Successful Strategies for Using

Asynchronous Discussion in College Courses

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Treatise Presentation
April 17, 2001
"Asynchronicity…is the single most important factor in creating a collaborative teaching and learning environment." (Hiltz, 1994, cited in Santo, 2000, p.1)

“The asynchronous environment that provides threaded discussion, combined with creative use of Internet resources and multimedia, forms the most effective combination for successful student engagement.” (Caldwell, 1998, cited in Santo, 2000, p.1)

Asynchronous is defined in The Random House Webster's Unabridged Dictionary as "not occurring at the same time." In this age of digital communication, asynchronous discussion has provided additional ways for instructors and students to interact, whether they are truly at a distance (never meeting face-to-face) or just trying to expand the walls and time constraints of the traditional face-to-face (F2F) classroom.

Asynchronous discussion is one of the key components in interactivity for courses taught totally at a distance. It replaces the face-to-face communication that occurs during traditional class time. But this interactivity becomes problematic when professors attempt to duplicate the methods and techniques they use in the classroom online. The electronic medium is a different dynamic; lessened immediacy, absence of non-verbal and visual cues, no tone or intonation. Because of this, many professors have developed strategies that compliment the electronic medium and their teaching style.
Additionally, professors who are teaching traditionally delivered classes are discovering ways to use asynchronous discussion to enhance and expand their classrooms beyond corporeal space and time.

Electronic communication can happen either synchronously (at the same time), as in video-conferencing, chat, and conference calling; or asynchronously (not at the same time) with email, listservs, and electronic discussion boards.

There are different types of asynchronous discussions:

- **Email** - the digital form of letter writing. Email has become so ubiquitous in the past five years that most people are very familiar with how to use it and have email available to them through different channels; work, school, home, organization, etc.

- **Listservs** - an expanded, more organized form of email. Listservs allow a participant to post a message once and have it be distributed via email to everyone on a 'list'.

- **Bulletin Boards, newsgroups, discussion boards** - bulletin boards and newsgroups have been around since approximately 1970, much longer than the World Wide Web (WWW or Web) and browsers with graphical interfaces have existed (Kaye, 1989). They are the original form of 'posting' messages in text form. With the advent of browsers and their graphic capabilities, new software has been developed that enhances the usability of discussion boards. In addition to the easy to use, eye-pleasing user interface, the new software allows for better organization of messages by putting them in threads or posting messages under the same topic in a linear fashion (Santo, 2000).
For the purpose of this paper, I have limited my research to asynchronous discussion boards (ADB), but at times include the use of email in addition to ADB. I have not seen the term 'asynchronous discussion board(s)' used in the literature, but feel that it accurately describes this facet of online education and the functionality of the different types of software used to facilitate these discussions. Other terms used in the literature are Computer-Mediated Communication (CMC) and Asynchronous Learning Networks (ALN), but these broader terms include all the types of asynchronous communication listed above. ADB describes the one type of communication I will be discussing in this paper.

**Using ADB in College Courses**

In the past five years I have been a student, both at a distance and on campus, in courses using ADB as a tool of communication and interactivity. My experiences have ranged from excellent and beneficial to extremely poor and un-educative. I attribute my varied experience to the type of software used (linear or threaded), and how well (or poorly) the instructor used the discussion boards to interact with the class participants.

Many professors and instructional designers are struggling with this alternative way of communicating with students and how or if they can transfer the pedagogical and communication methods they use in their F2F classes to this new online environment. As this is the primary way of building 'interactivity' into courses, I want to identify successful strategies or
best practices that experienced instructors have developed for using asynchronous discussion boards in their courses.

*Seven Principles of Effective Teaching with Technology*

Chickering and Gamson (1994) defined seven principles of effective teaching after reviewing 50 years of higher education research. Chickering and Ehrmann (1996) took these seven principles a step further by applying them to using technology:

1. Interaction between faculty and students - technology has increased the opportunities for students and faculty to communicate using email and computer conferencing.
2. Able to develop collaboration and cooperation among students - technology allows students to participate in online study groups and/or collaborate on projects.
3. Active learning - students are able to conduct research via the Web and use simulation software to gain an understanding of concepts.
4. Timely feedback - technology allows immediate feedback to students regarding questions, assignments, and other course activities.
5. Emphasis on time management - students have more flexibility because they can work at home when it's convenient. Studying can be more efficient.
6. High expectations - simulation software provides different types of learning challenges. Having students’ work made public has raised the level of expectation.
7. Different ways of learning - technology provides multiple delivery systems that allow students different methods that are more suited to their learning style (Chickering & Gamson, 1994, Chickering & Ehrmann, 1996; cited in Card & Horton, 2000).

ADB can be used to apply most of these principles. There is an abundance of literature with many suggested ways to effectively use the asynchronicity of the online environment. I have compiled what I feel are the benefits and challenges, as well as the suggested strategies in this paper. Additionally, I interviewed professors who are experienced in using ADB in their courses and have matched the strategies they use with the literature.

**Methods**

I was curious if professors who have used ADB for more than one semester have found different methods, techniques, or strategies that they feel help them use ADB successfully in their courses. I interviewed eight instructors, four who are using ADB to enhance their F2F classes, and four who are teaching their courses totally at a distance.

The professors using ADB to enhance their F2F classes are:

Dr. Judith G. Groulx, Associate Professor, Educational Foundations and Administration, Texas Christian University. She is using the Discus™ discussion software in Assessment, 25 students, and Educational Research, 18 students.
Dr. Tracy Hanna, Assistant Professor
Inorganic and Organometallic Chemistry, Texas Christian University. She is using the Discus™ discussion software in the General Chemistry Lab, 100 students.

Dr. Linda K. Hughes, Addie Levy Professor of Literature, Texas Christian University. She is using the Discus™ discussion software in the Intro to Poetry course, 35 students, and Victorian Women Writers, 9 students.

