The "Classroom Flip"
Workshop Session #3 – Keeping in Touch

Goals for this session
During this session, we will
- examine three settings for discussion in a Web-enhanced class,
- identify some effective practices in preparing for and incorporating discussion into your class, and
- provide you with some practice in using the features of your Course Management System to set up areas of online discussion.

Outcomes for this session
By the end of the session you should
- evaluate your current use of discussion in your teaching,
- identify some approaches to discussion that are appropriate for your course,
- create a plan for the use of discussion in a unit of your course,
- have at least two discussion starters prepared to use for the course and a plan for how students are to respond to them,
- be able to set the options to customize the Chat area of your online course site,
- be able to establish forums for student groups in the Bulletin Board area of your online course site,
- set the properties of forums to make them public or private and to allow or disallow anonymous postings, and
- be able to use the designer tools available to you for monitoring and managing student discussion.

The Pedagogical Role of Discussion

Harasim, Hiltz, Teles and Turoff (1995) argue that "high-quality interaction and sharing . . . is at the heart of education"(p. 173). This is the contribution that questioning and discussion bring to the learning process. Although most faculty use questions of some kind in their class, a study by Carol P. Barnes indicates college professors often do not use questions effectively. In her summary of Barnes research, Weimer (1989) says that two of the key problems are that faculty do not spend any significant amount of time asking questions and that the kinds of questions asked are "simple, regurgitative questions" that don't require students to think (p. 70). Barnes argues, "One of the primary tools at the professor's disposal to infuse this atmosphere (of excitement and vigor) into his classroom is questioning, an age-old technique, but one which has not yet been tapped for its full potential" (cited by Weimer, 1989, p. 71).

As Funaro (1999) points out, "it is not so much the tool that improves teaching and learning but how the instructor integrates the tool into the curriculum and into the educational setting. An important step in integrating technology successfully is beginning with an explicit definition of the pedagogical role for that technology" (para. 1; footnotes omitted). The pedagogical shift here is in emphasizing learning which either is part of an activity (activity theory) or is situated in an authentic environment (situated learning)— and discussion is an important part of the strategy. Advocates of this shift promote the design of "learning environments that are more authentic, situated, interactive, project-oriented, interdisciplinary, learner-centered, and which take into account the varieties of students' learning styles" (Berge, 1997, p. 13). In comparison with the typical use of low-level questions identified by Barnes, Ewens (1989) argues that carefully planned "discussions elicit higher levels of reflective thinking and creative problem-solving, including synthesis, application, and evaluation. There is also evidence that information learned through active discussion is generally retained better than material learned through lecture" (p. 27).

If Ewens is right, then why isn't discussion being used more and used more effectively? There are at least two factors that work against good discussion. One is that college faculty often haven't learned how to plan for discussion and the other is that discussion is not an efficient way of arriving at conclusions.

Working through a discussion to come to some meaningful closure requires time and thought. If a faculty member is concerned about having enough time to cover a certain amount of material during a class period, then he or she is not going to devote substantial parts of that time for discussion. But even if a whole period is given over to discussion, there still might not be enough time for adequate discussion. The "Classroom Flip" model attempts to address these concerns in two ways: (1) By moving rote lecture material out of the classroom, more time is available for such learning activities as discussion and (2) by using a CMS, other discussion areas are provided for the class. By enhancing a face-to-face class with a CMS, there are at least three different settings in which discussion can occur:

- In class
- Synchronous online (Chat rooms)
- Asynchronous online (Bulletin Boards)

The strategies for in-class discussion are adaptable to facilitation of online discussion, as well, so let's begin by examining effective practices in discussion and then deal with the special characteristics of online discussion.

Effective Practices in Discussion

There is widespread agreement that effective discussion requires careful preparation on the part of the instructor. In fact, Cashin and McKnight (1989) contend "an effective discussion requires much more preparation than an effective lecture" (p. 34). Planning for classroom discussion requires a knowledge of the purpose for asking the questions. What is the end to be achieved and how does it fit within developing or assessing student understanding of the topic under discussion?

