

# WEB-BASED DISCUSSIONS: BUILDING EFFECTIVE ELECTRONIC COMMUNITIES FOR PRESERVICE TECHNOLOGY EDUCATION

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According to Turkle (1995), "In cyberspace, we can talk, exchange ideas, and assume personae of our own creation. We have the opportunity to build new kinds of communities." Technology and teacher education at the University of Virginia's Curry School of Education has included programs such as the Technology Infusion Project (TIP), which promotes collaboration and communication between preservice and practicing teachers in area classrooms. Advances in technology have provided the impetus for exploring additional modes for increasing communication among preservice teachers. As is the case in many educational technology classes at other schools of education, electronic communication initially centered around the use of electronic mail. Every preservice teacher has access to a university e-mail account for communicating with other students and instructors. For the most part, e-mail has increased communication, however, this has been limited to interactions mainly between students and the instructors. Although students were encouraged to communicate with one another to share ideas and ask questions, few took advantage of this resource.

To increase the level of interactivity among peers, students were required to participate in weekly electronic newsgroup discussions, with the hope that these "discussions" would encourage class members to engage in thought-provoking dialogue. More often than not, student responses to the newsgroup resembled individual "reaction papers," rather than ongoing discussions of issues and perspectives. Although students found e-mail helpful in communicating with instructors outside of class, most found class discussion on the discussion group time consuming, and of little worth.

The gaining popularity of the World Wide Web has provided us with some solutions. What has evolved is a unique system for learning about various educational technologies and their professional implications through Web-based collaboration and communication with like-minded peers and professionals. This system, Curry CONNECT, enables the type of electronic communication that is essential for providing successful technical and instructional support, facilitating discussions of current and relevant topics about technology in schools, and fostering the development of a emergent professional community whose members are comfortable with incorporating innovative uses of technology in their teaching practices.

Through the CONNECT site, our goal is to create an environment for open communication on topics of common interest for the students involved in a number of educational technology courses. By creating a virtual community we are opening the lines for collaborative learning (McQuail,

1995) so that large numbers of students and instructors are able to discuss issues without the normal constraints of time and place (Cutler, 1996).

This new medium for class discussion has the potential to change the definition of social roles and lift constraints on the current order of the situation. The ability for a number of participants to read and respond simultaneously establishes a forum in which every participant has an equal opportunity to be heard (Rosenberg, 1992). One of the greatest challenges to overcome in completing this task it to ensure that students are prepared to use the technology. While the opportunity is present for all members of the group to have an equal voice in the discussion, this cannot occur if they lack the technological knowledge to perform the operations required to submit their own contributions.

The technology currently used is primarily Web-based, due to its familiarity and accessibility among students in the current class. Students access this "central" location for core materials, such as the course syllabi, school maps, educational Web sites of relevance to the week's topic, and on-line forms for filling out weekly progress reports. Resources, readings, and threaded discussions are also linked into the site. This concentration of activity served as a first step toward establishing an on-line class community. While creating a virtual class space was simple enough, we were more concerned with ensuring sustainability. What follows is a discussion of the critical elements we believe are necessary for supporting electronic communities.

## **Sustaining Effective Electronic Communities of Discourse**

Relying heavily on student feedback, we are now able to offer a better understanding of what constitutes effective and ineffective uses of electronic discussions. This feedback has informed the assumptions upon which the suggestions offered in this section are predicated. One such assumption is the importance of a group of like-minded peers and professionals, and the role such like-mindedness plays in the formation of an on-line community. A recognition of the concept of community with which we are working is essential to an understanding of our notion of successful web-based discourse and, therefore, must lead this discussion.

When a group of like-minded individuals gathers to share resources and to strive toward a common good, a community is said to exist (Dewey, 1927). Web-based discussions that succeed are the direct result of a concerted effort put forth by members of such communities. This effort is most often provided through the amount of meaning and thoughtfulness embedded in individuals' participation in the discussions, themselves. It has been our experience that, without proper attention to the importance of community, student participation more resembles individual "reaction papers," rather than carefully considered discussions of issues and perspectives. Therefore, fostering a strong sense of community among discussion participants is essential to success.

