# Implementing Varied Discussion Forums in E-Collaborative Learning Environments

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## INTRODUCTION

E-collaboration designs are more successful for online learning environments than pedagogical approaches that emphasize students working alone with materials posted online. Software can be constructed in such a way as to support online group collaboration. The design can only facilitate the desired behavior, not produce it. For the students to adapt a structure of interaction that is collaborative in make-up, the instructor must shape, reproduce, and encourage desired behavior, and the students must be able and willing to participate on a regular basis (Hiltz & Benbunan-Fich, 1997).

Despite earlier uncertainties, online students and instructors can provide emotional support and sociability, as well as information and instrumental assistance to one another. For such an educational environment, it takes the correct software to support group communication, with an emphasis upon collaborative learning approaches rather than on individual learning (Hiltz & Wellman, 1997).

Energetic approaches present learning as a social process that constructs knowledge by formulating ideas into words. These ideas are built upon the reactions and responses of others allowing learning to not only to be energetic, but also interactive (Mead, 1934).

Collaborative refers to instructional methods that support students working together on academic tasks. Collaborative learning is basically different from the traditional classroom situations in which the instructor is the primary source of knowledge or skills (Harasim, 1990).

Studies have shown that collaborative group learning strategies result in more student participation with the course (Hiltz, 1994) and more engagement in the learning process (Harasim, 1990). Collaborative group learning methods are more effective than traditional methods in promoting students' learning and achievement and enhancing student satisfaction with the learning and classroom experience (Johnson, 1981).

According to a study conducted by Hiltz and Benbunan-Fich (1977), working in groups drastically increases motivation, perception of skill development, and solution satisfaction. With reference to self-reported learning, there is an interaction between medium of communication and group vs. individual learning. The results of their study also discovered that conditions with or without both factors, for example individuals-manual and groups online, perceived higher learning than in situations where only one of the factors are present. According to Hiltz, (1986), online discussions create new kinds of possibilities for collaboration and for learning.

Creating quality online instruction is a challenging task for most online instructors, with promoting engaging online discussions being the most difficult part of the instruction. Instructors frequently struggle with creating online discussions that will promote "critical thinking skills" (Toledo, 2006, p. 150) in an asynchronous environment instead of simply presenting dead-end questions that go nowhere. This article will review several suggested variances in online discussions that allow engaged critical thinking, promote subject matter understanding along with group member and individual online discussion participation, and assist instructors in choosing appropriate methods for their particular instructional goals.

## BACKGROUND

Interactions between the students and instructor and among the students themselves are significant to the process of e-learning (Pallof & Pratt, 1999), because interaction is associated with students' learning and their perceptions of online courses (Berge, 1999; Flottemesch, 2000). A caution should be added that using the technology incorrectly can result in students becoming bored, inattentive, or even frustrated with the online discussion experience (Berge, 1999), and many instructors have indicated a lack of student participation in online discussions (Jin, 2005). It is important to structure the asynchronous discussions in order to provide a foundation for critical discussions and critical thinking (Jeong, 2000). Jiang (1998) found that students displayed higher levels of achievement when online interactions were an important component of the course. The use of technology as an online discussion tool allows the online instructor to use the tool in facilitating insight and understanding rather than as a one-way dispenser of knowledge. When used to facilitate learning, the possibilities for technology implementation and integration are broadened.

### Importance of Group Work

Faculty use group projects and discussions to engage students in a cooperative and/or collaborative learning environment. In examining group dynamics in an online environment, Fisher, Thompson, and Silverberg (2005) indicate that one of the strengths of group work is that it helps a student explore his or her thinking, providing opportunities for knowledge construction with their peers. Distance learners have indicated experiencing a sense of social isolation (Lally & Barrett, 1999; Du, Zhang, Olinzock, & Adams, in press). This sense of isolation can be addressed by having group members work together in unique ways, providing opportunities for students to attend to the academic and social components of the online class (Du, Zhang, Olinzock, & Adams, in press; Gabelnick, MacGregor, Matthews, & Smith, 1990). Students have indicated that group work provides them opportunities to have deeper analysis of topics, to reflect on their learning, discover different approaches to tasks, and to discover points they missed in their preparation for the discussion.

Researchers are beginning to examine online groups from a systems perspective. A systems perspective recognizes and studies every component in terms of how that component affects the system and how the system affects each component (Carabajal, LaPointe, & Gunawardena, 2002). Online groups are complex systems that are dynamic and adaptive (McGrath, Arrow, & Berdahl, 2000). With online groups there is the additional component of the technology tools, which can't be ignored when examining online groups (Fisher, Thompson, & Silverberg, 2005; McGrath, Arrow, & Berdahl, 2000).

### Group Size

One component of online groups relates the group size. The size of the group has a significant impact on group success (Fisher, Thompson, & Silverberg, 2005). Fisher, Thompson, and Silverberg indicate that large groups are better for discussions where the aim is exploring and collecting information. To facilitate coordination, small groups of three to five are better for these types of projects. Mennecke and Valacich (1998) found that a critical group size is approximately seven members. The use of a smaller group size is designed to allow for greater idea flow and development (Mennecke & Valacich, 1998; Fisher et al., 2005).

As group size increases, group members feel the group has a harder time obtaining or reaching its desired effect or goals (Carabajal, LaPointe, & Gunawardena, 2000). Bonito and Hollinghead (1997) found that as group size increases active members maintain their level of contribution, but less active members postings decrease in proportion. The key is to have a group size large enough to provide different perspectives, but still small enough so that each member of the group has a voice (Fisher et al., 2005).

### Prior Preparation

Another important component to groups and online discussions deals with the prior preparation of the group members. Prior preparation by group members is an important component for successful group participation (Petress, 2004; Havard, Du, & Xu, in press). Jonnasen (1996) refers to computer conferencing as a "mindtool" that prompts a larger amount of reflection and analytical thinking while still connecting learners. Students have found group projects more rewarding when they were actively involved in the pre-planning, reading, and implementation (Fisher, Thompson, & Silverberg, 2005).

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