

Knowledge Building Community: Keys for Using Online Forums

By Qing Li

“Successful employment of online forums can foster a knowledge building community in which desired student qualities are cultivated.”

Constructivism is the philosophy that has been cited most frequently in the past 20 years in education. It has been argued that a constructivist philosophy offers a means of education that would result in knowledge generation and creation; therefore, it is superior to other views. Making the shift toward a constructivist philosophy, however, requires a fundamental change in which we need to consider knowledge building communities rather than isolated students (Scardamalia & Bereiter, 1992). The focus of knowledge building communities is on developing a collective knowledge base and enhancing learners' problem-solving skills.

Increasing attention has been given to the ways in which technology can be used to support and facilitate collaborative knowledge building. Technology is no longer perceived as solely hardware and software; rather, it also includes instructional strategies and teacher-student interactions. It has been argued that appropriate technology “should be particularly effective in supporting knowledge-building learning communities” (Gilbert & Driscoll, 2001), because it can extend learners' cognitive functioning and enable learners to build personal interpretations (Jonassen, 1995), and support, guide and extend the thinking process (Derry & Lajoie, 1993; Hannafin, Land, & Oliver, 1999).

This paper presents strategies for using online forums to promote collaborative knowledge building. The approaches presented here apply both to online learning and to blended learning environments.

Why threaded discussion?

Social interaction is considered to be the heart of collaborative knowledge-building communities (Scardamalia & Bereiter, 1994). According to Scardamalia and Bereiter (1999), a major challenge in face-to-face learning is that even though free-wheeling classroom discussion usually generates a lot of good ideas and questions, these ideas and questions are often abandoned for reasons such as time constraints. Online forums can meet this challenge and provoke sustained knowledge generation because they provide a space for students not only to develop ideas and questions, but also to store these ideas and questions so that they are always available for further discussion and revision.

Online discussion can “support reflection and other forms of higher-order thinking” (Hannafin et al., 1999) (such as reflection and synthesizing) which enhance students' learning. Smith (2000) points out that well structured and appropriately facilitated online discussion can provide a learning environment that allows the immediate application of new information to learners' personal and professional lives and is a forum where they can demonstrate their

knowledge. Online forums often attract more students to participate than typical face-to-face discussions do because forums are more flexible; they provide time to reflect and think and allow both introverted and extroverted students to be involved in discussions (Smith, 2001).

The majority of distance courses rely heavily on online forums (Muilenburg & Berge, 2000). The online forum plays a vital role in such courses because it helps establish a learning community through which learners generate knowledge. In fact, failure to build a learning community directly results in unsuccessful learning (Palloff & Pratt, 1999). Palloff and Pratt (1999) refer to Brookfield (1995) who says that in such a knowledge building community, a sense of autonomy, initiative and creativity is promoted while questioning, critical thinking, interaction, and collaboration are encouraged and facilitated."

For all these reasons, it seems to be important for us to employ online forums in both distance and blended learning environments, in order to promote collaborative knowledge building. The technology itself, however, cannot guarantee the development of a knowledge building community. A careless structure, lack of clear guidance or the inappropriate facilitation of online discussion could result in a total failure. Hence, what constitutes effective strategies for the facilitation of an online forum? How should an online forum be structured? What is the role of the learner and the instructor in the process? Based on available literature and previous studies, a list of strategies for using online forums successfully to develop knowledge building communities is presented in Table 1.

Context

Establishing a friendly, free, safe and open online environment rather than a hostile environment is crucial to the development of a knowledge-building community. To start with, an effective introduction of students to each other helps create a sense of connectedness. One effective way of opening is to ask students to share their learning autobiographies in online forums. This exercise not only helps students establish a rapport with each other, but also requires them to reflect intentionally on their previous knowledge and experiences. They share the same jokes and stories; hence they share a bond that is unique to the group. This bond will make the group more of a learning community than a collection of individual students.

We should not expect students to know automatically appropriate net "behavior." Rather,

we need to teach students good "netiquette" from the beginning (Palloff & Pratt, 1999). For example, we should teach students that the tones of voice in text messages are conveyed by the way the words are presented. Bold and capital letters are often viewed as shouting. Always double check messages before posting them online to make sure they are respectful of others and of different viewpoints. Obviously, behaviors like *name calling and emotional outbursts* should be disallowed. Stressing the importance of netiquette up front helps to avoid most conflicts.

