

The Use of Online Discussion Boards for the Pre-Service Special Education

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Abstract

In the universe of education, communication tools used by students and faculty have evolved dramatically in recent years. The tool observed in this study was the online discussion board. This tool has been implemented more actively due to the changes caused by the pandemic. Discussion Boards are now a way to create community in higher education courses as well as online. Teaching strategies focus on the communication tools to make students responsible for engaging in classroom content. This research examined how students in two special education (SPED) courses used online discussion board tools in the traditional classroom. All the students in the SPED courses were organized into groups and assigned a topic or question led by a facilitator (one of the students in the group), after which the rest of the group would respond to the facilitator's post. The researchers observed and surveyed two different traditional SPED classrooms using a sample study. However, not all students enrolled in both courses participated in the actual surveys. These questions asked about experiences that taught responsibility for learning, how to express and reflect on learning material online rather than in the classroom, and ways that reading peer responses affected the learning content. Findings from this research will enable instructors to receive better outcomes from those produced by tools of the traditional learning environment.

Keywords: Discussion Boards, Classroom Discussions, Teaching Strategies

Communication has changed among our students due to the availability of so many different communication devices. Students at Ball State University are also on the cutting edge of how they communicate. Research is needed to focus on the value of using online tools in the traditional classroom to help keep this mode of delivery current. The problem addressed in this study was that students in the face-to-face or traditional special education (SPED) course setting are less able to process the in-class material timely enough to engage and share thoughts comprehensively and profoundly.

Facilitating and participating in discussion boards can help students take more responsibility for their learning. Thus, discussion can be used as a tool to help students to process the material prior to engaging content in the face-to-face or traditional classroom setting. The main purpose of this study is to investigate whether or not student engagement in online discussion boards will increase students' participation and learning outcomes in face-to-face courses.

Research Questions

Previous studies have focused more on the benefit of discussion boards in an online course (Jorgensen, 2001). The purpose of this qualitative grounded theory study is to explore the possibilities for improved classroom discussion for prior use of online discussion boards (Jorgensen, 2001). The problem addressed in this study is that the engagement in class discussions were not as thorough as needed.

Q1. What is positive about the use of discussion boards prior to traditional discussions in the classroom?

Q2. What ways did discussion boards impact student learning?

Q3. What ways did the format of the online discussions impact participation during face-to-face class meetings?

Literature Review

Theoretical Framework

In this section, the researchers introduce the theoretical framework that underlies the use of grounded theory in this research (Jorgensen, 2001). According to the literature, the researchers found online discussion boards to be the key factors to influence the results of the study. Therefore, the purpose of the theoretical framework is to consider how communication used through technology could better enhance the participation and discussion between the students of a traditional classroom setting.

Purpose of Discussion Boards

Online discussion boards have come to serve different purposes for faculty and students in higher education with the ultimate purpose of supporting academic learning and engaging in reflective practice, critical thinking, and collaboration (McKinney, 2018). Therefore, the value of student interaction using the discussion boards should not be underestimated (McKinney, 2018). Levin (2007) noted the influence discussion boards could have in online learning, saying that this tool can make the experience “powerful and dynamic” (p. 68). Levine (2007) went on to caution that just as they have the power to be an effective learning tool, discussion boards can be equally ineffective. In-depth discussions can be rare. They often go off topic, include repetition, and do not promote genuine dialogue among participants (Mintz, 2020).

While there is a downside, discussion boards were established for a purpose. They were established to best support students content learning, reflection, and building a sense of community, as well as provide students with an opportunity to reflect on the content and respond to their classmates in meaningful ways (Markel & ECI, 2001). Asking open-ended question for student to consider different perspectives and reflect on in an unassessed space creates a place within online learning where ‘college’ begins to take place (Liebeman, 2019). In 2009, the U. S. Department of Education stated that self-reflection is a critical component for increasing student achievement in online e-courses.

Reflection

Often, students arrive the first day of class ready to memorize information, but do not have the expectation of developing their knowledge to a deeper level of perception (Townsend, 2018). Being able to reflect on the memorized material will take time and understanding. While discussion boards allow students additional time to be reflective, discussions in face-to-face or traditional class usually require more prompt responses when asked a question by the instructor (Markel & ECI, 2001).

Markel (2001) reported that this often creates a positive learning experience for many students when they are provided adequate time to think about their peers' comment, relate it to the content, and then add their own personal experiences before responding to the post. Smith (2001) cautioned that the reflective process at this level may be new for many college students. Students may default to what they know—which may be summarizing, reporting the right answer, complimenting, or agreeing with a prior comment (Smith, 2001). Huber (2002) suggested that faculty model the expectations of reflection and critical thinking to ensure that the students' discussion boards include the necessary depth and detail and more than surface-level and summaries.

