

The Comparison between Asynchronous Online Discussion and Traditional Classroom Discussion in an Undergraduate Education Course

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Abstract

While there is agreement that participation in online asynchronous discussions can enhance student learning, it has also been identified that there is a need to study the impact of participation in online asynchronous discussions compared to traditional discussions on student course content knowledge. The purpose of this study was to investigate the effectiveness of using asynchronous discussions in an online course compared to traditional classroom face-to-face discussions. There were 44 participants in the study who were enrolled in an undergraduate course for elementary and secondary education majors related to teaching children with disabilities in the regular classroom. Twenty-two participants were enrolled in the online section of the course that accessed the course through home computers. Twenty-two participants were enrolled in the traditional section of the course that met in a classroom at the university. The instructional program for both groups included the same required textbook, syllabus, and activities. Qualitative data were collected through transcribed course discussions and printed threaded discussions to measure the quality of discussions related to course content. Several similar themes emerged for both groups of students indicating that both groups had similar discussions related to the course content. The results of this study have direct implications for using asynchronous discussions in an online learning environment.

Keywords: Distance Education; Online Learning; Web-based Instruction; Asynchronous Discussions; Student Evaluations

Introduction

Distance education and online courses are now very common in education. These new methods for delivering instruction offer flexibility to individuals. In some cases, individual courses are taken online; and in other cases, entire degree programs are offered online. A characteristic of an online course design model includes the reliance of the group discussion board where students are either encouraged or mandated to initiate and respond to posted questions (Norton, & Hathaway, 2008). It has been suggested that one of the most beneficial tools of online learning is the discussion board. When carefully planned, online discussions can enhance collaboration and conversation among students (Northrup 2002). Typically, postings are structured by teacher posed questions and student responses based on course content.

There have been concerns related to the lack of efficacy in an asynchronous distance education course because of the loss of face-to-face interaction that would normally occur in a classroom (Shedletsky & Aitken, 2001), but some researchers have failed to take into account the use of online discussion boards as a medium for enhancing communications (Easton, 2003). Heckman and Annabi (2005) indicated decreased communication in online environments, while others have suggested that student learning outcomes in asynchronous discussions equal or even exceed those of traditional, face-to-face courses (Benbunan-Fich & Hiltz, 1999; Kassop, 2003).

Educators have long recognized the importance of interaction to student learning (Barnett-Queen, Blair, & Merrick, 2005; LaPointes & Gunawardena, 2004). Through interaction, students become acquainted with course material and its application to real world situations. Analysis of online asynchronous discussions

have received attention from researchers interested in the following areas, including social presence and collaboration (Rourke, Anderson, Garrison & Archer, 2001a), problem-solving (Murphy, 2004), and interaction and knowledge construction (e.g. Gunawardena, Lowe & Anderson, 1997; Kanuka & Anderson, 1998). Gunawardena *et al.* (1997, p. 398) indicated that the analysis of asynchronous discussion transcripts is very important to “assess the quality of interactions and the quality of the learning experience in a computer-mediated environment.”

Purpose of Study

Learning effectiveness in the online learning environment is often measured in terms of students' satisfaction, participation and performance. Some students feel more comfortable with traditional lecture formats and face to face communication. One of the challenges that Cornell and Martin (1997) identified was the degree of interaction among students and between students and teacher. The highly reflective asynchronous discussions can contribute toward the high quality of discourse, which can often surpass classroom discussions (Kassop, 2003). Additionally, recorded opinions enable easy reference later (Curtis & Lawson, 2001; Meyer, 2004) and feedback from teachers and peers can also be quicker and more efficient than face-to-face meeting.

The purpose of the study was to understand the quality of discussions using the same course content taught in different settings (i.e. traditional and online) to bring a better understanding to the reader about the differences in discussions related to course content, if any, using a different medium to deliver the discussion information.

Methodology

The specific research question used to guide this study: Is there a difference in the quality of online asynchronous discussions and traditional classroom discussions?

Participants

There were 44 participants in the study, which included pre-service general education teachers in elementary or secondary education, enrolled in *Teaching Exceptional Children in the Regular Classroom*. The traditional section included 22 students (i.e., 4 males, 18 females). The online section included 22 students (i.e., 6 males, 16 females). On average, the traditional group was younger (mode age range = 18-24) than the Web-based group (mode age range = 25-35). Both groups had a mode grade point average (GPA) range of 3.1 to 3.5 on a 4.0 scale. In this study, the group assignment was self-selected. Students in the traditional and online course both received the same course syllabus and instructional assignments. Students in the traditional section were required to read to the course textbook and come to class prepared to discuss the material. Students in the online course were required to read the course textbook and discuss the material in the online format.