Dr. Charles Williams, Associate Dean and Associate Professor of Management, M.J. Neeley School of Business, Texas Christian University. He is using MSN Community™ in Organizational Management, 68 students.

The following professors are teaching courses totally online through the UT TeleCampus portal using WebBoard™:

Dr. Nancy Hadaway, Associate Professor of Education, Department of Curriculum and Instruction, University of Texas at Arlington. Secondary Language Arts Methods, 16 students; Content Area Reading and Writing, 22 students; and Language Learning: Educational Perspectives, 22 students.

Dr. Lois Hale, Associate Professor of Kinesiology and Chair of the Department of Behavioral Science, University of Texas of the Permian Basin. Sport Psychology, 15 students.
Dr. Charles Lackey, Associate Professor, School of Business, University of Texas at Brownsville. Production and Operations Management, 17 students.

Dr. Ivor Page, College Master, Computer Science Engineering, University of Texas at Dallas. Telecommunication Software Design, 12 students.

A 9-item questionnaire was emailed to nine professors with eight responding. Second interviews were conducted via email with individualized questions to elicit detailed information to expand on the responses in the first questionnaire (Appendix A). I looked for statements that briefly explained what they were doing, but didn't give me specific examples. The second set of questions was meant to really get to the heart of their thinking and identify the key factors in their strategies.

I selected the four professors teaching through UT TeleCampus by identifying the graduate programs offered via TeleCampus and chose the one professor from each program that had taught their course for more than one semester. The programs are MBA, Master's Degree in Kinesiology, Master's Degrees in Electrical Engineering and Computer Science, Master's Degree in Reading (Curriculum and Instruction with Reading Specialization), and MEd in Educational Technology (no respondent).

Three of the professors from TCU were selected based on my 'browsing' the Discus boards. I looked for those who are using Discus in their courses this semester, as well as how they used
them. I also tried to pick professors from different programs. The fourth professor was a recommendation based on what was known about how he used ADB.

I want to share their responses and show how they relate to the literature in a real-world sense.

Using ADB

Having been a student in courses that underused the capabilities of ADB, I was curious to know if these experienced professors used it for more than just Q&A. When asked how they used ADB in their courses, the responses were as follows:

Basic course Q & A
Course announcements and program level announcements
Whole class discussions
Small group discussions and group projects
Give assignments
Have students post assignments
Online office hours
Other – debates, case studies, lab assignments, journals, exam preparation

All of these professors indicated that they use it for Q & A. In fact, Dr. Hanna related that one of the biggest benefits of ADB for her course was that students could post questions outside of classtime, particularly the night before the exams. Seven of them said they use ADB for whole class discussions, with six of them allowing or facilitating small group discussions. Dr.
Hadaway allows her students to break into small groups naturally, "This happens when students respond to each other". Others put students into groups or teams and expect them to interact and collaborate, then report back to the class, many times having one person post a summary or response for the entire group.

Most of the professors post assignments on ADB and have their students post their work online in response. Since all use ADB for Q & A, only one indicated that she uses it specifically for office hours. By the very nature of posting Q & A, there is no need to conduct traditional ‘office hours’ online.

Out of the eight respondents, six of them expand their use of ADB beyond the basics, including debates, journaling, case studies, and lab assignments. Dr. Lackey posts Harvard Business cases to teams that he has assigned. Dr. Williams posts Wall Street Journal articles for his teams. Drs. Hadaway and Hale use journaling extensively in their courses, encouraging students to contemplate and reflect on the content and their experiences.

What stood out in their responses to the first questionnaire were some definite advantages and disadvantages of using this tool, as well as some frustrations and excitement. In my readings, these advantages and disadvantages were highlighted as well.

*Advantages and Disadvantages*

In order to discuss how instructors are successfully using asynchronous discussion boards in their courses, it is important to identify and acknowledge the advantages and disadvantages, thus
allowing a framework for revealing various experiences and techniques in relationship to good practices and successful strategies highlighted in the literature.

Advantages and Benefits

Among the advantages of using ADB cited in the literature are:

♦ Allows every student an equal chance to participate. Students who are shy or slow-processors sometimes find themselves at a disadvantage in the classroom because they have a tendency to fade into the background as more assertive students dominate the classroom discussion (Santo, 2000)

♦ Encourages thoughtful reflection and more complex responses because participants have plenty of time to think before they post their responses (Rossman, 1999)

♦ Facilitates peer to peer learning as participants frequently have expertise or experiences that will help others in their understanding of a particular subject (Rossman, 1999)

♦ Enhances collaboration. Access to postings can be done from anywhere at anytime, participants do not have to try to coordinate schedules to meet together. This lends itself well to the formation of small teams for collaborative work (Hiltz, 1993)

♦ More flexible and convenient. Participants can access the discussion boards to read and respond when it is convenient for them. This is great for students who are also juggling a fulltime job and/or family commitments (Card & Horton, 2000, see also Salmon, 2000)

♦ Responses are preserved for further reference

♦ Improves writing skills. Participants know that their responses will be read by their peers, as well as the instructor. This 'raises the bar' of quality in their writing (Graham et al, 2001). It also gives them an abundance of writing practice (Santo, 2000)
♦ Can promote a community of learners (Santo, 2000)

♦ Allows the instructor to communicate with the entire class with one posting. This is beneficial for giving feedback or answering questions in a timely manner. A participant might post a question that others also had. The instructor can post one response to the group so everyone can benefit from the feedback (Graham et al., 2001)

Disadvantages and Drawbacks

Some of the disadvantages of asynchronous discussions are:

♦ Discussions may be slow to start as some students will resist being the first one to post (Santo, 2000)

♦ Decisions are more difficult to make in this medium, especially when consensus is desired (Santo, 2000)

♦ The time delay between the posting of the question and resulting responses can be frustrating for some participants (Rossman, 1999)

♦ Information overload is a strong possibility, especially when messages are posted over a long period of time and conversation become disjointed (Rossman, 1999)

♦ Finding time to participate may be challenging for those who are not good at time-management (Salmon, 2000)

♦ Lack of visual and auditory cues may be frustrating for some students, especially those who are used to relying on those 'non-verbal' cues to know how to 'couch' their responses in F2F conversations (Salmon, 2000)
If participants do not respond to a posting, the person who posted might feel excluded or ignored (Santo, 2000).