Alignment to Course Goals & Objective

When referring to the alignment of course goals and objectives in education, the authors simply mean the creation of assignment, activities, and assessments and aligning them with the learning objectives that need to be achieved by the students as they complete the course (Martone & Sireci, 2009). Alignment needs to contain multiple level thinking activities and include different learning styles. Each grade or level of education is guided to the next level of learning by meeting those course goals and objectives (Martone & Sireci, 2009); higher education is no different within each of the content areas. Once the course goals and objectives are aligned, additional improvements are made by using the standards, assessment, and instructional cycle (Martone & Sireci, 2009).

Critical thinking & Critical Reflection

Critical thinking and reflection are the process of analyzing the awareness, assumptions, and integration of theories, philosophies, and practices which influence the individual (Testa & Egan, 2016). Fook (2007) noted that critical reflection goes beyond reflecting on practice alone and seeks to understand how one is present within the practice. It is regarded as a much-needed skill across many fields of study, and researchers have different views on how to shape an individual's critical thinking and reflecting practices (Testa & Egan, 2016). For example, some researchers state the need to specifically define terms such as "reflection," "critical thinking," "critical reflection," and any underlying definitions that might shape one's theory, or research (D'Cruz et al., 2007; Fook, 2006; Smith, 2001).

One of the advantages of online asynchronous online discussion boards even when paired with a face-to-face course, is that they provide students with the time to critically think about their responses and support their arguments (Aloni & Harrington, 2018). Numerous researchers discuss the importance of students having regular opportunities to practice critical reflection, so they establish it as part of their routine thinking process (Aloni & Harrington, 2018; Eyler, 2002; Fook &

Garner, 2007). Emslie (2009) considered a different approach and noted the need for a safe, supportive, and collaborative learning environment where students can practice critical reflection.

Collaboration

Online learning is built on background knowledge that focuses on the social learning between others. For adults taking online courses, this is of critical importance because their age gives them experience and a significant amount of background knowledge (Covelli, 2017). Research suggested that online learning environments need to focus on ways to incorporate more active learning that includes collaboration with their peers and instructors (McDougall, 2015).

Conrad (2014) reported the need for a student-centered collaborative approach using a constructivist theory to build a sense of community for online classes. Constructivism is a foundational theory that defines a process where the student is learning through active interaction with others that builds knowledge, compared to the experience of students who receive information passively (Levine, 2007). This theory helps to illustrate why there is a need to create a sense of community and collaboration for online learners and in online learning environments. This component of online learning is often considered key to student academic success (Levine, 2007).

Online courses solve numerous problems and offer flexibility and convenience for individuals who are working or are constrained by location (Orttagus, 2018). Online courses, however, create other problems for students that are important for instructors to consider. Through self-reports, students often state they feel isolated and lack a social presence in the course (Clinton & Kelly, 2020). Cho and Tobias (2016) reported interactions between students through discussion boards increase a sense of belonging in their online courses. There is also evidence that shows discussion boards may help students have a better understanding of goals and objectives that are being taught (Aloni & Harrington, 2018). Due to that fact, the strategy the Greek teacher and philosopher, Socrates, teaching students through discussions is still being used today (Clinton & Kelly, 2020). Interactivity through discussion boards could support better comprehension of the content through the development and sharing of information (Clinton & Kelly, 2020; Kent et al., 2016).

The discussion boards are another way to replace the interactive discussion that is facilitated and encouraged in the traditional classroom setting (Markel & ECI, 2001; Smith, 2015) and allows the students to refer to the conversation as often as they like. Smith (2015) took her traditional SPED course discussions and made them available in her online courses. Whether the discussion is in the classroom or online, students need to be able to connect their learning material to real-world situations and be able to dialogue using the vocabulary for the content and used with in the field (Smith, 2015).

Community Building

Building a sense of community in the online environment greatly increases the probability of retention and success (Wehler, 2018). For faculty, it can seem difficult, even daunting, to create a sense of belonging and community when developing and teaching online courses. Wehler (2018) described how face-to-face classes interaction takes place simply by the nature of proximity. Often students will arrive early or stay after class to chat with each other or their professor. This is where much of the informal dialogue needed for community building takes place.

Within an online class, faculty must be more mindful and deliberate about setting-up situations that promote exchanges to take place. Wehler (2018), suggested a strategy to help faculty teaching online classes, on the course platform, a space should be created that is free from content and assessment. This often takes place in discussion board forms called “watercooler” or “café”. This is a place where students can discuss current events and common interests (Wehler, 2018).

Challenges

Covelli (2017) expressed concerns about the disadvantages of online learning compared to face-to-face classroom. For example, students who are not self-directed or motivated may feel alone and isolated from their instructor and classmates (Borup et al., 2012). Therefore, some students benefit from having the traditional environment, because they do not have the qualities needed to be a successful online student.