Effective electronic communities of discourse occur when three fundamental realms of consideration are adequately addressed. First, the intended consequences of the discussion must be explicit and generally agreed upon by those involved. Second, discussion designers and facilitators must be cognizant of the essential attributes of effective on-line discourse. Finally, careful regard must be given to the facilitative structures requisite for sustenance and appropriate progress of the discussion. These realms of consideration are discussed more thoroughly in this section.

### **Intended consequences**

People often view new processes, tools or ideas in terms of solving old problems before learning that, while these new technologies may make the old problems irrelevant, new problems or issues often emerge (Kay, 1992). For example, a typical on-line discourse model involves a conversation between people discussing common issues that begins face-to-face and is then continued via an electronic medium. This model has time and again exhibited an initial stage of general optimism about the successful continuation of the discussion, followed by an overwhelming lack of response and conversation continuity. Similar patterns of response historically have existed among preservice students in technology and teacher education courses. Little attention has been given to the intended consequences —

that is, the constructs which emerge from pedagogical and cognitive considerations that directly impact those who are participating in the discussion.

The same can be said of web-based discussions and their use in teaching education. Being cognizant of the intended consequences means recognizing the need to get to the essence of what we want to accomplish. To achieve this recognition requires an analysis of the pedagogical effects enabled by the technology and of the cognitive residue which occurs as a result of the participant interactions. Success is more likely when both participants and instructors are aware of and agree upon the intended consequences they desire the web-based discussion to produce.

### **Attributes**

The most obvious fallacy associated with web-based discussions lies in the assumption that discourse via the Web is really the same as discourse as it occurs in a classroom. It is not. There exist unique attributes associated with web-based discussions which enable certain communicative endeavors and hinder others. An understanding of these inherent characteristics is essential. Successful implementation hinges upon how well the following attributes of on-line discourse are addressed: (1) convenience; (2) familiarity; (3) accessibility; (4) meaningfulness; and (5) focus.

Convenience suggests that unnecessary barriers to usability and understanding are avoided. The principle of familiarity requires that the discussion group incorporate as many common symbols and metaphors as possible. In fact, these two attributes guided the decision toward web-based discussion groups and away from newsgroups. Again, relying on student evaluation and feedback, newsgroups have proven ineffective due to the cumbersome nature of the still-developing newsreaders and to the unfamiliar nature of the metaphors employed. Accessibility refers to the availability of the technologies and resources necessary to fully participate in the discussion. Web browsers are becoming increasingly available and are commonly found on most computer lab machines, which makes web-based discussions more accessible than those relying on platform-specific or proprietary software. Convenience, familiarity, and accessibility are meaningless if they do not combine to enable meaningful communication that would otherwise be inaccessible. Face-to-face discourse among members of a community is spatially and temporally bound. Web-based discussions allow members to extend the parameters and continue discourse in a meaningful manner. Finally, the most contentious and potentially problematic attribute which requires attention is focus. In this sense, the conversations which occur within a Web-based environment must be focused predominantly on the dialogue content, and not on the technology that makes such dialogue possible.

As a result of these considerations, we have adopted a model that strives for a state of "transparency," in which a

blending of technology and professional practice context-building create a more efficacious environment in which the problem of participation is largely dissipated. Telephone use serves as one example of such a model. One rarely gives a second thought to picking up a receiver, dialing a number, and speaking to a person in the next building, state, or country when the need to talk with that individual is felt. We use the telephone, when appropriate, because it is convenient, accessible, we are familiar with its operation, and - most importantly - it enables meaningful communication which would otherwise be inaccessible. Like the telephone, effective Web-based communication is such when the technology is used in a natural, transparent manner that maintains focus more on the dialogue content between students and less on technological methods that make such dialogue possible. The format of class discussions in this arena have been restructured to reflect this understanding.

### **Facilitative Structures**

Simply creating a discussion area, however, is not sufficient. Sustained dialogue is predicated upon certain facilitative structures. These structures may be grouped according to environmental, social, motivational and expectancy factors.

