A Model for Using Threaded Discussions in On-line Agricultural Education Courses[1]

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Abstract

Distance education is becoming popular in higher education institutions in the United States and throughout the world. Instructors offering on-line courses are looking for new technologies or using the existing ones in new ways to enhance student learning. Discussions designed as threaded discussions are integral to most on-line courses, and have been found to facilitate active learning among students. But, research indicates that threaded discussions sometimes digress into chat that is not in line with the intended purpose, thus causing the discussions to lose their focus. To address this problem, threaded discussions for a graduate level on-line agricultural education course were designed in a particular way to help facilitate more focused discussions. The findings indicated that by following this model, there was more student participation, more focused discussion, and less deviation from the intended purpose. Threaded discussion posts also suggested that students engaged in reflection before posting their messages. A two-stage threaded discussion model was developed based on the experiences of designing and implementing threaded discussions for this on-line course, and is presented in this paper. This model has implications for designing discussion boards in on-line courses in agricultural education as well as in other fields.

Introduction

Many universities in the United States are adopting distance education for their courses (Roberts and Dyer, 2005). Although distance education has been in use for a long time, introduction of the internet has considerably changed university level teaching and learning with many universities transitioning toward on-line courses (Davidson-Shivers et al., 2001). For learning to happen, it is imperative for instructors to design their on-line courses in ways that facilitate interaction among students and with the instructor. This interaction is usually provided in the form of discussions. Gunawardena et al., (1997) affirmed that "…true distance education is impossible without provision for interaction" (p.401). On-line discussions are a central component of many on-line courses (Gao and Wong, 2008). These discussions play a vital role in acquiring knowledge during learning (Feng et al., 2006a). Among the various forms of on-line discussions, computer-mediated conferencing discussions like threaded discussions are popular, and applicable to the field of education (Feng et al., 2006b).

A threaded discussion is an asynchronous, web-based discussion that takes place in an on-line environment under a number of different topics that are called threads (Kirk and Orr, 2003). More simply, a threaded discussion involves posting of messages pertaining to a specific topic (Middlesex Community College, n.d.). It includes an initial message and subsequent posted responses that are sequentially linked to the initial message (Feng et al., 2006a). It is a form of conversation in which people express ideas, elaborate arguments, and answer questions of other group members (Feng et al., 2006b).

Threaded discussions offer many advantages like improving higher-order thinking (Kirk and Orr, 2003; Meyer, 2003), meeting constructivist curricular objectives (Weasonforth and Meloni, 2002), helping students become participatory citizens (Larson and Keiper, 2002), building on-line learning communities (Edelstein and Edwards, 2002), improving students' writing skills (Jordan, 2001), improving computer and on-line skills (Davidson-Shivers et al., 2001), facilitating student collaboration (Miller and Benz, 2008), and promoting active and group learning (Kirk and Orr, 2003). In addition, students themselves perceive threaded discussions favorably (Miller and Benz, 2008). They enjoy them because of the convenience factor (Davidson-Shivers et al., 2004).

Despite the many advantages associated with threaded discussions and students' preference for them, it is often a challenge to design threaded discussions in a way that is interactive, yet manageable and focused on the topic and objectives of the discussion at hand. Knowlton (2001) noted that on-line discussions could digress into chat that is not related to the intended purpose, thus hampering student learning. Consequently, not being able to maintain the focus of on-line discussions is a concern for many instructors (Gao and Wong, 2008). It has been the authors' personal experiences that some students lose focus and deviate from the discussion requirements, and can lead the discussion completely

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off track. Meyer (2003) categorized such responses under the "social" category.

In order to minimize responses falling under the "social" category (Meyer, 2003), we must evaluate our practices and show ways to incorporate discussion boards into on-line classes (Bailey and Wright, 2000). A review of literature suggested that there is no model or framework in the field of agricultural education that demonstrates an effective way of using threaded discussions. In order to fill this gap, we structured a threaded discussion assignment for a graduate level on-line agricultural education course offered in spring 2010 at Iowa State University in a particular way that helped students focus on the topic of discussion and minimize deviations. Subsequently, this was developed into a model that could serve as a guide for instructors designing on-line threaded discussions.

Purpose

The purpose of this paper is to present and describe the *Two-Stage Model for Threaded Discussions in On-line Agricultural Education Courses* (Figure 1) that was developed based on the teaching experience and outcomes of a graduate level on-line agricultural education class. Relevant literature support was also used in developing this model.