When conflicts do emerge, there is no need to panic because conflict itself may not be a bad thing. If the conflict can be directed to facilitate learning and assist in reaching the course objectives, it can affect the knowledge building community positively. The online process of conflict resolution and the consequent interaction have great potential in the establishment and growth of a knowledge building community, particularly when norms and procedures for conflict resolution are established and executed (Palloff & Pratt, 1999). However, if conflicts become heated and start to defeat learning objectives they need to be handled immediately because they may ultimately destroy the learning community. One important strategy is to delete "flame" messages immediately. Then contact the person who posted the inflammatory message privately via phone or email to explore the reasons behind the message, and to give a warning about the consequences of repeating such behavior. Regulation and consequences need to be established early and enhanced continuously in order to facilitate collaborative knowledge building.

A less serious situation that may impact collaborative knowledge building negatively is the dominance of a forum by a few individuals. Just as in face-to-face discussions, one or two students can dominate the online discussion and hence squash other students' dialogue. This may decrease learners' sense of connectedness and coalescence. An appropriate way to handle domineering behavior is to contact the individuals via email or phone to determine the cause, and negotiate ways of learning with them in order to further the learning of the whole class as well as each individual.

Authentic topics for discussion are another critical aspect of online forums that facilitate collaborative knowledge building. Authentic topics enable students to relate their prior knowledge and experience to the new learning. Instructors need to be prepared and open to the expectation that some postings may be different

<p>Context</p> <ul style="list-style-type: none"> • Establish a friendly, open environment • Use authentic tasks and topics • Emphasize learner-centered instruction • Encourage students to give constructive feedback and suggestions • Let students experience, reflect and share the benefit of using threaded discussion • Be sure that instructors facilitate collaboration and knowledge building • Encourage dialogue and referencing of other student postings • Use humor for motivation • Use emoticons to help convey ideas and feelings
<p>Content</p> <ul style="list-style-type: none"> • Tie discussions to the topics in the curriculum • Use discussion to address sensitive and prickly issues • Create a coherent/holistic structure. (This is particularly important in f2f) • Respond appropriately to significant postings that have not gotten a response after 3 or more days • Encourage regular reflection and share it
<p>Role of facilitator</p> <ul style="list-style-type: none"> • Jump start the discussion and summarize the dialogue • Encourage students to revisit the topics and issues • Give tasks that learners can relate to and are interested in • Train student facilitators
<p>Format</p> <ul style="list-style-type: none"> • Create discussion groups of 5-15 people • Change the discussion format to avoid boredom • Encourage the use of pertinent message titles • Establish guidelines so messages do not get too long • Suggest that students compose in a word processor and then post online
<p>Organization</p> <ul style="list-style-type: none"> • Organize the topics into folders and use exact names for each folder • Establish a metaphorical architecture for the discussion: e.g. virtual office, student lounge, online library, virtual help desk • Establish private forums for collaborative small group work
<p>Design and development</p> <ul style="list-style-type: none"> • Identify and provide examples at the beginning of a discussion or class • Establish a backup plan in case technology fails • Be ready to assist with technical problems • Encourage students to help each other with troubleshooting technical problems
<p>Assessment</p> <ul style="list-style-type: none"> • Conduct ongoing, regular formative assessment • Tie grades to postings • Consider both the content and frequency of postings when grading • Establish an appropriate rubric and share it at the beginning • Consider incorporating learners' input into the creation of a rubric • Use the rubric consistently

from what they expected. Students also need to be encouraged to interact with and make reference to each other. They should be encouraged, even required, to evaluate each other's work critically and give constructive feedback and suggestions rather than provide simple "pat-on-the-back" types of comments. Explicit instructions about the desired type of feedback, together with concrete examples, need to be given up front. Sharing these kinds of feedback in online forums helps achieve group cohesion as well as enhance student learning.

Humor is important because it can motivate student learning and bolster student interest. Online forums mainly use text messaging which lacks visual and other paralinguistic cues, so use of formatting such as color, bolding, emoticons and other visual tools to convey emotions and feelings is essential. In addition, emoticons can be personalized, which further helps learners coalesce into a learning community. For example, a personalized emoticon can be easily created by taking each student's picture (e.g. a happy face and a sad face) and modify them into icons.

