Chapter I

Computer-Supported Collaborative Learning in Higher Education: An Introduction

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Abstract

The rapidly increasing use of computers in education, and in particular the migration of many university courses to web-based delivery, has caused a resurgence of interest among educators in non-traditional methods of course design and delivery. This chapter provides an introduction to the field of computer-supported collaborative learning (CSCL). First, some of the major benefits are listed. Then, some of the common problems are described, and solutions are either given or pointed to in the literature. Finally, pointers are given to some of the more recent research in this area.

Introduction

It is interesting that collaborative learning methods were experimented with, and found to be successful, at least as early as the late 18th century, when George Jardine employed them for his philosophy classes at the University of Glasgow. He came to believe that “...the teacher should move to the perimeter of the action...and allow the students freedom to...learn from one another” (Gaillet, 1994). However, it is only recently, with
the advent of the new technologies, that many academics and instructors have become interested in exploring possible alternative methods of course design and delivery.

This renewed interest is evidenced by, among other things, the increasing number of conferences devoted to this topic; the number of papers submitted to both conferences and journals; the formation of numerous research groups around the world; and the number of web-sites devoted to providing resources in this area, such as the Online Collaborative Learning in Higher Education website (Roberts, 2002).

**Benefits**

The importance and relevance of social interaction to an effective learning process has been stressed by many theorists, from Vygotsky (1978) through advocates of situated learning such as Lave and Wenger (1991), and many other recent researchers and practitioners. Computer-supported collaborative learning (CSCL), if implemented appropriately, can provide an ideal environment in which interaction among students plays a central role in the learning process.

Ted Panitz, a Professor of Mathematics and Engineering at Cape Cod Community College, has written extensively about collaborative and cooperative education, mainly as it relates to the K-12 (Kindergarten to Year 12) sphere. However, much of his writing is equally applicable in higher education. He lists a substantial number of benefits to collaborative learning (Panitz, 2001); the list here is slightly abbreviated and amended:

**Academic Benefits**

Collaborative learning:

- promotes critical thinking skills
  Under this dot point Panitz suggests that collaborative learning develops higher level thinking skills; stimulates critical thinking; helps students clarify ideas through discussion and debate; enhances skill building and practice; develops oral communication skills; fosters metacognition in students; and improves students’ recall of text content through cooperative discussions;

- involves students actively in the learning process
  And here, that it creates an environment of active, involved, exploratory learning; encourages student responsibility for learning; involves students in developing curriculum and class procedures; provides training in effective teaching strategies to the next generation of teachers; helps students wean themselves away from considering teachers the sole sources of knowledge and understanding; fits in well with the TQM and CQI models of effective management; promotes a learning goal rather than a performance goal; fits in well with the constructivist approach; and allows students to exercise a sense of control on task;
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