As more courses in higher education move to an on-line format, a major concern that has arisen is the lack of personal interaction between the professor and student. The literature provides evidence that often on-line courses are configured and delivered in a style more often associated with independent study or correspondence work, i.e., students working independently to complete posted assignments at their own pace. While this format may work in some instances, it leaves a "missing link" in the learning curve for students since they lack the opportunity to benefit from the experience of structured dialogue and sense of community that can be created in a traditional on-site classroom environment. This paper supports the idea that students benefit from personal contact and access to the professor and learning is enhanced in courses with high degrees of interactivity among students. The paper suggests effective uses of e-mail, chat, and various Web-based tools to enhance interactivity and sense of community within the on-line course. Sample comments are also included from students who have taken courses that use the strategies described in this paper. (Author/SLD)
Chat: The Missing Link in On-Line Instruction

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Abstract

As more courses in higher education move to an on-line format, a major concern that has arisen is the lack of personal interaction between the professor and student. The literature provides evidence that often on-line courses are configured and delivered in a style more often associated with independent study or correspondence work, i.e., students working independently to complete posted assignments at their own pace. While this format may work in some instances, it leaves a “missing link” in the learning curve for students since they lack the opportunity to benefit from the experience of structured dialogue and sense of community that can be created in a traditional on-site classroom environment. This paper supports the idea that students benefit from personal contact and access to the professor and learning is enhanced in courses with high degrees of interactivity among students. The authors suggest effective uses of e-mail, chat, and various Web-based tools to enhance interactivity and sense of community within the on-line course. Sample comments are also included from students who have taken courses which employ the strategies described in this paper. (9 references)
As more courses in higher education move to an on-line format (Kearsley & Lynch, 1994, & Keating & Hargitai, 1999), a major concern is a potential loss of personal interaction between the professor and student (Sadowsky, 1999). There is evidence that a growing number of courses delivered in an on-line format tend to be configured and delivered in an asynchronous manner more often associated with traditional independent study and correspondence work, i.e., students working independently to complete posted assignments at their own pace (Perley & Tanguay, 1999). While this format serves the purpose of meeting the needs of the non-traditional learner in regards to delimiting issues of time and distance, and in many instances is a viable option, it leaves a "missing link" in the learning curve for students since they lack the opportunity to benefit from the experience of structured dialogue, interaction with faculty and peers, and the sense of community that can be created in a traditional on-site classroom environment. As Berge (1995) states, "...learning involves two types of interaction: interaction with content and interpersonal interaction (i.e., interaction with other people)" (p. 22). Kearsley & Lynch (1994) contend that on-line courses must adopt a pedagogical framework more closely aligned with social learning theory for students to maximize the benefits of on-line instruction.

Although many professors create their own courses, publishing companies are responding to the growing on-line course market by creating a wide variety of pre-packaged courses. The resulting phenomenon has been termed "unbundling" (Perely & Tanguay, 1999) which refers to courses that are developed by "content experts" and then merely facilitated by a faculty member. The role of the professor shifts from that of authority to the role of course manager. The increasing availability of these fabricated
on-line courses is likely to further the trend of lowered personal interaction between the professor and student.

An essential component of any course is the culture or environment which exists within that course, i.e., the expectations, understanding of members’ roles, process of how the course will evolve, and establishment of rituals, celebrations, traditions, etc. Whether the course is taught on-line or on-site, the culture established within the course serves either as an enhancement or barrier to the quality of student learning. Where interaction, collegiality, and collaboration are a valuable part of the culture, there is a better exchange of ideas and problem-solving (Little, 1982, Deal & Peterson, 1999). Course cultures with a high degree of interaction benefit from the concept of team learning, which Senge (2000) defines as

...a discipline of group interaction. Through such techniques as dialogue and skillful discussion, small groups of people transform their collective thinking, learning to mobilize their energies and actions to achieve common goals and drawing forth an intelligence and ability greater than the sum of individual members’ talents. (p. 7-8)

Interactivity and a positive culture create a sense of synergy where group learning and productivity becomes greater than the total sum of individual students’ learning and productivity (Covey, 1989). These qualities are lost in the asynchronous on-line course format. In his book, Schools That Learn, Senge (2000) discusses the importance of creating within the culture a learning community that is synergized. While this is important for both traditional and on-line courses, the remainder of this paper will focus on practices that facilitate a sense of community in the delivery of on-line instruction.
Where instruction is delivered via distance learning, there are effective ways instructors can create a sense of community and establish a culture that fosters collegiality and interaction in on-line courses. Most on-line course delivery systems include a synchronous communication tool, such as the chat room, as well as interactive asynchronous tools such as e-mail, listserv, threaded discussion, and bulletin board. When used effectively, each of these can be used to maintain high levels of communication between and among class members and the professor and to promote desired levels of interactivity.