Methods

The Institutional Review Board at the Iowa State University approved this study. The first author taught the course: "Introduction to Learning Theory in Agricultural Education" during the spring semester of 2010 at the Iowa State University. Fifteen chosen case studies, each based on a learning theory taught in the class, were designed using threaded discussions and students were required to participate in the discussions. Each case was broken into two stages (Figure 1). Clear directions were given for each case study to help maintain the focus of the discussions and minimize deviations from the topics. The directions as provided for each case study in the course are given below:

Please read the Teachers' Casebook X and follow the steps given below.

Step 1: Read "Teachers Casebook" and formulate and post your response to the case. This has to be your intuitive and original response as to how you handle or respond to that situation. (One or two paragraph long)

Step 2: Go to page XX in your text book and read how some practicing teachers responded to this situation.

Step 3: Review your peers' first posts and formulate your second responses to this case and post it. Did your response change in anyway? Why or Why not?

Students are encouraged to carry on discussion beyond the two required posts if the topic interests them.

Larson and Keiper (2002) suggested requiring students to post only a specific number of postings. Duly following their suggestions, students were required to post a minimum of two posts for each case study. This minimum requirement ensured the manageability of the discussion for both the students and the instructor. Students had an option to continue discussions beyond the required two posts if a specific concept/idea sparked further discussion.

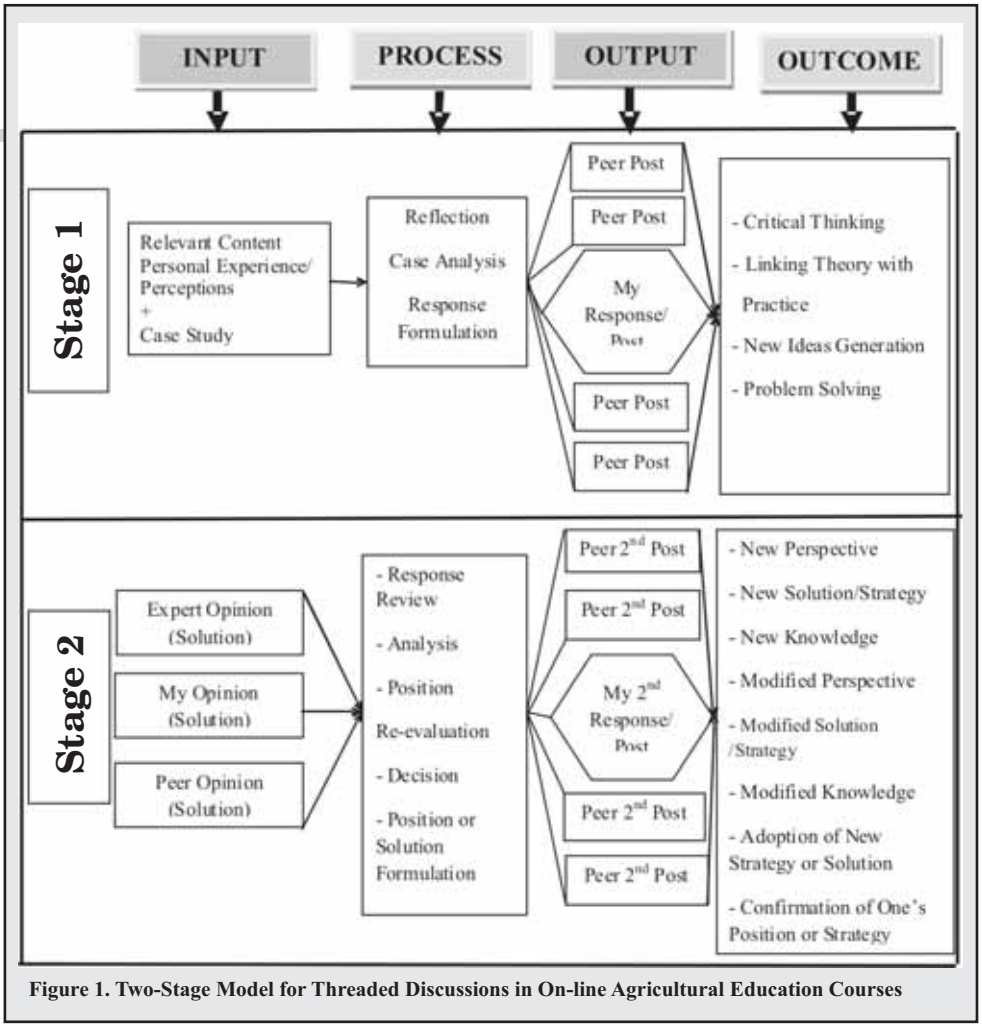

Figure 1. Two-Stage Model for Threaded Discussions in On-line Agricultural Education Courses

Opportunities were provided for students to go through reflective process, and contribute quality and reflective original posts rather than feeding off of other students' posts/ideas right at the start of discussion. A Two-Stage Model was developed primarily based on the outcomes from this on-line class experience. Additionally, a literature review and the authors' experiences of offering and taking various other on-line classes with threaded discussions also helped develop this model. The description of this model is given below.

