Cooperative Interaction in Virtual Education

Ángel García del Dujo
Universidad de Salamanca, Spain

Cristóbal Nico Suárez Guerrero
Universidad de Salamanca, Spain

INTRODUCTION

Virtuality is a new technological condition in which diverse forms of social interaction take place. The relationship between technology and the construction of social processes, evident at different historical moments (Briggs & Burke, 2002), is something that should not take us by surprise since society tirelessly reinvents itself according to its tools, co-participating in a series of cultural transformations. As Broncano (1995) points out, "culture does not exist, can not survive, if it is not in an ever more technologically sophisticated medium" (p.10).

However, our current tools have a special feature; since they are technologies committed to a specific form of processing information and mediating communication, they foster new scenarios for relations between individuals, using in this case a virtual matrix that reconfigures the time and space of interaction. Our virtual capacity, besides being the new usual condition for many of us, is thus the instrumental element that is the basis for much rethinking about the ways in which we relate to each other (Terceiro & Matías, 2001).

This condition has opened up new horizons for social interaction in different settings: productive and work processes (Castells, 1997), the exercise of democracy and citizenship (Sunstein, 2003), cultural manifestations (Subirats, 2001), models of cultural production (Lessig, 2004), alternatives for affective expression (Búrdalo, 2000), journalistic forms of communication (Parra & Álvarez, 2004), religious practice (Miguel, 2001), and, of course, educational processes (San Martín, 1995; Tiffin & Rajassingham, 1997). All together they signify the emergence of nuclei of social interaction in and through cyberspace (Smith & Kollock, 2003), a social practice with its own peculiarities and identities (Wallace, 2001).

Education as a social process is not alien to this technological characterization, but neither can these forms of interaction be inserted mechanically or frivolously into the area of education. The possibilities that have opened up due to the ways in which virtual technology acts provide education with new challenges (Hawkins, 2004) and reconsiderations (Dede, 2000), which it must assume with normality. In this sense, we should be aware of two issues: one, that educational initiatives with new technologies have not been as significant as in other areas of human activity, as for, example, in business (Carnoy, 2004), and two, that their incorporation as a new component in pedagogical focus demands certain thresholds in research and analysis that will allow us to better understand the authentic educational opportunities to be had through the Internet—archetype of these new technologies—for the fostering of interaction among individuals during learning.

Virtual education, either as a complementary activity to in-class teaching or as a totally virtual activity (Duart & Sangrà, 2000), is one of the frameworks of educational activity with the greatest possibilities for taking advantage of this technological potential for social interaction. That is, virtuality is the new instrumental stage today in which a rethinking of the most significant social relations, such as educational processes, is not only feasible but unavoidable.

Nevertheless, it is advisable to identify some problems that may impede its development, problems that are solvable if we begin to understand technologically mediated educational processes from a pedagogical point of view. When virtual education programs are analyzed, "in spite of what is speculated, the theory almost always, and the practice always show us a type of education based on e-learning that is nothing more than a distance course using computers and the Internet" (Bartolomé, 2004, 7-20) (i.e., there exists today a set of educational initiatives with new technologies lacking in solid educational foundations (Sangrà, 2001)), a lack which makes it difficult for us to take proper advantage of the technological conditions for education. As a result, the pending task in the process of linking technology to education is to build a peda-

Copyright © 2008, IGI Global, distributing in print or electronic forms without written permission of IGI Global is prohibited.

gogical perspective (García del Dujo, 2005) that will allow us to better understand and prescribe the processes of social interaction in virtual education, based on an approach that considers technology as instruments of mediation in learning (Suárez, 2003). The quality of virtual education depends greatly on the pedagogical component from which its use is considered.

Making educational use of technological operating capacity should include a pedagogical dimension based, among other things (Reeves, 1997), on promoting cooperative interaction among the students. New developments in this world of virtual education channeled through these technologies should emerge from the pedagogical approach with which their use is taken on, i.e. a framing that would permit educational processes to be enriched and strengthened with the new technologies. In these frameworks of pedagogical perception, "interaction should be considered a key point in the development and analysis of virtual contexts that can provide us with quality teaching and learning experiences" (Barberà, 2001. p. 157). Thus, beyond considering technology as a sufficient element in virtual education, there is a pedagogical need to understand and foster the communicational opportunities made available by virtuality by using the cooperative approach (Harasim et al., 2000; Martínez, 2003; Palloff & Pratt, 1999) as a social condition for learning (Suárez, 2004).

