user.

the research carried out in the Sardinian region, never forgetting the reference and connection to the National plan "Scuola Digitale", by MIUR.

The third and final chapter focuses on the Semid@s project, realization of the Digital Plan in Sardinia which has made the region one of the most technologically equipped in Italy, thanks to the inclusion of an IWB and a tablet in each classroom. The following step is an explanation of the research that has chosen a sample among the schools. 342 teachers were interviewed who answered a questionnaire made available on a special online platform. The questionnaire was built on the basis of a careful qualitative analysis conducted through interviews, direct observations and focus groups. The result was a questionnaire divided into seven sections: characteristics of the respondent, training, refresher and professional practices, environment and activities with the IWB, use and attitudes towards ICT (p. 119).

The research has painted an interesting picture of the Italian teacher who lives the new working environment, altered by ICTs, from several points of view:

The training point of view. For years the Italian teachers have been involved in updating activities and they have been pushed for the start of a "transfer of expertise" among colleagues in their work environment. By sharing good practices, they profit of the contagion of enthusiasm and the drive towards the use of technologies, until the introduction of ICTs in the classroom made them shift from an exceptional novelty to a normalized element of their job.

The point of view of teaching practice. In a certain sense teachers were obliged to get involved and try out the new artefact introduced in the classroom, in addition to, or in replacement of, the "old" ones. The new didactic support challenges the professional to test himself about his own abilities and skills, and to reinvent his didactic praxis.

The teacher performance point of view. Through the introduction of ICTs, the teacher has also participated to a sort of Copernican revolution about the perception of his own role. As a central figure in the learning process, he/she becomes instead a part of a complex dialogue in which each figure is active, involved and constructive. In many cases reported in the book, teachers asked for the contribution or advice of learners who became technicians and helpers with respect to the activation of PC or software.

Therefore with the use of the IWB in the classroom teacher's authority and authoritativeness are reviewed in a new perspective. The teacher no longer plays his authority as the only one holder of knowledge but he/she can display an authoritative personality, able to admit student's limits, to create collaborative situations and to base the acquisition of knowledge on shared construction. Placing IWB and tablets in the classroom means revisiting the spaces; and revisiting the spaces means, in turn, recreating the pedagogical

discourse, re-evaluating the roles of the training action and reshaping the pedagogical dialogue.

Finally, the appendices consist of a well-detailed summary of the in-filed research: items, data, parameters for analysis, etc. In this way the authors guide the reader in the actual comprehension of the text and the accuracy of the deep research work therein underlined. In conclusion, *Innovare a scuola* is a useful text to retrace an experimental design in progress. The objectivity with which it had been written allows the reader to clearly understand the strengths and weaknesses that represent the fatigue and daily commitment of using technology for education. A continuous mediation between will and feasibility has not prevented the achievement of high and ambitious objectives, such as the renewal of the teacher's identity, the application of social learning, the possibility of reducing the cultural gap between students. Actually, the Semid@s project fully reflects the declination of Europe 2020, defined as "*a strategy for smart, sustainable and inclusive growth*". The project, from what emerges in the text, has been realized according to the "*imperatives of competitiveness and productivity of the knowledge society*", clearly in terms of non-exclusion, sustainability and inclusion of all, thanks to the opportunity for continuous remodeling and customisation of the routes. The book well conveys the enthusiasm that the Semid@s project traces of a Europe that aims to raise the levels of learning of all "active" citizens.

References

Bourdieu, P. & Passeron, J.C. (1970). *La réproduction. Élements pour une théorie du système d'enseignement,* Paris, Minuit.

Bourdieu, P. (1986). The Forms of Capital. In *Handbook of Theory and Research for the Sociology of Education,* edited by J. G. Richardson. New York: Greenwood Press, 241-258.

Beuchamp, G. & Kennewell, S. (2010). Interactivity in the classroom and its impact on learning, *Computers & Education.* 54(3), 759-766. Retrived from: https://www.researchgate.net/publication/223678380_Interactivity_in_the_classroom_and_its_impact_on_learning;