Although preparation is necessary, many discussion strategies are relatively simple to implement and clear guidelines for their use in the classroom are readily available from the literature. Many involve pairing up students for a few minutes of focused discussion rather than throwing a question out to the whole class and waiting for someone to answer. Frederick (1989), for example, suggests a "Goals and Values Testing" exercise in which students "pair off and decide together what they think is the primary value of the particular text for the day, and how their consideration of it meshes with course goals" (p. 10). After five minutes of discussion, the pairs report on their reactions. Johnson, Johnson and Smith (1998) present procedures for a number of different cooperative strategies. They include "Turn to Your Neighbor Summaries"—in which students turn to a classmate and formulate answers to questions following a set of specified steps (p. 2:21)—and "Read and Explain Pairs"—in which the two students check one another on the accuracy of their summaries of assigned readings (p. 2:22).

Guidelines for Preparation

Here are some guidelines for the preparation for discussion:

- Know what the goal is for the discussion; what are you trying to achieve by having the students engage in discussion?
- Plan activities that have specific objectives in order to generate purposeful responses (Reiss, n.d.).
- "Make sure students have prepared for the conference by reading all the assigned readings first. The discussions should be literature-based" (Lai, 1998, para. 56).
- Identify content and concepts you want students to explore (Reiss, n.d.).
- Plan the discussions "so that they will complement what happens in the rest of the course. They should not be tangential to the course" (Sherry, 1998, para. 3).
- Focus discussion on crucial points (Sherry, 1998).
- "Develop questions or directions that will lead students to think about the topics in a way that generates and demonstrates understanding" (Reiss, n.d.).

Guidelines for Guiding the Discussion

These guidelines deal with the faculty member's role in guiding the discussion:

- Serve as facilitator; "The teacher assumes the roles of a facilitator, a resource provider, or a research librarian rather than an expert dispensing knowledge to the student" (Berge, 1997, p. 14).

- Step back and let the students discuss without saying too much yourself (Cashin & McKnight, 1989); "A teacher who answers everything will decrease the opportunities for student participation, and the conference will become teacher centered rather than student centered" (Harasim, Hiltz, Teles and Turoff, 1995, p. 177).
- Create a friendly environment for learning (Sherry, 1998; Harasim, Hiltz, Teles and Turoff, 1995, p. 177); "Whether instruction takes place in a conventional face-to-face class or a Web-based electronic forum, promoting a comfortable environment for communication is essential to encourage students to speak in class" (Cummings, 1998, para. 2).
- Create an expectation of participation (Cashin & McKnight, 1989)
- Invite responses and encourage interaction (Harasim, Hiltz, Teles and Turoff, 1995)
- Encourage and recognize students' contirubtions (Cashin & McKnight, 1989)
- Allow for silence; "Students need to be given time to think" (Cashin & McKnight, 1989, p. 35); "A teacher . . . should be patient in waiting for student responses and not rush to fill the silence" (Harasim, Hiltz, Teles and Turoff, 1995, p. 177).

Before we move to a consideration of the special characteristics of online discussion, take a few minutes to assess the role that discussion plays in your teaching. After you have thought about the following questions, then share them with your neighbor and listen to his or her thoughts.

Question	Your Thoughts
How are you using discussion now? What amount of time in a typical class session is devoted to discussion? If it is less than three to five minutes, what impediments are there to using more discussion?	
If you are primarily lecturing, how can you interject more discussion opportunities into your class? For example, can applying the "Classroom Flip" and moving some lecture material online help provide more time for discussion in class?	
What percentage of your students actively engage in regular discussion? Are you satisfied with the proportion of students in participate in them? Are you satisfied with the quality of discussion? (Neff & Weimer, 1989, p. 41).	
Do you include discussion/participation as part of your grading system? If so, what criteria do you use to determine each student's participation grade? Do you share the criteria with students? In class? On the syllabus? Do these criteria require objective or subjective assessments? (Neff & Weimer, 1989, p. 51).	

Characteristics and Benefits of Online Discussion

Characteristics

Online discussion can either take place when students are logged in at the same time and sharing messages back and forth in real time (synchronous) or at the student's convenience regardless of whether others are online at the time or not (asynchronous). Course Management Systems provide chat rooms for synchronous discussion. (There are other methods for synchronous discussion, notably MUDs and MOOs, but they are not provided within a CMS.) Asynchronous discussion is done through a Bulletin Board. Although Chat rooms are important from true distance education, where students are not physically proximate, faculty who are using a CMS to enhance a face-to-face class find it less useful. Therefore, the discussion of benefits for online discussion will focus more on asynchronous discussion within a CMS Bulletin Board.

