

## Chapter 1.8

# Instructional Strategies for Teaching in Synchronous Online Learning Environments (SOLE)

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### ABSTRACT

This chapter deals centrally with one emerging aspect of Web 2.0 for education, that of the increasing demand for real time and near real-time interaction among users. Whereas most online learning has, to date, taken place in an asynchronous format, there is a growing need for an ability to provide learning opportunities in a synchronous setting. This chapter discusses synchronous online learning environments (SOLES) and the affordances they present for teaching and learning. Particularly it focuses on a capability of these environments known as ancillary communications. It discusses ancillary communications as an intentional instructional strategy and presents guidelines for its implementation. And, in the spirit of Web 2.0, this chapter was written using the Web 2.0 application Google Docs.

### INTRODUCTION

Internet-based classes appear to dominate the landscape of distance education today. Online classes are common place in most colleges and universities and are becoming more common in high schools as well. While pioneering courses were offered through techniques using email, Internet Relay Chat (IRC) or bulletin boards, today's courses are almost all managed by portal systems such as WebCT™, Blackboard's CourseInfo™, or Elluminate™ to name but a few. These systems share many communication features such as bulletin boards, email, chat, whiteboards and assignment drop boxes. As technology advances and bandwidth improves, we see changes in these environments. Today's systems offer audio and video communication tools as well as traditional text based communication. These new tools provide us with a unique opportunity. No longer is an online environment constrained to text for synchronous meetings and packaged media for asynchronous meetings. The environment now

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affords unique opportunities for communication patterns that are usually reserved for face-to-face classes, mainly the ability to talk and listen.

Moreover, with the addition of audio and video we are able to add new channels of information to the online environment. Historically there has been much research done on multiple-channel communication and cue summation. Moore, Burton, and Myers (2004) provide an exhaustive review of the literature on both. At the risk of oversimplifying this review, we can say that on the positive side multiple-channels of information may provide greater enrichment in learning. On the negative side it may lead to cognitive overload for learners.

We have studied the use of these communication tools for a number of years (Harmon & Jones, 1999, 2001; Jones & Harmon, 2002, 2006) and found that the implementation of multiple communication channels in an online environment (e.g. audio, text, or whiteboards) may be used to provide redundancy of information and enrichment of material, (in the manner of traditional multiple-channels or cue summation). However, these channels can be used another way as well. They may be used as either a primary communication mode or a supporting communication mode, such as chat supporting audio, or audio supporting whiteboards, or audio supporting chats. When these tools are present, students will use them. We have found that they will certainly use them for personal discussions, such as an updated version of passing notes in class. This can, obviously, be distracting and can cause lack of attention to learning and hinder the ability of an individual learner to focus on class materials. However, when used in a purposeful manner these multiple channels may create increased learner focus and more efficient communication. Moreover, the use of multiple channels of communication may provide instructors a powerful physical manifestation of constructivist learning.

In traditional positivist learning environments the primary instructional communication

occurs between the teacher and the students. In constructivist learning environments the primary instructional communication may occur between the instructor and students or between students and students. In either environment the instructional emphasis of the communication is almost wholly on one or the other. We argue that potential learning benefits may accrue if we place more emphasis on the communications that are occurring in a learning environment simultaneously with, but outside the focus of the primary communications. We call the exchange of information in support of learning that occurs synchronously with, but is physically and semantically separate from a primary communication mode *Ancillary Communication*.

## **RESEARCH FOUNDATIONS FOR ANCILLARY COMMUNICATION**

Ancillary Communication as an intentional instructional strategy is based on our ongoing study of an online course we teach on the topic of online learning (Harmon & Jones, 1999, 2001; Jones & Harmon, 2002, 2006). It follows, then, that the design of the course has influenced the development of our definition of Ancillary Communication. To that end, we offer some of the guiding literature we use in designing and refining our course. Our course is based on the discussions of constructivist learning (Jonassen, 1999), situated cognition (Brown, Collins & Duguid, 1989) and anchored instruction (Bransford et al, 1990; Cognition and Technology Group, 1990). The class was set up to be experiential and to create a learning environment that is driven by the learner (Papert, 1980; Wilson & Ryder, 1996; Greening, 1998). Analysis of early offerings of the class (Harmon & Jones, 2001) indicated that students were unprepared for the responsibility of this type experience initially and typically floundered during the early portion of the semester. Today the course employs a pedagogical shift approach, with a more positivist

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