There may be some anxiety at the thought of their writings being read by an anonymous audience (Rossman, 1999).

Instructors who are experienced at using ADB in their courses have been able to maximize the benefits and be creative in finding ways to eliminate or work around the drawbacks.

**Identifying Good Practices for Using Asynchronous Discussion Boards**

**Participation**

Logically it follows that in order to have productive online discussions, students must be willing to participate. But one of the disadvantages of discussion boards is that many times discussion is slow to start. Many students are used to the F2F environment where the professor or instructor leads the conversation and then prompts discussion by asking questions. In ADB, many students are hesitant to start a discussion or be the first to post.

When asked to share some of the methods they employ to encourage participation, the responses vary widely:
Dr. Hanna simply informs her students that the board is available and then demonstrates how to access the board in one of her lectures. Since she does not require students to post, she feels that this is an appropriate level of encouragement for her situation.

Drs. Hughes and Hale employ some 'hand-holding' techniques of encouragement and reinforcement by way of sending individual emails to those students. Dr. Hale provides "positive feedback...and constant comments on how much they have to offer, and how important it is to share that knowledge and those experiences with others."

Dr. Groulx uses a couple of different methods to encourage participation: First, she takes the students to the lab and shows them how to post for the first time. She has them start posting to the first discussion during this time, answering questions and making sure everyone has had a chance to post before they leave the lab. She also posts ice-breaker questions, asks small groups to nominate one person to post a summary about their group work, and posts a KWL to ask students what they know and want to know about a topic. "KWL stands for 'what do you know - 'what do you want to know-- it's an informal sort of pre-assessment approach -- and 'what did you learn' as a post-assessment that hopefully brings closure to the K and W steps. It's just one of many ways to invite people to be curious and also to find out what ideas they already have about a topic."

Dr. Page asks a lot of Socratic type questions and expects responses and discussion. Dr. Hadaway and others require participation and put the requirement in writing in the syllabus or other course requirements document. She also encourages participation by setting the example,
posting her own reflection then sending her students an email telling them to check it out on WebBoard™. "A reflection is simply a contribution to class discussion, a reflection of their views about the content in the book, module readings, or packet that sparks a thought or a desire to share more information."

Dr. Lackey says "If someone is slow to discuss, I will suggest a strategy for them to use. It may be as simple as planning ahead and posting a discussion point very early in the time interval….usually, simple encouragement works. " In addition, he ties 50% of the course grade to participation in the online discussions. He says, "50% of the grade is a lot of encouragement. Class participation is normally expected of a graduate MBA student in on campus classes so this is not a major problem. The fact that the assignments are due within a weekly time interval makes accountability visible not only to me, but also to them and their classmates."

Grading

To encourage all to participate, it is suggested that a grade be tied to the students’ level of participation. Graham, Cagiltay, Lim, Craner and Duffy (2001) conducted interviews with faculty members teaching online, and developed guidelines for creating effective discussions using ADB. First on their list was requiring students to participate, as outlined in the syllabus or other course document and make their grade dependent on participation.

Most of the instructors I interviewed require participation and tie a percentage of the grade into this measurement. Two of the professors had specific requirements, for example, Dr. Hadaway
requires that each student must post one reflection each week and respond to at least 3 classmates' reflections.

Dr. Hanna uses ADB only as an information source to enhance her F2F class and doesn’t include it in her grading schema. The students are encouraged to post questions and read basic course announcements on the board. Dr. Hughes does not demand online postings, but is using the discussion board as a tool to insure that in-class discussion is successful "in quality, quantity, and inclusiveness" Dr. Groulx rolls online participation into a larger assessment of class participation. “Some students prefer to be more active in one context than another, this allows for individual differences.” The highest percentage value placed on the ADB discussions is in Dr. Lackey's course where 50% of the grade comes from the students’ participation. "I systematically review and track the quality and quantity of student postings…I evaluate each response to each question for each lesson (usually 8 - 12 questions) on a scale of 1 - 3. A 1 is a meaningful contribution, a 2 is a good attempt but off-target, and a 3 is an obviously unprepared response (in addition, a blank is no response). I accumulate student scores over several lessons and look for balance in coverage of materials of the course, including problem-solving efforts. There is a lot of subjectivity in this approach, however, the large number of questions is very helpful in identifying patterns of students’ study and output.”

Out of the six who have built in a grading schema tied to the discussions, only one uses quantitative analysis as the sole measurement. All of the others use a mixture of quantity and quality to assess course participation in the discussions. The methods used in this type of mixed assessment are as individual as the professor. Dr. Page stated that his method is crude, "I judge
by the volume and the quality of questions and answers. It could be that one or two really great thoughts would get the full 10%.

Dr. Hale uses this type of mixed criteria, but adds peer evaluation. "Peer evaluation is mostly an evaluation of individual contributions to the group effort. Sometimes it’s as simple as an e-mail to me telling me their perception of the individual contributions to the group project and why. In other cases, I use the following four questions (responses come as e-mails to me).

1. Did your group apply itself to the task-at-hand?
2. Were you comfortable with the quality of the finished product?
3. How would you characterize the average level of effort by group members: excellent, very good, fair, poor? Why?
4. How would you assess your own contribution to the group?

The debate section in this class uses an adjudication process as part of the evaluation process."

