

degree of collaboration achieved. Based on the findings, pedagogical approaches for the use of electronic conferencing are provided, and are grouped according to the level of collaboration. As a result of this study, the authors present a suggested model for the networked classroom to foster and guide the transformation of pedagogical practice.

KEYWORDS

Networked classroom, collaborative learning, communicative interaction, higher education, online learning, pedagogy

I. INTRODUCTION

Traditionally, telelearning has been associated with distance education, wherein instruction is provided to students who are unable to attend campus-based courses. While initially delivered by mail, distance education courses were later enhanced with multimedia. In addition to exercise books mailed to students, lessons supplemented by radio and television added dynamism and helped students to have a sense of “presence” from a distance. With today’s popularization and use of online media and the Internet¹ distance education is rapidly changing.

Today, post-secondary campus-based education delivery is also taking advantage of and adopting learning networks. Learning networks were defined by Harasim et al. as “groups of people who use CMC [computer-mediated-communication] networks to learn together, at the time, place, or pace that best suit them and is appropriate to the task” [p.4; 14]. Network-enhanced learning is therefore applied as a collaborative learning activity for knowledge building purposes [4] [10]. Networked classrooms are, thus, classrooms with extended capabilities, wherein asynchronous electronic conferencing is used to build shared collaborative spaces as a means to achieve set learning goals. We argue not because the mixed-mode delivery is likely to become mainstream in post-secondary North American institutions, it is worth looking at the way it is being implemented in order to better understand its nature and contribution to teaching and learning. The mixed-mode is a combination of online and regular instructional strategies “in which a significant portion of a face-to-face or distance education class is conducted by e-mail or computer conferencing” [pp.77; 14].

Many challenges emerge from this new educational context, carrying with them questions that need to be answered to advance our knowledge of networked learning processes in post-secondary institutions [19]. How are campus-based educators integrating online collaborative activities into their teaching practices? Is this emerging trend shifting towards traditional distance education practices, or towards a renewed, collaborative relationship between educators and students? This article identifies the components of networked classrooms, clusters of pedagogical activities, and levels of collaboration and how these levels shape specific types of networked classrooms. The authors present the theoretical framework applied, the method of inquiry and analysis used, and the results achieved. Finally, we argue that in order to design an exemplary model for the networked classroom, socio-cognitive factors are intrinsic to applying and understanding this new pedagogical phenomenon.

II. THEORETICAL FRAMEWORK

The socio-constructivist perspective focuses primarily on human action and interaction in order to understand pedagogical practices in the networked classroom. We denote action as the socio-biological dynamic (structural and functional; phylogenetic and genetic) that is triggered by the physical and symbolic exchange between subjects, or between subjects and symbolic objects (such as computers, television, radio, etc.). Biological functions, neural structures subjacent to all intelligent behavior, including learning [20]

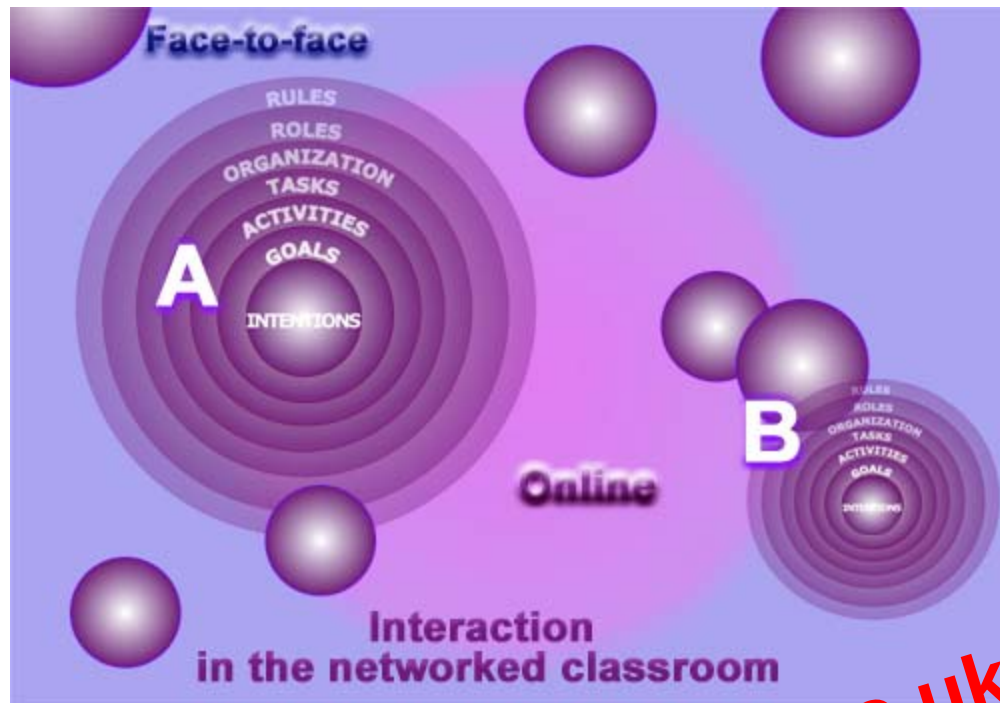


Figure 2 - The networked classroom.

Sphere A represents the educator's pedagogical action in the mixed-modal environment (face-to-face is blue, and online is purple). Sphere B represents the different responses from students to both the educator and one another.

The complementary teaching and learning dimensions of the pedagogical action manifests itself in the networked classroom: an integrated socio-cultural space of sharing (face-to-face and online) enabled by pedagogy and technology. It is, however, the level of collaboration triggered by the pedagogical action that defines a networked classroom. The networked classroom is shaped by and through pedagogical actions and their distinct paths, and where the educator intervenes to promote collaborative knowledge sharing. The level of collaboration propitiated by the actions of the educators in a networked classroom is elevated through their ability to create, implement, and nurture an effective learning environment. In the networked classroom, students have the opportunity to leverage interests through to other students.

Different types of networked classrooms are presented below. The pedagogical actions that educators initiate by integrating online conferences into the traditional classroom affect the learning paths of students. The closer that the students are positioned in a given mixed-mode setting, the stronger the level of collaboration is likely to be. This model could essentially be used to indicate whether a given pedagogical action will enable a greater or lesser degree of collaboration, and whether it will provide enriched or inferior social interaction.

B. Types of networked classrooms

Our data analysis led to a three-level classification of networked classrooms: the Net-showroom, the Net-meeting room, and the Net-workshop. This classification captures the way in which the majority of educators set up their learning space in order to achieve their pedagogical goals, and also corresponds to the levels of collaboration identified (vague, modest and strong).