Benefits

Situates learning in a social setting

Learning occurs naturally within a social setting. As students develop camaraderie within a discussion group, the discussion area becomes "a social environment that can help motivate the learner and create a forum within which ideas can be tested and applied" (Chism, 1998, p. 3).

Increased time for discussion

Often the class bell brings an end to class before a discussion has reached closure. Cummings (1998) points out that the "asynchronous nature of the Web-based course avoids this circumstance. This means that a class discussion can go on indefinitely, or as long as two individuals are willing to devote the time to continuing a dialogue." (Cummings, 1998, para. 21).

100% participation

Since an important goal is to move students from passive to active learners, full participation is essential. Unless an instructor uses some of the small group discussion techniques described earlier, it is difficult to get everyone to participate in classroom discussion. "The quiet student cannot hide in an electronic classroom," Cummings (1998) points out; "being present in class is demonstrated by participating in the discussion" (para. 11). Lai (1998) notes that "participation is easily monitored in computer conferencing and thus creates a pressure for students to participate. It is more difficult to hide yourself behind the medium as soon people will notice who has and who hasn't contributed to the conference" (para. 25).

Gives "voice" to silent students

Some students thrive in the give and take of in class discussion. But there are other students who are not comfortable talking in class. They may be shy or come from cultures "where answers and responses are considered and carefully framed before presentation" (Berge, 1997, p. 8). They are often thoughtful students, who need time to carefully craft what they want to say before they submit it to peer review. During in-class discussion, the other students never get the benefit of the insights these students can provide. When discussion is drawn out over several days, these students blossom and join in the conversation. This relates to the next benefit, as well.

Thoughtful, articulate responses

As the discussion becomes separated from time, the discussion tends to become "the product of more deliberate reflection" (Cummings, 1998, para. 6). The students "can take time to reflect and consider their response" (Berge, 1997, p. 8). The benefits of the writing process come into play, as well. As students prepare their responses they go through multiple drafts, sharpening their thinking and accumulating "data and references with which to substantiate their arguments and positions" (Berge, 1997, p. 8). Lai's (1998) content analysis of class postings "shows that they were generally quite well thought out, and were quite lengthy (as compared to messages posted to newsgroups) and discussions were well elaborated and had depth" (para. 21). This also applies to the instructors, who can "respond to students more thoughtfully than they may be able to 'on the fly'" in class (Funaro, 1999, para. 21).

Supports peer learning

Funaro (1999) notes that online discussion "provides students with a space of their own where they can learn from each other. They can share their thinking with each other and comment on each other's ideas. Students appreciate having a window into the thinking processes of their peers. The asynchronous format also allows students to work through difficult texts and concepts more slowly, and to help each other understand the material" (para. 18).

"Time on task" with content

In order for students to become engaged with the course's content, they must spend time working with and thinking about that content. Participation in discussion outside of class increases their involvement with the material.

Transcript available for review

The fact that the discussion is recorded provides a number of advantages. Students are held accountable for their participation (Sherry, 1998). The comments are available for review later as students prepare for assessment (Cummings, 1998). The instructor can review the conversations and from them "monitor students' level of understanding of the material, catch common misconceptions, and gauge student interest in particular topics" (Funaro, 1999, para. 26). Harasim, Hiltz, Teles and Turoff (1995) make a similar point when they write, "Online group learning is on [sic] opportunity to see what students have learned and how they understand and apply the concepts. . . . The presentation of ideas online enables the instructor to see how the material is being intellectually interpreted and integrated by each student" (p. 181).

Forum for feedback

The threaded arrangement of messages in the Bulletin Board allow students to quickly check on any comments that have come from a message they have posted. This allows the students to benefit from feedback from their fellow students and the instructor (Sherry, 1998). The discussion area provides "a place where students can post their work-in-progress, and a place where instructors, peers, and experts can provide critique and feedback to help students refine their products and performances" (Sherry, 1998, para. 38).