Time Management

In addition to encouraging participation, putting a time limit on how long the discussion will be open for responses has helped keep the entire class ‘together’. This helps alleviate some frustration that both students and instructors might experience with information overload and disjointedness that might occur when postings come in over a period of time. Those who do not post or post late are viewed by fellow participants as not pulling their weight or slacking off (Rossman, 1999).
Dr. Lackey makes his assignments due within a weekly time interval. Dr. Williams also limits the discussions to a week, one of the factors that he attributes to the discussion boards being a successful teaching tool for him.

Feedback

It is suggested that the instructor post a summary of the discussion as it comes to a close either naturally, or because of a time limit. This serves two purposes: it allows the instructor to give timely feedback, and provides closure of the discussion by allowing the students a chance to ‘group’ their thoughts, notes, and comments on a particular subject together before moving onto the next topic.

Include in the syllabus the general time frame in which you will respond to postings and/or emails. “If you don’t post on Saturday’s, let them know.” says Dr. Hale, “we do it for email, do it for your online discussions.”

The online environment encourages student-centered learning. It isn’t conducive to the “Sage of the Stage” type of lecturing, so instructors who encourage peer to peer learning and become more of a facilitator, mentor, “Guide on the Side” are typically more effective in this setting by helping participant master course objectives through discussion and participation (Rossman, 1999). The most effective way to make this transition is by building in interactivity into the course using ADB.
Interaction

One of the main reasons for using ADB in distance courses is to facilitate interaction, which increases learning (Zirkin and Sumler, 1995). One major concern with teaching courses at a distance is the ability to interact effectively with the students (Roblyer & Ekhami, 2000). Are instructors able to interact as much as they do in F2F classes? Is this based on quantity or quality of interaction? How can we tell if this interaction is effective or not?

Types of Interaction

As an instructional designer for Web-based courses, I recommend the use of ADB as the best way to build interactivity into the course to replace the conversations that occur in the F2F classroom. But the dynamics of this type of communication are different than in person. In order to identify ways to make this transition, it would be beneficial to examine how interactivity is defined in the asynchronous environment, and the different dynamics involved.

There are three types of interaction in distance learning: learner to content interaction, learner to instructor, and learner to learner (Moore & Kearsley, 1996). Although learners can interact with the content through a variety of means online (text pages, video, audio, multimedia, graphics), learning can be limited if there is not an avenue provided for students to interact with the instructor and each other. Asynchronous communication provides this avenue.
M.D. Roblyer and L. Ekhami at the State University of West Georgia developed a rubric (www.westga/~distance/roblyer32.html) that might be helpful in determining what types of interaction are used in a course and their level of interactivity.

Using a scale of 0 (no interactivity) to 5 (high interactivity) they put their findings into four categories, Social, Instructional Design, Technology and Impact of Interaction on Learners. The measurements that apply to asynchronous discussion boards are as follows:

**Social** – (High Interactivity) Instructor provides several planned or spontaneous opportunities for sharing ideas, opinions, and beliefs, in pairs or small groups.

**Instructional Design** – (High Interactivity) The course is designed to center around requirements for students to work together to analyze and/or solve problems in pairs or small groups and/or with outside experts; they must share results with the whole group.

**Technology** – (Minimum Activity) Students are required to use email, Listservs, and bulletin boards to do class assignments and communicate with the instructor and one another.*

**Impact on Learners** – Students usually or always initiate communications with the instructor, fellow students, and outside experts.
*Under technology, they list chat, electronic whiteboards, and two-way video-conferencing as technology that would give high interactivity to a course. These are synchronous forms of interaction (Roblyer & Ekhami, 2000).

The comments I received from my questionnaire seem to primarily fit into two of these categories: social and instructional design.

**Social**

An instructor at Northern Virginia Community College found that asynchronous communication allowed an increase (at least 10%) in the volume of learner to instructor interactions. This enhanced the feeling of connectedness with the students, as shown by the fact that many of this instructor's students, who never met her face-to-face during the class, came to her on-campus orientation at the beginning of the next semester after they had completed her course. They wanted to take advantage of the opportunity to meet her in person (Sener & Stover, 2000).

Presenting a personal introduction the first week of the semester can help 'close the distance' between students and the instructor and foster a feeling of connection that is often missing in online environments. The instructor can initiate this by posting their own introduction first, including personal details about themselves, such as family, hobbies or other 'non-teaching' aspects of their lives. Both Drs. Hadaway and Hale model this level of communication in their courses. Dr. Hadaway posts her own reflection at the beginning of the semester and encourages her students to read it. Dr. Hale gives lots of positive feedback and comments on “how much
they have to offer and how important it is to share that knowledge and those experiences with others.” She feels that this effectively models behavior for her students. She relates one experience, "A couple of times early in the semester, students posted that they didn’t have the experience of others or were “only” an elementary physical education teacher, for example. Other students popped right in, before I even got there, to tell the student of the value of his/her input and perspective. I like to think that if I model a supportive environment, my students will do the same. Haven’t been disappointed yet !"

By integrating a 'personal' or 'informal' aspect into the discussion boards, all participants are encouraged to view the instructor and fellow participants as real people who face similar stresses and concerns. This also encourages participation. On the other hand, if the atmosphere is formal, students might think that their postings will be scrutinized as closely as a final paper, and more reluctant to post. This will inhibit the flow of conversation and thus the true benefits of this type of communication (Santo, 2000).

Many have found that posting a picture of themselves has helped others feel connected because they have a face to attach to the postings. Also, instructors can let them know if they want to be addressed by their first name or not. (Rossman, 1999) Dr. Hale created a separate discussion called the Sport Club where students were required to post an introduction. She is using WebBoard™, which allows photos to be inserted into the postings. Some of the courses being taught through UT TeleCampus have their students post photos with introductions. This allows all the participants to feel connected to the other students and the instructor.
Gilly Salmon points out in her new book "E-moderating, The Key to Teaching and Learning Online" that it may take some time for students who are new to this type of communication to become comfortable. These students are slow to post, but will often read others postings. They often ‘browse’ until they start to feel 'at home' with the environment, both technically and socially, then they will begin to contribute. If empathy is displayed at this early stage of the course, a supportive and encouraging atmosphere can be created. Along with a feeling of acceptance, respect for each other and their opinions can be built into the environment at an early stage by example (Salmon, 2000).