Chat

Chat is a real-time, electronic form of communication. It affords both the instructor and students the opportunity to engage in real time discourse and dialogue. The quality of interaction is determined by the established culture of reflection, preparation, and risk-free participation. Instructional delivery via chat requires the instructor to extract himself from the traditional didactic teaching format and instead embrace a more fluid attempt to lead students to the acquisition of desired learnings. Such expectations can be achieved via Socratic teaching methods whereby the instructor poses leading questions/statements to which students engage each other in inductive reasoning to arrive at the desired level of understanding. In this setting the instructor is a facilitator of specific content rather than a “deliverer” of content.

The instructor must be prepared to adjust, adapt, and modify the questions and/or issues to be raised based on the flow of student responses. Experientially, strictly maintaining a highly structured, sequentially planned format, reduces the free-flow of ideas by both parties, thus ostensibly diminishing the potential quality of the chat
experience. Kearsley and Lynch (1994) further suggest that an instructor who wishes to maintain "tight control" of a course may not be suited for on-line course delivery. Therefore, it is vital to the success of the overall chat experience that the instructor maintains an understanding for the need of flexibility and modification during the chat session. A successful approach to accomplishing this task while ensuring student learning is to begin with the identification of desired student learning outcomes and then select possible questions and/or thought-provoking statements that will lead students to these outcomes, while maintaining the understanding that these questions/statements will be selected, modified and/or omitted based upon student responses throughout the chat discussion. The overall success of chat sessions, student satisfaction and ultimately the degree to which students benefit from the learning experience, will be determined by the degree that the instructor is able to adjust and monitor the process.

The capability of using separate chat rooms further extends the opportunity for the instructor to engage students in the learning process by placing students in either random or predetermined groupings for the purpose of extending the application of acquired knowledge. Students may be placed in small groups to solve problems, draft group responses to questions/issues, work on extended projects, and develop reactions/constructive criticism to another group’s work effort. After sufficient time for small group work, students can return to the general chat room to share/debate responses. This movement from whole group to small group and back to whole group makes learning more meaningful and further cements the concept of team learning and a shared vision. When these interactions are relevant to real-world application, there is a greater
potential for students to value the experience and gain the desired knowledge, a byproduct of this being increased student motivation.

Another benefit to using real-time chat is the immediate feedback students and instructors receive. Frequency and quality of feedback is often identified as a major benefit by students participating in on-line courses where chat is used effectively on a consistent basis. Constructive, interactive feedback helps shape student progress through the course in the synchronized learning environment.

**E-mail and Electronic Mailing Lists**

Course delivery packages such as Black Board and WebCT include the capability for private e-mail within the course for communication between students, and students and instructor. The frequency of e-mail, quick responses to e-mail, and quality of messages are important functions sometimes overlooked by on-line instructors. Based on feedback received from the authors' students, the e-mail function was viewed as a personal connection or bond further enhancing the idea that instructors were available as a constant support to students in their pursuit of accomplishing the goals of the course. While the tasks of remaining current with e-mail readings and responses are time-consuming, the rewards far exceed the inconveniences.

An on-line instructor may also wish to set up an *electronic mailing list* either through a university server or other means, to which all class members subscribe. Commonly referred to as a *Listserv* (registered trademark of L-Soft International, Inc.), the electronic mailing list is similar to e-mail except when a message is sent, all subscribed members simultaneously receive the same message. This application is another valuable resource in the toolbox of on-line course delivery. Its major advantage is
that it affords students the opportunity to communicate with the entire group via a single message. This *group messaging* and ease of communication further enhances the sense of community which can be created in on-line courses. This ability to communicate with all students via one message can also be used by the instructor as an instructional tool. One example might be to structure a case-study simulation where students utilize the communication tool to collectively solve a problem. Since the instructor is also a subscriber s/he receives copies of all messages sent via the Listserv, therefore, it is easy to monitor student progress, raise questions, help students refocus, and/or throw “rocks in the road”, i.e., add problems to be solved along the way. The Listserv, when used in this fashion, further allows students to transfer knowledge to real-life situations, hence increasing knowledge retention.