Two-Stage Model for Threaded Discussions in On-line Agricultural Education Courses

The Two-Stage Model for Threaded Discussions in On-line Agricultural Education Courses (Figure 1) consists of two stages: Stage 1 and Stage 2. Both stages have four clearly demarcated components: Input, Process, Output, and Outcome that explain the stages through which the students pass as they participate and respond to messages in threaded discussions. Before starting the Stage 1 discussion, students review the case thoroughly and read the literature provided by the instructor (input), reflect on and analyze the case (process), and post their first responses based on their personal experiences, the literature read, and their overall perceptions about the case (output). The anticipated learning outcomes from this stage are critical thinking, linking of theory to practice, generation of new ideas, and problem solving.

In stage 2, students review a provided expert opinion on the case, review their peers' first posts (input), reconsider their own first posts before articulating their second posts (process), and post their second responses (output). The anticipated learning outcomes from this stage are developing new perspectives and solutions, gaining new knowledge and adopting new strategies to solve similar problems, and developing new perspectives or simply confirming that their first strategies were sound (outcome). The four components (input, process, output, and outcome) under Stages 1 and 2 provide a road map for threaded discussion design.

Additionally, students were encouraged to carry on discussions beyond Stages 1 and 2. At this point, students may focus on any particular concept, idea or issue that was raised within the two posts and pursue further discussions. This stage was not identified separately in the model because this was not a requirement for a grade; however, it is encouraged based on interest. This stage was left open for the instructors to decide based on factors like number of students in the class and the number of discussion cases instructors plan to include in their courses. We identify this to be an essential component of the model, as setting a minimum requirement to two postings makes the whole assignment manageable both for the instructor and the students, and helps maintain quality of those discussions.

Results and Discussion

There were 17 students enrolled in the class, out of which 10 were female (~59 %) and seven were male (~41%). All students participated in all the 15 case study discussions and successfully completed the two required postings. It was found that there were no personal discussions that were completely out of the scope of the topics that were discussed. The second postings, posted after students went through the expert and peer views, suggested that the students reviewed and reflected on their peers' first posts, considered expert opinions, and then articulated their own views, which were the requirements for the assignments. Examples of student work supporting this finding are presented below. The names of the students that appear in these examples are pseudonyms that have been made up to ensure the anonymity of the students. These student discussions posting examples are sampled from different cases that were used for the class.

Example 1

First, I stated that I would break the class into smaller groups trying to incorporate multiple language-backgrounds into a group. However, I think Mack's suggestion of "a group containing three English speaking students would also contain the two Somali speaking students" is much better. I agree that creating groups as I initially approached the scenario would be frustrating to many students and this is an [a] better alternative.

Example 2

I think my classmates could easily have provided the expert responses for the text. It's been most interesting for me to read what those of you who are actively teaching are already doing for your students on teaching study habits, organizational skills, etc. I'm impressed…. I wouldn't change that from my first thoughts. What I would add are some items. Jane commented about how we can teach them the skills, …. What I'd strengthen in my comments is the importance of making sure our lessons provide relevant learning opportunities.

Example 3

A few classmates also suggested that they would integrate student family members into the process of learning English. While this seems like a logical idea I contend that if the students are having trouble with the language the parents will have more. As it is said, you can't teach an old dog new tricks --- or at least quickly.

Example 4

…I recognize I did not utilize the student intern I had available to me. Many people suggested they become a tutor for … students. However, I disagree since if I, the 'seasoned' teacher have difficulties in this classroom setting I could not have my intern handle this.

Example 5

No need to restate the class consensus - family involvement, group work, utilize resources…. Emily and others discussed at some length family involvement and regular meetings. I like that concept, would investigate that more…. The component I'd seriously investigate more is Kathy's when she hinted at after-school groups to supplement instruction.