In order to keep the discussion on a positive level, Dr. Hadaway makes it a rule in her class discussions that there is no whining or complaining. "I have made a general comment to keep the discussion positive. This is not a forum for sharing what is wrong with education, their school, etc. In other words, this is not the teacher's lounge where everyone complains and whines about things. It is very important to me that they see this as a professional forum for discussion among professionals"

Netiquette

It is important to set out expectations and guidelines for behavior in ADB. Not too long ago the term "flaming' came into being as a result of discussion participants posting scathing remarks in response to others posting. It seems much easier for people to become easily offended, angry, or defensive because the lack of auditory and visual cues eliminated the non-verbal aspect of communication that we rely on intuitively to filter others comments. Additionally, because this is 'faceless' communication, it is easier for people to write things they wouldn't normally say to
them in F2F communication. As a result of this phenomena, emoticons have been created to try to put some of those cues back into the conversation. Smileys are used frequently in online discussions to convey emotion. For example:

:-)  happy, humorous
:-)  unhappy
:-O   shocked
:-)   winking
:-}   wry, ironic
<g>   Grin
<s>   Sigh
<VBG> Very big grin (Hale, 2000)

Another well-known rule is to not type in all caps, because that is interpreted as yelling online. Even without these tactile ways of inserting emotion into online posting, experienced online users can inject their personality into their writings very effectively (Feenburg, 1989).

Another effective preventative measure that can be used is called 'Netiquette', coined from the terms 'Internet' and 'Etiquette'. These are the rules of proper behavior online, from how to use and word emails, to proper behavior in chat rooms. Posting a link to one of the many netiquette sites or developing your own set of guidelines is suggested.

Some professors encourage socializing in the discussions whereas others do not. "I want to keep the focus on the course", shares Dr. Hughes. Dr. Hadaway stresses "all posting should relate to
course content and should be positive and professional." Overall, inappropriate socializing did not seem to occur on ADB, so most of the professors did not feel that it was an issue. For those who didn't mind socializing or encouraged it, separate discussion threads were set up where students could post off-topic.

Because no one stated that they were having difficulty with keeping students on topic and polite, I did not ask them if they had ever taken strict measures (such as expelling the offender from the discussion).

**Instructional Design**

In my work as an instructional designer, I have heard some professors express concern about being able to control the conversations in these courses. Some have felt that the participants will turn the boards into social 'chat' rooms, not able to stay on topic. After surveying 135 online instructors on this topic, Beaudin (1999) sites four effective strategies to keep discussions on topic:

- Carefully design questions to stimulate discussion
- Give participants guidelines for formatting their responses
- Reword the question if discussion goes off-topic
- Provide discussion summaries
Using these four strategies demands that the instructor be an active moderator. This does not mean that they have to be the main 'voice' in the discussions. In fact, it is often recommended that the instructor might start the conversation with a well-worded question, then step back and allow the students to respond, not only to the instructor, but also the other participants’ postings. Dr. Lackey employs this technique after students have started interacting, "I check on discussion during the week, but am actually letting the discussion run its course through the week and then I follow up with comments." Dr. Page uses questions as his main teaching tool. "I ask lots of questions…they (the students) must be encouraged to do a lot more that just read the online materials - they must think if they are to be able to reason about the subject matter...I can ask Socratic questions that may not have a 'right answer', but are designed to cause thought and sometimes argument." He also sends out different questions to different students via email. "These are non-trivial questions and require thought, maybe even extra reading/research."

Dr. Groulx employs her own style of questioning, 'I'll 'lead' when there's a lull or people are stuck thinking about something from only one perspective, but I'll let most discussions die a natural death. There was one time last semester when I was trying to prompt people to think about the "Heroes and holidays" approach to multicultural teaching. That's when a teacher selects famous people from an ethnic group to study, and has celebrations when various ethnic holidays come around, and if that's all the teacher does it can trivialize the whole idea of multiculturalism. Well, I asked about "heroes and holidays" as a discussion starter on the board, and about a dozen students all wrote in about what a great idea they thought it was. Then I got back in and wrote something about how "some people say that this trivializes the notion of multicultural teaching". This did finally steer the discussion toward a deeper kind of thinking
about what multicultural teaching might entail, but I'm not sure everyone "got it." She adds, "I try to let questions stay open and allow people to explore."

As a moderator, the instructor can watch the flow of conversation and step in only when necessary, perhaps to pose a question that will stimulate thought and responses from a different perspective, to 'support' or 'protect' a participant who has expressed an idea or opinion not in agreement with the majority of the class, or to effectively end a discussion by posting a summary of the conversation. Sometimes the challenge for the instructor is knowing when to step in and when to remain observant but silent.

Dr. Hale shares her method of leading, "The only thing I do initially in WebBoard™ is to set up the threads that the students will use or have the Network Admin add conferences if necessary. Then I stay away from posting until one of several things happens: If there is a direct request to me for a response, I respond immediately, sometimes with an answer; sometimes with a question. If someone is giving someone else some incorrect information, I jump right in. I usually clarify or correct my own errors in e-mail and in WebBoard. If someone says or does something that deserves celebrating, I jump right in (e.g., when a student finally successfully attached a document; when a student makes a clear concise post of a difficult concept, etc.). I sometimes post to reinforce a student’s comment or to get the students to extend the comments of a student. Content-related comments are somewhat more sporadic than the others."