Delivery Procedures

Students enrolled in the traditional section of the course met on campus. The classroom was set up in a traditional manner with rows of students sitting at desks. The instructor stood at the front of the room providing the lecture. Students rearranged their desks into groups for the discussion component of the course. Students enrolled in the online version of the course accessed all the course material through the course platform, Web Course Tools (WebCT). WebCT provides a standard way to organize course materials and integrate multimedia presentations in course delivery. It is designed to support collaborative learning, knowledge building, and multiple representations of ideas and knowledge structures (LaMaster & Morley, 1999).

Research Instrumentation

Qualitative research was used to analyze and understand the quality of discussions in the traditional section and the online section. Each group was set up in focus groups. According to Weiss (1998), the focus group was developed by market research to learn about consumers' reactions to products or services with the basic feature being that people are brought together and the researcher raises a question for them to discuss. The focus group allows the researcher to observe the interactions in the

group. This method was employed by the researcher to analyze the discussions in both groups. The online and traditional groups were given the same set of guiding discussion questions (see Appendix A) to discuss during each class session. For the traditional course, the researcher used a tape recorder to record class discussions and the tapes were transcribed. For the online course, there is a tool that generates posted discussion items from each individual, which the researcher printed directly from the computer.

Once the traditional course tapes were transcribed and the online groups' printouts were completed, the researcher employed a system of coding to develop themes. According to Weiss (1998), "coding is the practice of taking narrative information and slotting it into a set of categories that capture the essence of their meaning."

Results

Data were gathered from an analysis of discussion transcripts and participant observations. As a result of ongoing analysis of the data, emergent themes were developed to identify, if any, similarities or differences emerged for the two course sections.

Quality of Traditional Discussions

The traditional group was divided into six focus groups for the purpose of discussions. The instructor randomly selected the focus groups. Each focus group was audio recorded and data were gathered from an analysis of the discussion transcripts and participant observations. As a result of ongoing analysis of the data, emergent themes developed. The themes were organized according to class session related to the specific guiding questions provided to the students that were based on the course textbook readings. The instructor selected the same guiding questions for both groups. The detailed discussion questions are provided in Appendix A. The themes for the traditional group are reported in Table 1.1. In the discussion section there is a further analysis of some specific comparisons between the traditional and the online group that emerged in the study.

Quality of Online Discussions

The Online group participated in asynchronous discussions as a whole group. Data were gathered from an analysis of the discussion postings. As a result of ongoing analysis of the data, emergent themes developed. The themes were organized according to class session related to the specific guiding questions provided to the students to answer the research question. The detailed questions are provided in Appendix A. The emergent themes for the online section are reported in Table 1.2. In the discussion section there is a further analysis of some specific comparisons between the traditional and the online group that emerged in the study.

Discussion

It has been suggested that sense of community suffers in particular in fully online learning (Rovai & Jordan, 2004), but in this study both modes of instruction seemed to promote strong social bonds among discussants. Students in both groups were required to collaborate in the form of discussions. The data indicated that both groups' discussions demonstrated positive collaboration. Both groups' recorded sessions indicated students were on topic for most of the time, which can be viewed as productive discussion time on-topic. When investigating the quality of discussions, the researcher noted there were several similar common themes (Table 2) for both groups, thus indicating that both groups were identifying similar topics from the readings.

Students in the traditional course noted positive reactions to the class discussions. One student stated, "It is so nice to be able to talk with other people who have different experiences." Another student stated, "It is nice not to just listen to you all the time, and have some interaction with each other." Most of the students in the online group had similar reactions and they enjoyed sharing and hearing personal experiences related to the course content. A few students indicated it was hard to have discussions when they did not know with whom they were discussing. One student said, "It was weird because I was having this online in-depth discussion with someone I had never seen before, and it felt a little creepy."

Table 1.1. Emergent themes for the traditional group discussions

Session(s)	Theme(s)
1-2	Behaviors are the main concern for teachers Contradictions about inclusion/Not enough teacher training and support Disruptions take away from other students Models are important/socialization Teacher burnout Adapting the curriculum is a concern
3	Need to have contingency plans/prepared for what might happen People have different strengths and weaknesses Time to plan Styles/personalities/commitment can make a difference Teachers do not like having other people in their room Expectations can be too low or too high
4	Rules should be specific, simple, short, posted in the room Routines are important Rules should depend on child, grade, age, and school Include strategy = checklists Kids help to establish rules Rules should be situational
5-7	Adjusting curriculum: accommodations/modifications Social exposure important Look for strengths Use checklists Help students with organization Use a variety of instructional materials Parent involvement
8	Use of different types of tests - portfolios/projects/real-life experiences Involve other specialists
10-12	Use planners for organization High expectations for all students Age-appropriate activities Rewards and consequences School-wide plans for discipline Consistency in procedures and routines Communicate with parents
13-14	ADD/ADHD Treat students with sympathy Teachers needs lots of support Students can be hurtful Teach children about differences for acceptance Limited exposure to students with low-incidence disabilities