Example 6

I would not change much from my initial response after reading the teacher's ideas, as well as my classmates' ideas. The one thing I might add to my first response is to include having the students use journals to write in daily about symbols they see.

Example 7

I would change my first response. I would work different ways of learning for the students. I would take others advice and have them create a skit, debate, make a film, or a mock trial. Also, I would consider have them make a film on a certain event.

Example 8

I [am] going to stay strong with my first response because I agree with all of them. I do like the response of my classmate Amanda and the attention she places on the students IEPs this is something that you must do as a teacher at the beginning of every school year.

Example 9

Several options arise from classmates that I was not thinking of and would gladly consider as I realize they are good ideas while accommodating the needs of the mainstream students.

Example 10

That theme was also identified by several class members. So yes, I'd stick with my instincts regarding seating charts, more teacher control over group partners, etc. One item I've been struggling with is the whole concept of culture based lessons. One item I'd add to my initial response is the approach recommended by Greg, Mike and others…

The ten examples provided above include the posts where students changed their first responses as a result of going through the peer posts and expert opinion and also where the students stuck to their first post views/positions. These students clearly indicated why they took a particular stance. Discussions were carried on above and beyond the required two posts on all the 15 cases. These additional discussion posts beyond the required two posts ranged from 3-13. Further analysis of one case study indicated that seven students carried on further discussions and posted a total of 13 additional posts above and beyond the required two posts, and this threaded discussions spanned for four days. There were similar other case discussion examples with varying number of postings showing that discussions occurred above and beyond the required two postings. In addition, these discussion posts strictly adhered to the case being discussed and no digression from the focus of the assignment was observed.

It was further found that for all 15 case studies, a majority of the students either added more information to their first responses or completely changed them. In two case studies, 88% of the students opted to either modify or completely change their first post responses. In two other case studies, 59% of the students chose to either modify or completely change their responses, whereas in the remaining 11 case studies, the percentage of students who made changes ranged between 59 and 88%. Further, students also indicated why they chose to/not to change their original responses, which indicated that they reflected on the peers' responses, their own first postings, and expert opinions, as can be seen from the examples of student work provided. They also provided substantive responses for all the required postings.

The findings appear to be consistent with the findings of Davidson-Shivers et al., (2001), Kirk and Orr (2003), and Meyer (2003), as it was found that students provided clear and thoughtful responses for all the case studies, and showed evidence of higher-order thinking, especially in their second posts. This is evidence that they followed the assignment requirements. Further, Davidson-Shivers et al. found that threaded discussions facilitated reflective responses. The Model of the Experiential Learning Process developed by Roberts (2006) identifies reflection as one of the components of the experiential learning process, indicating that threaded discussions can also promote experiential learning.

Additionally, it was observed that all students participated in all the 15 case studies and posted reflective and meaningful messages. The instructor and the Teaching Assistant (TA) were also able to read all the messages and provide timely and meaningful feedback, when needed. This indicates the utility and additional value of the depicted Two-Stage Model in facilitating learning through timely feedback on the discussions.

Recommendations and Implications

This study was considered as a pilot-test. The instructor is currently testing this model in an undergraduate class in the fall 2010 semester; he intends to share these findings in the future. Nonetheless, based on the findings from this pilot-test, the authors believe that this two-stage model will benefit educators in designing threaded discussions for on-line agricultural education courses. Therefore, we recommend that instructors offering on-line agricultural education courses should utilize this model for designing discussion boards in their courses.

Threaded discussions have been found to be useful for larger classrooms as well (Miller and Benz, 2008). We recommend that larger classes be broken down into smaller discussion groups and that all discussions be carried out on the same case or topic simultaneously. The first author is now testing this strategy in an undergraduate on-line class of 50 students. This model has been used in on-line agricultural education courses up to the current semester, but we believe that it can be used in on-line courses in any discipline that requires active participation and interaction among students.

Additionally, this model is resource-effective as the costs/resources involved in designing and implementing it are minimal. This model may be used in any on-line learning management systems to enhance discussions and interaction among students, and student learning as a result.

Summary

Designing threaded discussions for on-line courses in a way that is interactive, yet manageable and focused is a challenge facing many instructors. This paper presents and describes the *Two-Stage Model for Threaded Discussions in On-line Agricultural Education Courses* that was developed based on experiences and outcomes of a pilot-test conducted in a graduate level on-line agricultural education course at Iowa State University. The authors recommend that on-line instructors use this model for threaded discussion assignments in agricultural education and in other fields.

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