**Bulletin Board**

An electronic bulletin board serves the same function as the cork or felt wall-mount versions common in many offices. It is the place within the on-line course where students and the instructor can post announcements and messages. The bulletin board can be a place for students to find updates, changes, important messages, assignments, and group correspondences. Since files such as lecture notes, power point presentations, etc., can be attached to messages posted on the bulletin board, groups can post projects for others to view and provide feedback. Also, logs from the live chat sessions can be recorded and posted for students to download and review. This is a great way for students to further process information presented in the fast-paced chat or for a student who was absent from chat to acquire missed information. Because the bulletin board is an asynchronous communication tool, the quality of student work is often enhanced by the
increased degree of freedom the student has to select optimal times for posting and responding to bulletin board messages. Additionally, students have more time to reflect, research, and compose their thoughts; therefore, the expectation of student products should be elevated above the fast-paced exchange of ideas in the chat environment.

The bulletin board can be used for students to post individual and group assignments/projects for review and evaluation by peers and their professor. This application of the bulletin board further allows students to learn from their own work and the work of others and to benefit from an opportunity to receive interactive feedback on both from their peers and the instructor of the course. This provides a unique opportunity for achieving a level of interaction and feedback that even the traditional on-site classroom has difficulty achieving in a face-to-face environment.

**Threaded Discussion**

One powerful application of the bulletin board is the use of a threaded discussion. This application allows the instructor to organize a thematic threaded discussion by posting a topical statement, question, problem, case study, etc., and then directing students to respond based on their knowledge, experience, readings, and interactions with other students. Using threaded discussions equalizes student participation (Procter, 2000), something difficult to achieve in a traditional classroom setting. Unlike conditions present in a chat room situation, which is constricted by time, the threaded discussion affords students a longer period of time to frame ideas and respond to the original posting and to subsequent student postings. Students are able to further develop their thinking and writing skills, which is extremely important considering the fact that proficiency in writing seldom demonstrated during chat sessions where speed takes precedence over
grammar, spelling and syntax. Like the chat room application, the threaded discussion can be free-flowing and the role of the instructor is to supervise flow and direction of student thinking. The instructor can monitor and if necessary refocus the avenue students may be taking a threaded discussion by posting intermittent feedback. Students also have the ability to read and download the threaded discussions for further review and processing of information.

Feedback From Students

The authors used the techniques described in this paper and have experienced great success creating and maintaining a high degree of interactivity and personal contact with students. Students in these courses developed a high degree of camaraderie and reported developing personal relationships outside that of the course. The degree of community created in these courses was evidenced by the students’ desire to participate in a social gathering after the course ended. Below are selected comments provided here as evidence of student perceptions of the benefits of on-line courses which maintain a high degree of personal contact.

- Initially, my concern about the course was inability to personally interact with the class. …yet compensated through the script of chat. Each participant’s individual style is exhibited through his/her style of writing.
- The chat as a part of the delivery set was the glue, the cohesive bond, if you will, that brought it all together.
- I think there was better communication.
- Groups also were the breeding-ground for camaraderie and teamwork, as well as, communication.
• The way (the professors) asked us the questions during the chat time is what made it a successful class.

• All were involved in the learning process, even the professors.

• I call it the cone-effect to learning. The chat connected it all, the students, the lessons, the instructors.

• I was amazed to see the personalities and individual thinking emerge via cyber space.

• I especially liked the instances when we were given time to work in groups and then report back to the whole class—cooperative learning new millennium style!

• One of the things I really liked about this class was the opportunity to participate. I have always been a person that never says a word in class. In this class, I talked all the time!

• I really liked the way the instructors responded to us, the students, by names. It made the course feel much more personal.

• (The professor) made the class very personal when it could have been very impersonal.

Conclusions

Based on the personal experiences of the authors, a review of current literature, and an understanding of the learning process, it can be concluded that personal interaction between the professor and student, and students to student, is an extremely important component of the educational process and must be considered when on-line courses are developed. In a rush to provide convenient access to more courses,
professors must maintain a commitment to maintaining close human relations and effective practices in the delivery of information via distance education.
References


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