It is important for instructors to act immediately if there are strong opinions expressed and postings start taking on an emotional nature. Flaming in these discussions can make everyone
uncomfortable and effectively shut down the interaction. One method of dealing with this is through private emails to the offending participant. (Salmon, 2000)

Dr. Lackey says that the biggest challenge in using discussion boards in his class is "trying to be efficient (time wise) yet effective in rounding out the learning of the discussion. Similar to the task in an oncampus class, one has to provide direction without stifling student creativity. The difference is that online you don't always get a second chance, whereas in an oncampus class you can explain your meaning in response to additional student comments of quizzical looks."

Dr. Groulx adds, "Another discussion we got into that can generate quite a bit of opinion is about "punishment" as a way to discipline in school. The students are pretty good about challenging and giving opinions in safe and respectful ways. If I see things might get touchy I'll inject a comment that tries to protect a person's right-to-speak but also indicates there are other perspectives that people can offer."

Some of the other recommended techniques cited in Beaudin's study are:

1. Formally present rules of conduct that eliminate off-topic comments
2. Formally state the expectation that online discussions stay on topic.
3. Provide alternative locations for off-topic discussions.
4. Screen all postings and route off-topic posts to alternative locations with an explanation to the submitter.
5. Include a reminder that responses stay on topic with all posted questions.
6. Privately reprimand and provide corrective suggestions to learners who submit off-topic comments

7. Provide a reward for keeping on topic.

8. Proved a grade for keeping on topic

9. Expel offenders from the discussion after 'x' number of off topic submissions

(Beaudin, 1999)

Although a few of these strategies seem rather extreme, there have been situations when instructors have needed to take stricter measures to provide the needed guidance for the benefit of the entire class.

At a distance learning conference I attended recently, a speech instructor's experience illuminates this well. The instructor found that it was necessary to reprimand one class participant because she was posting comments in the discussions criticizing her fellow classmates about not posting and the quality of their posts. This had a very detrimental effect on other class participants and effectively inhibited class discussion because others ended up not wanting to post. Similar to what should happen in a F2F class, this instructor did not post a reprimand on the discussion board, but rather addressed the issue directly to the individual via email by pointing out how this behavior was affecting the other students and reminding her of the purpose of the discussions. When relating this story, the instructor emphasized that even though this student's behavior shocked her, she is not discouraged from using the discussion boards because it happens so rarely.
Time Management

Another instructor's experience was that the technology made it easier to give rapid and well-organized feedback to many students, especially in large classes, a definite advantage over on-campus classes. In addition, this instructor noted an increase (at least 10%) in the number of student/instructor interactions (Sener and Stover, 2000). Many of the professors I interviewed state that time management, or the amount of time they spend on these discussions, is challenging and they are searching for ways to manage it more efficiently.

Dr. Lackey spends 3 - 5 times as much time teaching online that in his F2F classes. Dr. Hadaway expressed some concern "I feel like I am always at my computer replying. In a class on campus, I teach for 3 hours and the interaction is contained to that timeframe or maybe immediately before or after class. Few of our students stay around to chat. They are very busy. However, students often really get into replying on WebBoard and sending emails stating their opinions or offering some little tidbit from the news, etc."

Dr. Hughes shares that the time commitment is the biggest challenge for her using the discussion boards, "I have been using the Discus board to trigger, enhance, and make more substantive ongoing class discussion. In teaching the Aeneid, for example, to a first year poetry course, I have had to write summaries and cull together background information as well as posting discussion questions for students so that when they come into class they have what they need to talk about the assignment. All this substantively extends my preparation time." But the benefit
is "I have better, more engaged class discussions. We can get to the heart of the matter rather than having to devote precious class time to background information."

Ability to use collaboration in the teaching/learning process

Sener and Stover conducted a case study of eight courses developed at Northern Virginia Community College that pointed out the benefits of using asynchronous discussions for incorporating collaboration in the learning process. The instructor of an Intro to Engineering course felt that the success of online collaboration was directly related to the number of students enrolled in the course. It seems that there was a critical mass required for the discussions and collaborations to run smoothly. Although some students preferred F2F meetings, many felt that F2F meeting impeded the flexibility and convenience they were looking for by taking an online course. In this course, online collaboration was usually successful (Sener & Stover, 2000).

Dr. Hale feels that one of the biggest benefits to using ADB in her online courses is that it "allows for collaborative learning…Part of the learning takes place when reading and perhaps, responding to the posts of others." Dr. Page notes that "the record of the discussions help everyone share ideas and decide where they are in comparison with what I expect and the with other students." Dr. Hadaway says that small group discussions occur as a result of students responding to other students’ posts. Dr. Groulx touched on the fact that these discussions give experiences that tie into various learning theories. To name a few, Vygotsky’s zone of proximal development (ZPD) and scaffolding, Piaget’s schema formation through assimilation and
accommodation, and Kholberg's ideas about oral development through discussion of dilemmas. ADB is a fertile forum for constructivist learning in general.

In line with Vygotsky's ideas about ZPD and learning through interaction with more competent peers, Roblyer and Ekhami’s Rubric for Assessing Interactivity in Distance Courses identifies small group work as being highly interactive, where the students are required to work together to analyze and/or problem solve together and then share results with the class (Roblyer and Ekhami, 2000). Kaye states that ADB potentially can provide a forum for different ideas and types of information from many peoples' minds to be woven together, creating new or greater understanding (Mason & Kaye, 1989). ADB facilitates peer to peer learning as students share their expertise or experiences, helping others in their understanding of a particular subject (Rossman, 1999). In addition, ADB make possible the means for having a range of 'experts' participate and become a resource in the discussions (Mason & Kaye, 1989). All of the capabilities of ADB allow for a type of learning synergy to happen with the flow of information and discussion (Salmon, 2000).

Dr. Lackey shares that the biggest benefit for his class is "from a learning standpoint, student thinking is very visible to the students, to other students, and to me. Unlike the case of a three hour class meeting, the record of student thinking on a lesson is accumulated over the course of a week and is visible for review throughout the semester. Student input is more likely to be of better quality too because the student has a wider timeframe to make their contribution to the discussion." He feels that the quality of work posted by the students is of higher quality because
it will be read by fellow students, "Sometimes I receive emails from students commenting on the quality of another student's input relative to their own input."