Content

Whether used in blended or distance learning, online forums always need to be tied to the curriculum. Previous research indicates that discussion online works particularly well with sensitive and prickly issues (Li, 2003; Merryfield, 2001). Designing a holistic and coherent structure helps students to internalize their understanding and construct knowledge from multiple perspectives, viewpoints and knowledge presentations. In blended settings, online discussion topics need to be integrated into face-to-face instruction to build connectedness. If this is not done, it is easy for students to forget online topics, especially when students are not regularly contributing to online discussions.

Instructors need to watch for those significant messages that address issues in the curriculum but have not gotten a response after three or more days

Table 1. Strategies for threaded discussion to support knowledge building communities

and respond themselves appropriately in order to redirect students' attention to them. This can be done in various creative ways, for example, by interjecting new ideas into the discussion. Such intentional and purposeful redirection will not only enhance student learning but also strengthen the connections among students.

Higher order thinking skills need to be facilitated and exercised. For instance, students need to be encouraged continuously to reflect on and synthesize their learning. What are they expected to learn? What have they accomplished? What is missing? These reflections and syntheses need to be shared in online forums where new thoughts will be promoted and more ideas will be generated. This way, both students and the instructor are often more fulfilled and rewarded because effective knowledge construction is fostered.

Role of facilitator

Facilitators play a vital role in online forums. Instructors can play this role themselves, but another approach is to let students take turns being facilitators. This strategy yields numerous benefits: it provides students with opportunities to exercise leadership and to take a high level of responsibility and it gives them sense of ownership. Coming from students themselves, discussion topics and questions tend to be more authentic and easily related to by other students. Further, learning is fostered around the students' perceptions and construction of knowledge rather than instructors' interpretation. All of these contribute to collaborative knowledge building. Just as in face-to-face interaction, facilitators need to jump-start discussion, moderate interactions during the exchange, and summarize the dialogue at the end of each discussion. Concrete examples of good and bad instances of facilitation, if provided at the beginning of the course, are extremely helpful.

In online forums, students need to be encouraged and facilitated to revisit and revise the topics and issues being discussed. Earlier studies (Scardamalia & Bereiter, 1999) show that the process of revisiting and revising messages in the light of new information and comments contributes to student knowledge construction. Hence, whenever possible, we can direct students' attention to establishing relationships between current learning and previous topics. Further, students should always have access to previous topics being discussed.

As a facilitator rather than a lecturer, the instructor needs to have a balanced pattern of appearances in the discussion forum. On the one hand, instructors should be careful not to jump into any discussion too fast or too often, or impose too much control, because doing so may constrain interaction or shut off conversation among students. On the other hand, too few messages from instructors may cause students to think that they are not paying attention, which in turn may result in decreased interest in discussion (Smith, 2001). Instructors also need to make it clear up front that

they should be treated as a regular participant in discussion and that their opinions and thoughts can be discussed, critiqued or challenged.

If students' messages are expected to reference particular readings or to relate to core concepts, student facilitators need to be trained. The questions or tasks posted for discussion should be specific and explicit about what needs to be included and what students are expected to do. One important word of caution is that a balance must be maintained. Requiring every message to reference specific readings or tie to theories may become a disincentive to participation, limit student autonomy and freedom and impair the sense of a knowledge building community.

Format

The best size for an online discussion group is between 5-15 students (Palloff & Pratt, 1999). Too few students usually have difficulty generating meaningful discussions. On the other hand, too many students in a group may create an excessive number of messages which may cause frustration for students who cannot "keep up" (Palloff & Pratt, 1999). In this case, students can be divided into groups and have separate discussions. Individual students may be required only to read exchanges of their own groups, plus summaries of other groups.

Although using questions as springboard for discussion has proven to be one effective approach, extensive use of this approach may cause boredom for students. Altering the format of online discussions stimulates motivation and maintains interest. For example, students can be divided into groups to conduct an online debate on controversial issues, with one group as the devil's advocates. Students can also role play to simulate an interview with experts in the field. These multiple ways of interaction among students and the instructor help to develop and strengthen a sense of learning community.

Ascribing a pertinent subject title to a message (although this seems a minor point) can improve the accessibility of the discussion. Another format issue relates to the message length. Students need to be informed that messages should be limited to one and a half screen pages. Excessively long messages are very difficult for others to read; therefore they should be condensed or split into several postings. Composing messages on a word processor and then posting online enables students to save time and avoid technical interruption. All these may increase student interaction and interests in learning.