#### **Environmental conditions**

Environmental structures include factors that enable a comfortable and successful atmosphere for on-line communication. For example, successful discussions are always grounded in areas of professional relevance — in this case, to preservice educators. To facilitate this, instructors pose “talk topics” around which conversations begin. Examples of such topics have been: “The Computer Delusion” (Oppenheimer, 1997), “Acceptable Use Policies,” “Technology Standards,” and “Technology and Equity.” These talk topics encourage participants strive for depth as opposed to breadth of topics (only four topics per semester are introduced). Also, creating an environment where students can relate personal experiences to the issues at hand is essential. Such an environment encourages buy-in and a higher level of participant ownership in the medium. Finally, the availability of adequate technical support is always a mitigating factor in the success of any on-line endeavor.

#### **Social factors**

Social structures are integral to success, and refer to factors that encourage collegiality and meaningful interaction between peers within the group. Our most successful web-based conversations are the ones in which we employ a “moderator” whose responsibilities include responding to students’ comments and questions, as well as raising provocative issues for further discussion when needed. For example, Curry Connect combines students from four separate classes to participate in four discussions throughout

the semester. Therefore, each instructor takes a turn as moderator for one discussion.

We have found our greatest success when we employ what we refer to as the “Cocktail Party” metaphor. It is essential to note here that we do not view a discussion as a singular event — that is, we do not assume that each discussion group is a simply one conversation in which all participants are equally engaged in all strands. Rather, we recognize that each discussion group is actually comprised of several mini-discussions, all occurring simultaneously. Each mini-discussion is represented by a particular strand or thread in the discussion group, similar to the pockets of conversation which naturally occur at any social gathering where relatively large groups gather. Therefore, much like the hostess at a cocktail party, the moderator’s job is to circulate among the various threads and “stir up the pot” or ask and answer questions when necessary.

#### **Motivational issues**

Motivational structures involve those factors that address the issues of control and ownership. For many, these structures provide the most difficult barrier to initiating successful web-based discourse. Questions which often arise with this factor are: Are discussions graded/compulsory? If so, how are they assessed? The answers to these questions will dictate who is perceived to be in control of the discussion group, and will have a definite impact on the quality of the participation of those involved. For example, compulsory participation (“You must post two times each week.”) obviously places the instructor in control, whereas participation which is not mandatory (“You are encouraged to participate on-line; however, you may hand in a word-processed analysis instead.”) allows for a more negotiated sense of dominion. In addition, these issues lead to the question of ownership — another factor which must be explicit and decided beforehand. Those discussions which are highly controlled by the instructor are also perceived as “owned” by the instructor. However, those discussions that are allowed to evolve more naturally — where the instructor is viewed as an equal member of the community — generally result in a higher sense of participant ownership.

#### **Expectations**

Finally, expectation structures involve those factors that address the issues of outcomes and demands. Successful web-based discussions suggest that the more explicit these structures are, the more comfortable the participants will be. For example, the instructor’s expectations of the quality of the discussion postings must be clear from the beginning. If, for example, participants will be held to some type of standard of discussion quality, that standard must be explicitly shared at the outset. In addition, students must understand and be comfortable with the facilitation role the instructor chooses to adopt. The importance of this comfort level is heightened when the nature of the on-line medium brings focus to those students who may have an inordinate

fear of the technology or of communicating in a public way. It has been our experience that technological fears are more easily mediated. However, there is no worse feeling than crafting a discussion response, offering it to the group, and receiving a deafening lack of replies. In this sense, the facilitative role of the instructor must clearly guide him or her to seek out these situations and quickly provide a reaction.

## Conclusion

Recognizing the important role each of the fundamental realms of successful web-based discussions plays will likely increase the probability that your discussion group will succeed, as well. Intended consequences, essential attributes, and facilitative structures are all essential, and combine to create an environment where meaningful and satisfying discourse between groups of like-minded peers can not only occur, but also have distinct educational value.

We realize that relying on technology is not always the best solution and affirm the importance of maintaining personal relationships; however, we also believe that in some circumstances it is desirable to develop electronic communities which further enrich students' experiences and opportunities to grow.

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