Table 1.2. Emergent themes for the Web-based group discussions

Session(s)	Theme(s)
1-2	Importance of social interactions Teacher training and support Achieving curriculum standards is important Classroom demographics are very important Not all special education students should be included/Skeptical about inclusion What happens/What are the demographics of the local school district
3	Everyone has a responsibility/Input All contributions are important Everyone needs to provide support Compassion/Communication/Respect Working well with others/Similar teaching styles
4	Student input Rules should be specific, limited in number and posted in classroom Both rewards and consequences Make accommodations Physical arrangements Teach about differences Try different strategies Use a variety of materials
5-7	Stereotypes – low-achieving students versus high-achieving students High students help low students (peer tutors/helpers) Fitting-in Make the classroom a “safe place” Teacher attitude Accommodations Parent input Student checklists
8	Modified assignments/accommodations for all students Assessment is important to find out where student is at/reach goals Use a variety of assessment (written/oral)
10-12	Positive attitude/atmosphere Keeping your composure Rewards and consequences important/Token Economy Class organization Positive reinforcers and praise Specific procedure/routines Sweets not the best choice – alternative suggested
13-14	No/little experience with low-incidence disabilities Need sources for help Important to understand the needs/Lots of accommodations Teach the child, not the disability What terms to use (handicapped, disabled, retarded) Labeling = stereotypes

Table 2. Common emergent themes for both groups

Session(s)	Theme(s)
1-2	Teacher training and support is important Contradictions about inclusion Classroom demographics
3	Teaching styles Commitment/Communication/High Expectations
4	Student input Rules should be specific, simple, short, and positive
5-7	Social aspects Accommodations/modifications Parent involvement Checklists
8	Variety of assessments
10-12	Rewards and consequences Class organization Procedures and routines
11-13	Limited knowledge about students with low-incidence disabilities Teach children about differences Support is very important

Conclusion

One of the conclusions drawn from the findings of this study is that the quality of discussion that occurs in online and traditional instruction is similar when specific content-related questions are provided to structure the discussions. Educators at all levels believe that frequent, meaningful interactions between students and their teachers are important to learning and personal development. Higher education literature frequently discusses the importance of student-faculty contact (e.g., Astin, 1985, 1993, & 1997; Bean & Kuh, 1984; Lomport, 1993; Pascarella, 1985). In general, the more contact between students and faculty both inside and outside the classroom, the greater the student development and satisfaction (Astin, 1993). According to Pascarella's (1985) general causal model of environmental influences on student learning and personal development, student characteristics, institutional characteristics and views of the environment determine in part the nature and frequency of student interaction. Pascarella (1985) also noted that the most important interactions are between peers and faculty members. All of these factors are presumed to affect the quality of the effort students expend; which, in turn, affects their learning. In addition, interactions with faculty members are also thought to have direct effects on learning.

There has been some criticism that online courses do not provide the level of interaction and discussion with peers and instructors that traditional classes do. In this course, both groups of students were required to participate in guided discussions and both groups participated in discussions equally well. Additionally, both groups had some similar themes developing in their conversations based on course material.