As a result, we assume that the important thing about learning in virtual contexts is not necessarily connection to the net but rather the quality of interaction among the individuals within it and we participate in that emerging trend in educational research by attempting to understand—with all its disadvantages (Steven, 2003) —the way in which cooperative relations among students are built under technological conditions of mediation. This was how the need arose to study asynchronous cooperative interaction in virtual education as an object of research, which we review next[1].

BACKGROUND

As an object of research, the study of social life online (i.e., what happens in and through the Internet), dates back no more than 10 years. To find evidence on research associated with our topic, we searched through the TESEO[2] database and found that there was a low concentration of studies on social dynamics in the Internet in the area of education in contrast to other disciplines, such as informatics and artificial intelligence, health sciences, telecommunications engineering, economics, and law. It is true that there are certain works that deal with cooperation, asynchrony, and virtual education, but these components are not integrated as a single object of study under a pedagogical approach. The research in this field focuses on other centers of attention: quantitative indicators of the presence of ICTs in the school system, the effects of computers on school learning, attitudes of educational agents towards ICTs, how computers are used in the school context, proliferation of virtual education courses, etc.

More important in this case is to refer to those studies developed under the *computer supported collaborative learning* approach, a domain that can be considered as a research area that seeks to examine learning experiences in groups of students who share objectives, activities, and common resources by means of the new Internet technologies (Lipponen, 2002). In other words, CSCL is a paradigm for studying what happens in technologically mediated collaborative learning (Koschmann, 1994). Under this perspective, there is a broad variety of studies with the following main orientations: estimating the effectiveness of cooperation in learning curricular contents through Web environments (Waldegg, 2002), distinguishing the way in which cooperation develops in accordance with a certain didactic resource on the Internet (Lara, 2003), learning how the reception time affects the generation of group interaction, be it asynchronous (Gros & Adrián, 2004) or synchronous (Bravo et al., 2003), analyzing cooperative activity in virtual learning environments (Redfern, Hernandez, & Naughton, 2003), recognizing the form in which cooperation on the Web takes place according to the academic level of the students (Rasmussen & Lund, 2003), and how the different cooperative methods affect group organization on the Web (Maldonado & Vásquez, 2004).

As can be seen, this field of research studies ever more heterogeneous aspects of the joint interaction among students mediated technologically in the learning process. This trend, among other factors, responds to the complexity with which cooperative action flows and manifests itself, a fact that merits attention from different angles of perception in order to better understand this form of interaction under technological conditions. Interpreted thus, this orientation confirms that it is not enough just to group students in the Web

6 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/cooperative-interaction-virtual-education/17632

Related Content

Virtual Worlds and the 3-D Internet
Carolyn McKinnell Jacobson (2011). *Virtual Communities: Concepts, Methodologies, Tools and Applications (pp. 1855-1879).*
www.irma-international.org/chapter/virtual-worlds-internet/48778/

Agent-Based Network Infrastructure for E-Communities
M. Mari, A. Poggi and M. Tomaiuolo (2011). *Virtual Communities: Concepts, Methodologies, Tools and Applications (pp. 428-438).*
www.irma-international.org/chapter/agent-based-network-infrastructure-communities/48683/

Destructive Creativity on the Social Web: Learning through Wikis in Higher Education
Steve Wheeler (2011). *Virtual Communities: Concepts, Methodologies, Tools and Applications (pp. 1307-1320).*
www.irma-international.org/chapter/destructive-creativity-social-web/48740/

Choosing the Right Course Management System for Distance Education Courses
Zafer Unal and Aslihan Unal (2013). *Teaching Cases Collection (pp. 214-238).*
www.irma-international.org/chapter/choosing-right-course-management-system/68123/

Academic Integrity and Student Satisfaction in an Online Environment
Michele T. Cole, Daniel J. Shelley and Louis B. Swartz (2013). *Teaching Cases Collection (pp. 1-19).*
www.irma-international.org/chapter/academic-integrity-student-satisfaction-online/68112/