The impact of these characteristics, while providing benefit to the student, also increase the time pressures on them. Sherry (1998) reports that students "remark on the increased work necessary to keep up with the current topic so they can actively participate thoughtfully. They often complain of information overload, increased responsibility regarding online participation, difficulty in following concurrent discussion threads, and the lack of visual cues" (para. 49). Hara and Kling (1999) report a similar experience with an online course, where students "were overwhelmed by the volume of e-mail, and that they fell behind in reading and responding online" (para. 51). There are similar pressures upon the instructor, as well. Cummings (1998) experience is typical:

> I tried to design assignments to force students to interact with each other without a great deal of intervention on the part of the instructor. The element that I failed to take into account was that of feedback. Whereas one may stand in front of class and provide an overview of how an assignment was graded, one has to write everything for the Web. Since it was written and permanent, higher standards were necessary. Simply stated, it takes more time to write a paragraph, especially a well-written paragraph, than it does to speak a comparable number of words in front of the class. And high writing quality is essential because the instructor's writing is serving as a model. Despite the cost to the instructor in terms of time, the conferencing assets of the Web as a tool for promoting interaction among students provide a wealth of opportunities (para. 22).

Effective Practices in Online Discussion

Set Clear Expectations

It is important that expectations and guidelines for participation be clearly established at the beginning of the course. Here are some suggestions for what should be communicated to the students:

- Require participation—"even if ungraded, participation should receive credit, and penalties should accrue for lack of participation. Likewise, rewards should accrue for active engagement in the discussions." (Reiss, n.d.)
- Determine how many times a week students should participate. Harasim, Hiltz, Teles and Turoff (1995) contend that if "participation is any less frequent that twice a week, the discussion can lag and participants become frustrated with the delay in receiving feedback and reactions from peers" (p. 186).
- Deadlines should be set and a weekly pattern helpful. For example, you might establish a day on which initial postings need to be made and another day by which responses to the initial postings need to be done.
- Limit the length of the postings, unless you are using them as a way of delivering reports. Lai (1998) suggests that single-page posting perhaps is the optimal size. Reports could be handled as attachments.
- Reiss (n.d.) suggests the following guidelines:
    a. Length of message (75-150 words, for example)
    b. Level of formality (informal but not colloquial is a typical level—perhaps with a reminder that this space is a class not a cocktail party and that readability and clarity of meaning are the goals, not perfect punctuation although perfect punctuation is welcome)
    c. Time expectations (30 minutes maximum for each message, for example)
    d. Criteria for an acceptable response (for example, must include 1 example from the textbook and another from a journal article) along with any grading criteria—but consider using most of these messages as credited ungraded writing for discovery and learning
    e. Resources you expect students to consult as they develop their responses (if the resources are online, provide active hyperlinks). Invite students to contribute additional resources (and give them credit for doing so).
    f. Naming conventions (topic or subject lines to help you and students manage the messages—for example, include Message 1, Message 2, etc. in the name or have them add to the subject or topic line the name of the person they are replying to "Reply to Kelly B. from Pat S.)

Funoma (1999) provides an example of how the instructor can assist the student in preparing for online discussion by reproducing a handout prepared by an instructor for an Introduction to Humanities class at Stanford University.

Nobody responds to me!

How do I post successfully? How do I get my friends to read my posts?

- think of the assignment in terms of a dialogue not a writing exercise. You want to engage yourself in a discussion about the texts and issues of the course
- this means: elaborate one single idea and keep your message to one paragraph (150-200 words). Texts longer than 150-200 words are harder to follow on screen. Of course, better-formulated and clear posts attract more attention
- before you post: think about the assignment first and take (mental notes) before you read other responses think of a thesis and how you can support your thesis
- then read other posts
- respond to one that contradicts, or supports your own thoughts; one that is lacking evidence or seems to fall short on an aspect that is important to you
- in your response, you can also turn your own thoughts into questions, offer your argument (remember, an opinion is not an argument); play the devil's advocate; ask challenging questions
- avoid hermetic responses that offer only right and wrong perspectives and ignore other possible answers
- if you are the first to post: post with a careful analysis and strong (bold) argument (thesis) and open-ended questions that invite dialogue
- it helps for the readers of your post, if you include a specific quotation from the message you respond to (xx said:""); this way we know who you are referring too
- choose your title carefully (titles, such as "1. Assignment," are far less compelling than content related titles)
- once you have posted, check back if anybody has responded to you and get the dialogue going

Handout for Students in Word & World, Fall 1999 by Mariatte C. Denman [,Stanford University]
(Table 1 in Funoma, 1999)

Establish Grading Criteria

While it would be nice if all students joined in the discussion for the sake of learning, the pragmatic consideration is that if participation in online discussion is not tied to grading then students will see it as unimportant and choose not to participate (Harasim, Hiltz, Teles and Turoff, 1995). Possible elements to consider for assigning grades include:

- How many postings the student reads
- How many responses the student provides
- Length of student contributions

Although these measures are made easy by the statistics the CMS provides on each student's use of the discussion area, they give a student credit for postings that are little more than, "Good job! Liked your posting." Qualitative measures of the value of the contributions are better, but require more work by the instructor or by peers who evaluate the postings.

