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An Italian Pilot Experience in Game Making for Learning

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Keywords: game making, game-based learning, 21st Century skills, transversal skills, game authoring environment

Case Overview

This case study draws on a pilot experience investigating learners' digital game making as an educational strategy for adoption in schools. It was one of a series of classroom pilots run within an EC project called MAGICAL - Making Games in Collaboration for Learning[1]. The main research aim of MAGICAL and of the reported pilot was to investigate the viability and educational added value of digital game making, especially for supporting transversal 21st century skills such as collaboration, creativity, problem solving and ICT literacy.

The experience was conducted by three researchers from the Italian Research Council's Institute for Education Technology (ITD-CNR)[2]. It took place towards the end of the 2013-14 school year at a primary school located in the city of Genoa in northwest Italy. Three third-grade classes and two fifth grades took part, with an overall participant population of 102 students and eight teachers. For this pilot, a digital game-making platform called Magos Lite[3] was employed. This was developed within MAGICAL for adoption in the project's field experiments and also for use by the education community at large.

In planning and implementing the experience, the research team adopted a design-

[1] tinyurl.com/magicaldoor

[2] http://www.itd.cnr.it/

[3] http://magos.pori.tut.fi/

based research approach (Cobb et al., 2003), and drew on specifications defined within MAGICAL for performing field activities and for gathering related research data. The specifications included a reference activity scenario comprising an initial phase of teacher introduction and preparation, a sequence of three ninety-minute classroom sessions for each class involved, and subsequent debriefing for both students and teachers. Data were gathered through the entire sequence of pilot activities using the project's proscribed research protocol and tools.

This chapter begins by examining the rationale behind digital game making as an approach to learning and also the strategy that was adopted for implementing and deploying this approach in the field. Subsequently, the tools and methods adopted in MAGICAL pilot activities are described, and a description is given of the particular context and population involved. This is followed by an account of the activities that were carried out in the case study. Finally, an overview of results and outcomes is given, together with some general considerations about the lessons learnt, the open issues and the prospects the authors see for digital game making as a means for educational innovation.

Background

Overview of ICT in Italy's schools

The pattern of ICT use in Italian schools is varied, with isolated pockets of consolidated integration, even excellence, set against an education landscape that is largely resistant to innovation generally and Technology Enhanced Learning (TEL) in particular. A number of underlying structural conditions make it especially difficult for TEL practices to take root and spread in Italy's school system. To begin with, the country has one of the lowest levels of education funding by GDP in the OECD (although on a per-student basis spending is average), as well as the oldest, most stagnant teacher pool (OECD, 2014). At the same time, successive national governments have sought to introduce their own particular raft of education reforms and initiatives, including measures to address the ICT shortfall and kick-start the uptake of TEL. This has led to volatile educational policy-making and a tendency towards short-term measures that have relatively little knock-on effect or sustained impact in the longer term.

Compared to other developed countries, access to digital technology in Italy's schools is low (European Union, 2013). In 2011-2012, computer-to-student ratios in primary schools was six per 100 (EU average 14.5) and 80% of students attended schools with low or inexistent internet connectivity. The ratio in lower secondary schools is little better: 8.3 per 100, putting Italy near the bottom of EU rankings (average 21.1). Only 6% of Italy's students attend schools with advanced digital equipment against an EU average of 37%.

Computers in schools are generally confined to separate computer labs with often outdated equipment and low levels of technical support. Recent promotion of

interactive whiteboards has resulted in numerous schools introducing an IWB in one or more classrooms, although indications are that, like computer labs, these are used on a fairly sporadic basis, and usually by a small core of the teaching staff. The use of networked tablets and other mobile technologies is confined to isolated experimentation.

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ACKNOWLEDGEMENTS / DISCLAIMER

The authors wish to express their sincere thanks to the schools, teachers and learners who took part in the Italian field pilots performed in the MAGICAL project.

The MAGICAL project was funded with support from the European Commission. This communication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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