References

- Astin, A.W., (1985). *Achieving educational excellence*. San Francisco: Jossey-Bass.
- Astin, A.W. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.
- Astin, A.W. (1997). The changing American college student: Thirty-year trends, 1966-1996. *Review of Higher Education*, 21, 115-135.
- Barnett-Queen, T., Blair, R., & Merrick, M. (2005). Student perspectives on online discussions: Strengths and weaknesses. *Journal of Technology in Human Services*, 23(3/4), 229-244.
- Bean, J.P., & Kuh, G.D. (1984). The relationship between student-faculty interactions and undergraduate grade point average. *Research in Higher Education*, 21, 461-477.
- Benbunan-Fich, R., & Hiltz, R. (1999). Impacts of asynchronous learning networks on individual and group problem solving: A field experiment. *Group Decision and Negotiation*, 8, 409-426.
- Cornell, R., & Martin, L.M. (1997). The role of motivation in Web-based instruction. In B.H. Khan, (Ed.), *Web-Based Instruction*. (pp 93-100).
- Englewood Cliffs, NJ: Educational Technology Publications.
- Curtis, D.D., & Lawson, M.J. (2001). Exploring collaborative online learning. *Journal of Asynchronous Learning Networks*, 5(1), 21-34.
- Easton, S. S. (2003). Clarifying the instructor's role in online distance learning. *Communication Education*, 52, 87-105.
- Gunawardena C, Lowe CA and Anderson T (1997) Analysis of a global online debate and the development of an interaction analysis model for examining social construction of knowledge in computer conferencing. *Journal of Educational Computing Research*, 17(4), 397-431.
- Heckman, R., & Annabi, H. (2005). A content analytic comparison of learning processes in online and face-to-face case study discussions. *Journal of Computer Mediated Communication*, 10(2), article 7.
- Kanuka H and Anderson T (1998). Online social interchange, discord, and knowledge construction. *Journal of Distance Education*, 13(1) 57-74.
- Kassop, M. (2003). Ten ways online education matches, or surpasses, face-to-face learning. *The Technology Source*, May/June.
- LaMaster, K.J., & Morley, L. (1999). Using WebCT bulletin board option to extend transitional classroom walls, ERIC Document Reproduction [ED No. 440 922].
- Lamport, M.A. (1993). Student-faculty informal interaction and the effect on college student outcomes: A review of the literature. *Adolescence*, 28, 971-990.
- Lapointe, D.K., & Gunawardena, C.N. (2004). Developing, testing and refining of a model to understand the relationship between peer interaction and learning outcomes in computer-mediated conferencing. *Distance Education*, 25(1) 83-106.
- Meyer, K.A. (2004). Evaluating online discussions: Four different frames of analysis. *Journal of Asynchronous Learning Networks*, 8(2), 101-114.
- Murphy E (2004) Identifying and measuring ill-structured problem formulation and resolution in online asynchronous discussions. *Canadian Journal of Learning and Technology*, 30,1, 5-20.
- Northrup, P. T. (2002). Online learners' preferences for interaction. *The Quarterly Review of Distance Education*, 3(2), 219-226.
- Norton, P., Hathaway, Dawn. (2008). Exploring two teacher education online learning designs: A classroom of one or many? *Journal of Research on Technology in Education*, 40, 475-495.

- Pascarella, E. T. (1985). College environmental influences on learning and cognitive development: A critical review and synthesis. In J. Smart (ed.), *Higher education: Handbook of theory and research* (Vol. 1, pp. 1-62). New York: Agathon.
- Rourke L, Anderson T, Garrison DR and Archer W (2001a) Assessing social presence in asynchronous textbased computer conferencing. *Journal of Distance Education*, 14,2, 51–70.
- Rovai, A. P., & Jordan, H. M. (2004). Blended learning and sense of community: A comparative analysis with traditional and fully online graduate courses. *International Review of Research in Open and Distance Learning*, 5(2).
- Shedletsky, L. J., & Aitken, J. E. (2001). The paradoxes of online academic work. *Communication Education*, 50, 206_ 217.
- Weiss, C.H. (1998). *Evaluation*, (4th ed.). Upper Saddle River, NJ: Prentice Hall.
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Appendix A

Discussion Questions

Sessions 1-2:

Discuss Josh, Greg, and Tonya:

- What were the special and general education teacher's main concerns?
- What were the administration concerns?
- What were some student strengths and weaknesses?
- What educational supports were necessary to facilitate inclusion?

Session 3:

Who are your Professional Partners?

What do you know/need to know about them?

What do they need to know about you?

What strengths do you bring to the process of Collaboration?

Are there skills/dispositions that you need to address to be a successful collaborator?

How do we, as teachers, go about making parents and the students with disabilities valuable and valued members of the partnership team?

Session 4:

What are your basic classroom rules? How are they stated? Written? Oral? Simple? How many rules do you think is appropriate?

How can the INCLUDE strategy work to help you make reasonable accommodations in the classroom?

How are you going to group for instruction? What materials are you going to use for instruction? How are you going to evaluate those materials?

Sessions 5-7:

Have you encountered individuals with mental retardation in your community? If so, what were they doing and how did you interact with them?

How might you recognize a student with a learning disability in your classroom?

How about a student with Gifts and Talents and a Learning Disability? Then, what would you do?

Session 8:

Can you think of five different ways (aside from a “paper and pencil test”) to measure student performance?

How might you modify a written assignment for a student with fine-motor problems?

How might you modify a written assignment for a student with expressive language problems?

Sessions 10-12:

When, if ever, is it appropriate to use restraint?

What might you and your students select as appropriate/natural reinforcers

(Remembering to avoid Primary Reinforcers such as food, etc.)?

What can you do to support positive behavior in your classroom?

What can you do to reduce the occurrences of negative behavior in your classroom (i.e., transition time, activities, schedules, routines, academic time vs. scheduled time, etc...)?

Session 13-14

What has been your experience with individuals with low-incidence disabilities?

Do you think we (as a society) view those with visible and “silent” disabilities differently?

If you had or have a disability, what would you like to change in terms of the language of the non-disabled population? You might begin with terms/phrases such as “handicapped”, “confined to a wheelchair”, “retard”, etc.

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