Johnson, Johnson & Smith (1998) provide some starting points for rubrics for assessment. They provide indicators for three- to five-levels of performance that help determine how well goals were accomplished. For example, in assessing whether or not a student used clear reasoning in discussion, these indicators could be used:

Inadequate	Middle	Excellent
Gives conclusion with no examples or reasons.	Gives some examples and reasons for each conclusion.	Consistently gives for examples and reasons [for] each conclusion.

Source: Johnson, Johnson & Smith (1998), p. 8:28.

Another suggestion is to "include a culminating experience with more formal, graded writing, for example, a paper or test question that incorporates some of what was learned from the discussion, even a citation of a classmate as an additional resource" (Reiss, n.d.).

If postings result from group work, then all of normal issues of grading group work apply—will the group receive one grade, will individuals each receive a separate grade or will there be some combination of group and individual grade?

Determine Groupings

For large lecture classes, break up the class into discussion groups of five to ten people. Have some threads that are for the whole class, but reserve most for within the groups. In a class of 60 students where each student is to post and respond during a week, there will be at least 120 messages to read. Students will be overwhelmed quickly and will just give up trying to keep up with all of the postings. As more and more classes begin implementing online discussion, this will become an increasing problem for students.

Groups can be formed by the instructor or students or both. If you are having students form the groups, an in-class signup with set number of slots is still the easiest way to do this; students forming groups or picking topics and then e-mailing the instructor gets to be an administrative headache and leads to hard feelings when students don't get the pairings or topics they request. Trying to do it through e-mail or online discussion slows down the process, as well, delaying the start of the groups' work.

While students like to break up into groups of friends, Johnson, Johnson and Smith (1998) argue this is the least effective grouping. Their preference is for random or instructor selection with the goal to produce heterogeneous groups in which there is more opportunity to learn from others who have different perspectives.

The size and composition of the groups may vary through the class, though too many group memberships get confusing. Students forget which team is working on what. Generally, don't have more than two different project groupings through the term (not counting small group or pairing activities during a class session).

Guidelines for Facilitating

- Apply the guidelines from in class instruction to invite participation
- "Do not lecture. An elaborate, long, text-based presentation can produce silence. If an electure is used, keep it short and focused, and include open-ended remarks and interesting questions to stimulate discussion" (Harasim, Hiltz, Teles and Turoff, 1995, p. 178).
- Space out discussions to avoid having the students or the grader overwhelmed by postings (Funoma, 1999).
- "[S]et realistic expectations for how many postings you will read and respond to each week and make these expectations clear to the students (Funoma, 1999, para. 33).
- Model responsiveness (Harasim, Hiltz, Teles and Turoff, 1995)
- Provide timely feedback (Hara & Kling, 1999)

- "Participate as appropriate, either as a peer or as a mentor—but definitely provide feedback to praise what is best in their messages and to provide additional information on the topic" (Reiss, n.d.).
- "Encourage students to compliment or respond to one another. One means to do this is to redirect a question from one student to another, who is specified by name. For example, 'John, your question is a very important one. Jane and Ed, what are your thoughts on this issue?' In either the group conference or private messages, ask individuals to respond to particular topics or items, based on knowledge of their interests and experiences" (Harasim, Hiltz, Teles and Turoff, 1995, p. 178)
- Positively reinforce discussion contributions, and negatively reinforce silence (Harasim, Hiltz, Teles and Turoff, 1995)
  - "Close discussion with a synthesis or weaving of the topic (written either by the instructor or by students)" (Harasim, Hiltz, Teles and Turoff, 1995, p. 179)
  - Regular reading of the Forum and integration of ideas from the Forum into class discussions shows students that the instructor takes the Forum seriously. When the instructor refers to a Forum posting but does not summarize its content in lecture, students realize that the Forum is an integral part of the class in which they need to participate, just like lectures and readings. Soon ideas and discussions from section, lecture, and online will blur into one (Funoma, 1999, para. 41).

