A Case Study on Computer Supported Collaborative Learning in Spanish Schools

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ABSTRACT

This article presents the main results from eight case studies carried out at different Spanish schools. Using a common protocol, the authors compared different cases of schools in which computer-supported collaborative learning experiences were carried out in order to identify what standard actions they had in common. In order to facilitate data collection and analysis, the authors opted for a mixed methodology, the instruments being interviews, observation, document analysis, a monitoring guide for the teachers and a semantic differential for the students. It was concluded that collaborative learning strategies favour students, since all of them benefit from constructing knowledge together, sharing responsibilities, taking ideas more in depth, having greater autonomy and control over their own learning, and helping each other in the process.

KEYWORDS

Case Studies, Collaborative Learning, Educational Innovation, Information and Communication Technologies, Qualitative Methodology

1. INTRODUCTION

The aim of this article is to disseminate part of the results of a research project entitled “Collaborative Learning through Information and Communication Technologies (ICT) in the Context of Schools 2.0”, financed by Spain’s Ministry of Science and Innovation EDU2011-28071, and carried out during the 2012-2015 period by the GITE-USAL Research Group of the University of Salamanca.

Within the general context of the research project we sought to learn, first of all, the conceptions of teachers in third cycle of Primary Education (10-11 yr. old students) and first cycle of Compulsory Secondary Education (12-13 yr. old students) in Spanish schools with excellent technological equipment in regard to collaborative learning methodologies; the collaborative learning experiences they carry out in the classroom using ICT, and the activities of this type that they perform with a view to their professional development.

Secondly, and using a case study methodology, we delved deeper into the characteristics of the processes generated in the classroom with these collaborative methods. At the same time, we also wished to find out whether these methodologies brought about changes in learning performance, considered in terms of the competencies the students attain.
This article focuses on presenting the main findings of the case study carried out in different schools with a view to identifying certain common standards of action generated after the implementation of collaborative learning methods.

2. THEORETICAL FOUNDATIONS

During the last few years, collaborative learning has been a subject of great interest in the context of educational research. This has given rise to numerous studies that highlight the potential of the collaboration process in student learning, the building of knowledge, the development of different abilities and improvement in academic performance. The results of all these research studies have gradually fostered the integration of collaborative learning in the teaching process as a highly suitable strategy for responding to the demands of today’s society, and more specifically, the skills that students of the 21st century should possess (Goikoetxea and Pascual, 2005; Onrubia, Colomina & Engel, 2008; So and Brush, 2008; Valle, Rivera, Valle & Vallet, 2015; Torrego and Negro, 2014; Young, Klemz & Murphy, 2003).

Authors such as Rosario (2008, p. 134) point out that “collaborative learning permits objectives to be attained that are qualitatively richer in content, thus ensuring quality and accuracy in the ideas and solutions posed” in addition to “fostering in students the generation of knowledge, since they find themselves involved in the carrying out of research, in which their contribution is very valuable because they are no longer just passive entities receiving information” (my translation). We could thus affirm that collaborative learning prepares students to take on group commitments and responsibilities, at the same time that they learn to accept other points of view and criticism, to discover solutions that help everyone, to reasonably expound different ideas and approaches and to become familiar with democratic processes (Gros, 2011).

Currently, the implementation of a collaborative learning methodology and the acquisition of a whole series of conceptual, procedural and attitudinal skills on the part of students is favoured and promoted by the use of technological tools. The so-called Web 2.0 or social web, a concept that came to characterise the Internet not only as a space for reading, but also for writing, and which emphasises a new model of communication in which interrelation processes among persons or groups predominate through the use of a large amount and variety of tools for managing contents and information, is a good ally for building knowledge in a collaborative way (Cebrián, 2008; De la Torre, 2006; Zabalza & Arnau, 2009).

It is these tools, which are mainly free of charge and easy to handle, that are facilitating the implementation of socio-constructive work methods focusing on collaborative student learning.

The concept of collaborative learning corresponds to a constructivist and sociocultural approach that follows the theoretical contributions of authors such as Piaget and Vigotsky. Both these authors established the foundations of this type of learning by considering, on one hand, that not only internal factors such as maturity and psychological development come into play in an individual’s development but also other, external factors—the learning environment, for example—and on the other, by conceiving of learning as a social process, as the result of personal interaction.

In the now classical definitions of collaborative learning offered by Johnson and Johnson (1987) and Johnson, Johnson and Smith (1998), emphasis is placed on the interdependence existing between individual effort and learning and group effort and learning, since each member of the group is responsible both for their own learning and for that of the other members of the group. Also important is the motivation to help each other in order to reach common objectives. If these premises are suitably fulfilled, collaborative methodologies can improve the learning process. For her part, Lara (2001) defines this learning as a “philosophy” that involves and fosters work, building, learning, change and improvement in a joint way. Although collaboration and cooperation are similar terms and in many cases interchangeable, some authors, among whom we find ourselves, see in collaboration a form of interaction and lifestyle in which people are responsible for their actions and respect the contributions
An Evaluation of Multiple Approaches for Federating Biological Data
www.igi-global.com/article/evaluation-multiple-approaches-federating-biological/4137?camid=4v1a