Dr. Williams feels that learning does indeed take place in the discussions, "When I get a thoughtful, well-written response that's clearly better than what everyone else has done, it raises the game and all responses get better."

**Biggest Challenges and Benefits**

Although some of the challenges and benefits of using ADB have been highlighted already in this paper, I want to list all the responses from the professors.

**Biggest Challenges**

The question I posed was "What is the biggest **challenge** to using online discussions in your course?"

Dr. Groulx - "At the beginning, it is making sure everyone is comfortable and will get into the habit, and will feel they benefit by participating. Later on, I have to work at not interjecting too often and trying to encourage students to communicate among themselves rather than directing their comments to me. It's hard to resist jumping in the and TEACHING all the time."
Dr. Hanna - "Pranksters: It is possible to 'masquerade' as another student and the has been misused."

Dr. Hughes - "In part, time commitments. I have been using the Discus board to trigger, enhance, and make more substantive ongoing class discussion….all this substantively extends my preparation time."

Dr. Williams - "Finding good material. This takes a lot of time."

Dr. Hadaway - "Helping students understand the requirement. Monitoring the requirement in order to assess points for the final grade."

Dr. Hale - "Knowing when to respond and when to keep quiet and let the other students respond."

Dr. Lackey - "Trying to be efficient (time wise) yet effective in rounding out the learning of the discussion. Similar to the task in an oncampus class, one has to provide direction without stifling student creativity. The difference is that you don't always get a second chance, whereas in an oncampus class you can explain your meaning in response to additional students comments or quizzical looks."

Dr. Page - "Deciding on how best to foster interaction with me and between students. If I'm successful, I shouldn't have any assignments where most of the class does badly. Yet engineers
are reticent and are used to working mostly alone. The ones that interact seem to do well in the assignments."

Benefits

Here are the responses to the question "What is the biggest benefit to using online discussions in your course?":

Dr. Groulx - "Being able to stay in touch with class members, help answer immediate questions rather than waiting for class, promoting a sense of 'community' outside of class, having more sensitivity to what people are concerned about and being able to weave those concerns into the next class, promoting thinking about ideas in a more connected, continuous fashion rather than just during class hours, allowing some students to express themselves, who don't normally speak up in class."

Dr. Hanna - "Allowing students to ask questions after hours, especially the night before the exam."

Dr. Hughes - "Because of what I do above, I in fact have better, more engaged class discussions. We can get to the heart of the matter rather than having to devote precious class time to background information."
Dr. Williams - "Students improve their writing and thinking by virtue of seeing the quality of work that others produce."

Dr. Hadaway - "Allows for the interaction that is missing from face-to-face instruction. Some students may contribute more online that with class discussion in on-campus classes. Allows students who are non-native English speakers or hearing impaired to participate at a different level."

Dr. Hale - "Allows for collaborative learning. It’s one way that I know they're thinking :-)"

Dr. Lackey - "From a learning standpoint, student thinking is very visible to the students, to other students, and to me. Unlike the case of a three-hour class meeting, the record of student thinking on a lesson is accumulated over the course of a week and is visible for review through out the semester. Student input is more likely to be of better quality too because the student has a wider timeframe to make their contribution to the discussion."

Dr. Page - "It takes the place of all the classroom to and fro. I ask lots of questions in class and the discussion often brings out critical problems that the students are having in understanding the material. I need the feedback and they must be encouraged to do a lot more that just read the online materials - they must think if they are to be able to reason about the subject matter. They need it to make them think, I need the feedback and the record of the discussions help everyone share ideas and decide where they are in comparison with what I expect and with the other students."
I was curious to find out if these professors had (or didn't) a teaching assistant or some other form of assistance with these discussions, and if they did or would let the TA moderate them. Many of them said that they might allow a TA to help them selectively, but not all of it. Dr. Hale says "I want to know what's happening, how and why they're going astray; I want to be there to celebrate their successes… it would be fun to have a TA colleague, but we would duplicate, but (I) wouldn't delegate." Dr. Groulx feels strongly about this, "No way, I want to hear what's going on with the student's thinking". In Dr. Hadaway's case where she is teaching three class with a combined total of 68 students "They can be a moderator of the boards, but I would function in that capacity as well." With a bit of humor, Dr. Page adds "I think (I'd let a TA moderate), if I was sure he/she really knew the material. So far my TAs have taken one look at my discussion topics and begged not to be involved."

Because ADB allows for larger numbers of students to participate in class discussions, some have suggested that employing skilled moderators to manage these discussions is the way to expand the reach and scope of the boards. One new book, E-moderating, The Key to Teaching and Learning Online by Gilly Salmon, promotes the idea that the professor of the course, the one primarily responsible for the content, not be the moderator of the ADB discussions. She has developed a model that can be used to train moderators who are familiar with the content, to be successful, effective discussion moderators. In this way, large numbers (she is referring to classes upwards of 500 students) of students can be served through ADB (Salmon, 2000).
there a number that is too few for effective discussion? Is there a ‘critical mass’, the magic number that makes it work? When do these classes become too large for one instructor to handle? This gives instructors and designers something to think about when developing these courses for the online environment.

Recommendations

Many of the professors interviewed shared their recommendations for other instructors who are just starting to use ADB in their courses.

Dr. Lackey recommends being systematic and regular.

Dr. Williams says "Try it. The key is to find great material to discuss and then insist that your students participate."

"I'd recommend that they think carefully about what questions they might ask to inspire deep thought about the subject. It seems simple, and it is with practice, but I found it a little difficult to balance the level of difficulty with the fact that the students are learning this stuff for the first time." shares Dr. Page.

Dr. Hale listed her suggestions.