Cashin & McKnight (1989) provide useful recommendations on how to facilitate a discussion and ask questions that encourage interaction among students. Even though their ideas refer to in-class discussions, most of the principles apply to the online environment as well, such as "request examples or illustrations" and "use divergent questions."

For the class on which you are working, select a discussion method and plan when you will use it in your class. Here are some questions to ask as you prepare for either in-class or online discussion.

Question	Your Thoughts
What is the objective of the discussion?	
How large with the groups be?	
How will students be assigned to the groups?	
What antecedent knowledge do the students need or what is the common stimulus to which they are responding (e.g., reading or video)?	
What discussion strategy will be used? • Posted report with Q&A and follow-up • Faculty question asking for responses • Discussion of key points of text, assigned reading, video or film?	
What are the expectations for students?	
• How often should they log in to post or monitor?	
• How long should the posting be?	

• What requirements for citations of resources or specific references to course material?	
• Requirement to respond to others?	
• When does the thread end?	
What are the criteria by which the discussion be assessed?	
Questions particular to online discussion	
Synchronous or asynchronous?	
In class forum or within group fora?	
Public or private groups?	
Will the summaries of each group be shared with other groups?	

Now write at least one discussion question you will use for your class. Follow these steps from Goodwin and colleagues (1989):
1. Decide on your goal or purpose for asking questions.
2. Select the content for questioning.
3. Phrase your questions carefully.
4. Try to anticipate possible student responses.
5. Write your main questions in advance.

Created: June 5, 1999
Last Updated: September 10, 2000

References

Berge, Z. (1997). Computer conferencing and the on-line classroom. *International Journal of Educational Telecommunications*, 3 (1), 3-21.

Cashin, W. E. & McKnight, P. C. (1989). "Improving discussions." In R. A. Neff & M. Weimer (Eds.), *Classroom communication: Collected readings for effective discussion and questioning* (pp. 33-40). Madison, WI: Magna Publications, Inc.

Cummings, J. A. (1998). Promoting Student Interaction in the Virtual College Classroom. Available http://www.ihets.org/learntech/distance_ed/fdpapers/1998/52.html. (22 para.) Accessed May 9, 2000.

Ewens, W. (1989). "Teaching using discussion." In R. A. Neff & M. Weimer (Eds.), *Classroom communication: Collected readings for effective discussion and questioning* (pp. 27-30). Madison, WI: Magna Publications, Inc.

Frederick, P. (1989). "The dreaded discussion: Ten ways to start." In R. A. Neff & M. Weimer (Eds.), *Classroom communication: Collected readings for effective discussion and questioning* (pp. 9-18). Madison, WI: Magna Publications, Inc.

Funaro, G. M. (1999, December). Pedagogical Roles and Implementation Guidelines for Online Communication Tools. ALN Magazine Volume 3, Issue 2. Available http://www.aln.org/alnweb/magazine/Vol3_issue2/funaro.htm. Accessed May 9, 2000.

Goodwin, S. & colleagues. (1989). "Planning questions." In R. A. Neff & M. Weimer (Eds.), *Classroom communication: Collected readings for effective discussion and questioning* (pp. 91-92). Madison, WI: Magna Publications, Inc.

Harasim, L., Hiltz, S. R., Teles, L. & Turoff, M. (1995). *Learning networks: A field guide to teaching and learning online*. Cambridge, MA: The MIT Press.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book Company.

Neff, R. A. & Weimer, M. (Eds.). (1989). *Classroom communication: Collected readings for effective discussion and questioning*. Madison, WI: Magna Publications, Inc.

Reiss, D. (n.d.). Tips for Interactive Online Learning. (list of 11 points) Available http://waltoncollege.uark.edu/disted/tips_for_interactive_online_lear.htm. Accessed May 20, 2000.

Sherry, L. (1998). The Nature and Purpose of Online Discourse: A Brief Synthesis of Current Research as related to The WEB Project. Article submitted for publication in the International Journal of Educational Telecommunications. Available http://www.cudenver.edu/~lsherry/pubs/dialogue.htm. Accessed May 9, 2000.

Weimer, M. (1989). "Research summary: Professors part of the problem?" In R. A. Neff & M. Weimer (Eds.), *Classroom communication: Collected readings for effective discussion and questioning* (pp. 69-71). Madison, WI: Magna Publications, Inc.