Co-Operative E-Learning for Multilingual and Multicultural Education:
From "Classroom 2.0" to "Technologies 4.0"

Jonathan Bishop
iD https://orcid.org/0000-0002-9919-7602
Crocels Community Media Group, UK

Ray Kingdon
University of Glamorgan, UK

Mike Reddy
University of Glamorgan, UK

EXECUTIVE SUMMARY

The Classroom 2.0 initiative is one of the most fundamental reforms to the way education is performed across the European Union. Starting its life at the 'Digital Classroom of Tomorrow' (DCOT) Project in Wales, the initiative has shown that concepts like electronic individual education programmes (eIEPs) and the electronic twinning of schools (eTwinning) can play an important role in enhancing learning outcomes for school age learners. This chapter presents a review of the impact of the original Classroom 2.0 Project – DCOT – and explores some of the technical issues essential to the project's success across Europe and how this has led to Technologies 4.0, which has taken the form of 'Supporting Information and Education with Multimedia and E-Learning for Networked Societies' (SIEMENS) in Wales.

INTRODUCTION

One thing historians always talking about with the European Union is its set-backs in terms of peace from Roman times to the end of the Second World War. The Treaty of Rome, which led to the European Union, is one of the most successful peace treaties in history it is said. One of the major clashes beyond battles over territory has always been language, and much of this is alive today. In Belgium there are tensions between the Dutch speaking Flemish and the French speaking Walloons. In Wales there are battles between those who want to further the Welsh language and those who think English should be the only language. This study shows how the user of modern computing technology in which instruction in no longer based on physical, or face-to-face communication in order to teach students since instruction that evolved from a triangle of school-teacher-student to multifaceted and multi-channel alternatives (Durnalı, Orakcı, & Aktan, 2019; Durnalı, Orakcı, & Özkan, 2018; Orakcı, 2020; Orakcı, & Gelişli, 2021; Susam, Durnalı, & Orakcı, 2020) can be used to cross borders so that people from different cultures can communicate with one another – called eTwinning. The present study further shows how by using instant translation systems it can be possible for people of one language to communicate with others of a different language in a different school, different community or even a different country. This whole concept together is what is known as Classroom 2.0. It differs from neologisms like E-Learning 2.0 and 'Technology Enhanced Learning' in that it is a whole concept related solely to technology, as with the former, or only pedagogy as with the latter, but requires a whole-scale shift in the way education is conceptualised and delivered. The first Classroom 2.0 project in Europe was The Digital Classroom of Tomorrow Project (Figure 1), which is based on the idea of bringing lots of machines together, such as in the Cloud or over a Virtual Private Network (VPN), so that people can access education ubiquitously – that is from anywhere.

BACKGROUND

Proficiency in more than one language has become essential for learners within the European Union (EU) in order for them to benefit from the occupational and personal opportunities offered by the border-free Single Market (Grasmane & Grasmane, 2011). The European Commission has encouraged governments within the EU to support language proficiency within schools in order to allow learners to adapt to working and living environments characterised by different cultures. The increase in use of ICT in schools in bilingual countries, has been considered a threat to the bilingual aspects of learners schooling because of the dominance of the English

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