• Assign moderators and “coach” them in their roles. Assign other roles within a small group initially, too (responder, summarizer, etc.)
• Recognize the moderator’s tendency to do it all.
• Recognize the moderator’s frustration with non-participants.
• Consider having a closed conference room open only to former moderators – good place to vent. Model the behaviors you desire in your students – post examples when appropriate.
• Let students know what they can expect from you with regard to posting in conference rooms – you do it for e-mail, do it for conference rooms. If you don’t post on Saturdays, let them know. If you don’t comment in some conference room, let them know.
• Give credit (points toward a grade) for interaction among students.
• To keep message reading manageable, set up small group or team conference rooms, then have the team post their final product to a general, public space.
• In WebBoard, start new threads. Conference rooms and threads with lots of posts take a long time to load. Add conference rooms and threads when this happens.
• Don’t establish all conference rooms you’re going to use in the very beginning. It’s too overwhelming to students. Add them as the discussion unfolds.
• Don’t forget that you have chat, e-mail, and a phone when conferencing doesn’t meet your needs. I use it all to communicate with individuals, small groups, and the entire class.

*Successful Strategies for Using Asynchronous Discussion Boards*
In conclusion, I have blended the strategies these professors use to help them use ADB successfully in their courses with those from the literature, to create this list of successful strategies. These strategies seem to fit best into two categories: Interaction and Instructional Design.

Interaction

♦ Encourage participation by letting your students know that ADB is available and how to access it. Lead them through this process the first time. Have technical support resources ready at the beginning of the semester.

♦ Start the discussions: post a question, post your thoughts or ideas, and post your introduction.

♦ Establish the level of informality. Model this in your introduction. Tell them if you like to be called by your first name or a title.

♦ Provide LOTS of encouragement and support. Model this type of online behavior for your students. Commend individuals via email.

♦ Have a posting requirement written in your syllabus or course expectations. Reinforce this in your comments with each new discussion.

♦ Make participation a requirement as part of the course grade. State this very clearly in your syllabus.

♦ Suggest time management strategies for students who are slow to post.

♦ Provide Netiquette Guidelines to all participants.

♦ Set up separate discussion areas for social discussions between students.

Instructional Design
♦ Put your grading schema in writing to let students know what your expectations are. Possible criteria for grading: quantity, quality, peer evaluation, or a mix of these.

♦ Post questions that will stimulate discussion; re-word the questions if necessary to elicit better responses.

♦ Give LOTS of timely feedback. Establish in your syllabus or course guidelines a time frame in which you will respond to postings.

♦ Don't LECTURE in ADB; re-work your content if need be to make it more learner-centered, project-based, or collaborative.

♦ Divide class into smaller groups for discussions and collaboration. Have them assign one person who will post the groups' response.

♦ Put a time-limit on how long the discussion will be open.

♦ Resist the temptation to jump in too often, don't teach, but let the discussions flow, only stepping in when required or necessary.

♦ Write a summary of the discussion to bring it to a close.

♦ Manage emotionally charge discussions directly with individuals through email or phone calls.

I want to thank all of the professors who participated in this study. The information and experiences they've shared have confirmed what I suspected were best methods for using Asynchronous Discussions Boards. It's interesting, but not surprising, to note that many of these strategies are used by successful instructors in F2F classes also. I believe many professors use many of these methods intuitively in the classroom, without being aware of what it is exactly that
makes them successful communicators and teachers. Without being able to identify their methods in real-life, they cannot attempt to adapt them to the online world. The online classroom is a different experience for both instructors and students alike. The methods that work in F2F classes must be adjusted and adapted for the online environment to be used successfully. The goal of this paper was to highlight these methods along with actual real life experiences so that more professors and instructional designers can see how they might embrace this versatile tool and use it to either expand their classrooms, or to increase the level of interactivity with their students at a distance.
References


Mason, R. & Kaye, A. (Eds.), Mindweave: communication, computers, and distance education, p.3, 6, 9, 11, 23


Roblyer, M.D. & Leticia Ekhami (2000, Spring), How Interactive are YOUR Distance Courses? A Rubric for Assessing Interaction in Distance Learning, Online Journal of Distance Learning Administration, Volume III, Number II, Retrieved from the World Wide Web April 4, 2001 http://www.westga/~distance/roblyer32.html


Appendix A

Questionnaire for Faculty on Online Discussion Boards

1. How do you use online discussions in your course(s)? (Check on all that apply and add any not listed.)
   - Basic course Q&A
   - Course Announcements
   - Whole class discussions
   - Small group discussions
   - Give assignments
   - Have students post assignments
   - Online office hours
   - Other ____________________________

2. Is participating in online discussions part of the course grade?  
   If online discussions are graded, how do you evaluate participation?

3. What do you do to encourage students to participate?  
   If some students are reluctant to participate in online discussions, what do you do (if anything) to assist them?

4. Do you allow for social discussions not directly related to the course or topic? Why? Or why not?  
   If you allow social discussions, where do those discussions occur? Do you set up a special place for this?

5. What is the biggest challenge to using online discussions in your course?

6. What is the biggest benefit to using online discussions in your course?

7. In what course(s) are you using online discussion this semester? How many students are in these courses?

8. Do you have any assistance with your course(s) (TA, GTA, other)? If so, how do you use this assistance to help you manage the online discussions?

9. What online conferencing software do you use?  
   - WebBoard
   - Discus
   - Other__________________________
Appendix B

Resources

Texas Christian University – http://www.tcu.edu

UT Telecampus - http://www.telecampus.utsystem.edu/

O’Reilly WebBoard™ - http://webboard.oreilly.com/

Discus™ - http://www.discusware.com/discus/


The Technology Source - http://horizon.unc.edu/TS/

Netiquette pages


The Core Rules of Netiquette are excerpted from the book Netiquette by Virginia Shea -

http://www.albion.com/netiquette/corerules.html

Tips on polite usage of the Internet, list of links to resources -

http://www.cochran.com/start/guide/Netiquette.html