Organization

If all messages are squeezed into one big folder, within few days they may grow so big that no topic can be retrieved or sorted easily (Li, 2003). To organize online discussions better, topics need to be arranged logically into folders. The title of each folder should match the topics covered therein to avoid confusion. Metaphors can be used to present the

architecture of the forum. For instance, the "instructor's office" can be used for important course announcements so that they will not be buried in massive discussion lists. An "online library" can serve as a space to share online resources and materials. In addition, private forums that are only accessible to designated individuals can be used to facilitate small group collaboration.

Even though it may not be directly related to the curriculum, it is important to provide space for the students to develop their personal and social relationships in a knowledge building community. Creating virtual spaces such as a "student lounge" or "virtual café" allows learners to express emotions and feelings, such as happiness, anxiety or warmth. This facilitates establishing and maintaining "human relationships, affirming and recognizing students' input; providing opportunities for students to develop a sense of group cohesiveness, maintaining the group as a unit, and in other ways helping members to work together in a mutual cause" (Collins & Berge, 1996). The lack of such space might create a dry and sterile atmosphere, devoid of a sense of community.

Design and development

Whether online forums are used for discussion or for sharing information, it is essential for instructors to provide concrete examples of good and bad messages at the beginning. Keeping in mind that technology is not always reliable, establish a back-up plan in case technology fails. This is extremely important, especially in distance courses. Instructors should be prepared to help students with technical difficulties and problems. Further, encouraging students to share their technical difficulties and to seek help openly in the forum (e.g. in "virtual help desk") has at least three advantages. First of all, other students may provide faster assistance than the instructor can because the instructor is not always online. Secondly, appeals to the forum may provide multiple

solutions from which students can learn and make optimal decisions. Thirdly, the process of helping each other fosters the building of a learning community.

Assessment

Assessment is one of the most important aspects of using online discussion, yet it is often ignored. The way students are evaluated directly impacts their participation. Regular formative assessment should be provided to decrease anxiety. An online forum is best integrated into course grades. Detailed rubrics for online discussion should be available to students from the outset and they must be followed consistently. In these rubrics, the content and frequency of messages need to be considered simultaneously. Other factors such as reference to supporting information or critiquing others' messages also need to be taken into account in order to encourage interaction.

We need to design assessment that fosters higher-order thinking skills such as reflection and critical thinking. It is important that the rubric should not grade students' positions. Rather, we should consider how students present their opinions, whether they present evidence to support their judgments and the effort they put in to the discussions.

To promote student-centered learning, students can be involved in the process of developing the rubrics so that their input can be incorporated. This enables students to take a high level of responsibility and ownership, which may enhance their learning and stimulate motivation. This development process, done by a whole class, fosters a sense of cohesiveness and coalescence.

Conclusion

"The need for learning in a knowledge-based society is more important than ever, including traditional classroom teaching, online learning, and/or blended learning" (Levitch & Milheim,

2003). Accordingly, learning in a technology-supported collaborative knowledge building community is more desirable than ever. Whether in distance or blended learning, online forums can provide either an exclusive discussion or a supplement to in-class discussion. Through thoughtful planning and careful implementation, online forums can be used in "creative ways to help students internalize knowledge and share ideas in enjoyable and exchange environments" (Raleigh, 2000). Successful employment of online forums can foster knowledge building community in which desired student qualities are cultivated.

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References

- Brookfield, S. D. (1995). *Becoming a critically reflective teacher*. San Francisco: Jossey-Bass.
- Collins, M., & Berge, Z. (1996). *Facilitating interaction in computer mediated online courses*, Retrieved from <http://star.ucc.nau.edu/~mauri/moderate/fcc.html>
- Derry, S. J., & Lajoie, S. P. (1993). A middle camp for unintelligent instructional computing: An introduction. In S. P. Lajoie & S. J. Derry (Eds.), *Computers as cognitive tools*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Gilbert, N., & Driscoll, M. (2001). Collaborative knowledge building: A case study. *Educational Technology Research and Development*, 50(1), 59-79.
- Hannafin, M., Land, S., & Oliver, K. (1999). Open learning environments: Foundations, methods, and models. In C. M. Reigeluth (Ed.), *Instructional-design theories and models* (Vol. II). Mahwah, NJ: Erlbaum.
- Jonassen, D. H. (1995). Supporting communities of learners with technology: A vision for integrating technology with learning in schools. *Educational Technology*, 35(4), 60-63.
- Levitch, S., & Milheim, W. (2003). Transitioning instructor skills to the virtual classroom. *Educational Technology*, March-April, 42-46.

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