A successful online student must have the following qualities: (a) self-motivated, (b) independent, (c) self-directed, (d) displays critical thinking skills, (e) supported by family, (f) receptive to positive and timely feedback, (g) organized, (h) possessed basic computer skills, and (i) accepts responsibility for his-or-her own learning (Rovai & Jordan, 2004). Not all students do well in an online environment. However, there are some students who do better online than in the traditional classroom. Using discussion boards are a good use of technology to stimulate cognitive learning strategies and critical thinking (Markel & ECI, 2001; Smith, 2015). Therefore, using online discussion boards in the traditional classroom would enhance the learning experience for the student who learns better online.

Role of the Instructor

The concern instructors have with online or distance education is the possibility of compromising education. Some instructors worry about building relationships, which is essential for some students learning in higher education, while other faculty worry about being able to meet all of the course objectives (Rovai & Barnum, 2007; Russell, 1999). Russell (1999) found in his research the medium of education is not what causes the lack of quality, rather it is responsibility of the instructor to keep students motivated and engaged in the discussion forums in the learning management systems.

If discussion boards are effectively structured, the online discussions are the equivalent of traditional classroom conversations (Champion & Gunnlaugson, 2018). Another concern is whether instructors can stimulate the depth of thinking by students in online discussion boards. Evidence found by Williams et al. (2015) suggested instructors have the influence to create depth of thinking when they require high expectations for the discussion posts. In addition, there are ways in which an instructor can create depth of thinking.

Dalelio (2013) suggested the instructor must “create interest” and “generate curiosity.” In addition, the instructor should raise relevant and contemporary questions, issues, and problems related to the subject topic that will drive the curiosity of students (Dalelio, 2013). However, it is also the responsibility of the educator to observe the interaction of the students while asking probing and open-ended questions and redirecting the conversation when needed (Dalelio, 2013). Instructors also need to encourage an explanation of concepts and definitions and ask students to clarify their answers as needed (Dalelio, 2013; Williams et al., 2015).

Research by Williams et al. (2015) indicated that teaching online with technology is as effective as teaching in a traditional classroom. Additional evidence suggested instructors can influence the depth of thinking and posts for the online environment (Dalelio, 2013; Williams et al., 2015). Therefore, what creates the transformation in the online learning environment are factors such as learning tasks, learner characteristics, student motivation and the instructor's involvement (Merisotis & Phipps, 1999).

It might be noted that discussion boards are particularly advantageous to introverted students who may need more time to respond and answer questions without the fear of speaking up in classrooms that do not feel friendly. In addition, research from Testa and Egan (2016) found that students being able to reflect or engage on learned knowledge and skills is critical for many students. Written reflections and engaging conversations can be achieved online (Testa & Egan, 2016). Therefore, the instructor must find a way to provide interaction needed by the students to support additional learning (Robles & Braathen, 2002; Testa & Egan, 2016). Many instructors have added discussion participation due to the re-evaluation of assessments. Assessments mean more than just testing students. Instructors must provide useful feedback, and opportunities to establish significant value (Robles & Braathen, 2002).

Research Method

This qualitative study was based on Glaser and Strauss's (1967) grounded theory. Grounded theory acknowledges that the theory was grounded due to the experiences of the participants (Charmaz, 2006). In addition, the co-created theory based on the interactions of the researcher (Charmaz, 2006).

Responses to the survey questions were coded and analyzed using the Qualtrics survey tool. Grounded theory is one of the most influential and widely used in qualitative research when generating theory (Jorgensen, 2001). The research is mainly based on a pre-and-post survey from the students to evaluate experiences before and after using discussion boards in the traditional face-to-face environment. In addition, the qualitative grounded theory was used to evaluate open-ended responses from the students' answers. These answers were gathered for synthesizing, analyzing, and conceptualizing qualitative data for the purpose of theory construction (Jorgensen, 2001).

Population

The participants were enrolled in two different face-to-face courses from different content areas. These courses were taught by different instructors with enrollments of different quantities. Researchers observed and surveyed students using a sample study of 44 students. In answer to their age range on the survey, undergraduate participant's ages ranged from 18-22. The surveys were anonymous; however, the researchers had them identify themselves with a number, so that a comparison could be made between pre and post-surveys.

Materials/Instrumentation

A thorough literature review, along with carefully crafted survey questions, were developed to evaluate the experiences of the students using an online tool in the traditional classroom environment. Data organization and analysis tools used in this study were Qualtrics, Microsoft

Office Excel spreadsheets, and NVivo. Qualtrics is a computer software used for collecting answers to survey questions. Microsoft Office Excel spreadsheets were used to gather the data prior to synthesizing, analyzing, and conceptualizing qualitative data (Jorgensen, 2001).

Findings

The pre-survey was mainly used to find out whether the student had used Canvas in a face-to-face setting and Canvas discussion boards in the classroom and in the online setting. In the pre-survey, 45 individuals responded to the survey and completed the consent form. Approximately 95% of the students reported that they had used Canvas in the classroom. In addition, 84.44% of the students had used discussion boards in Canvas. Lastly, a higher percentage, 93.33% had used discussion boards in an online course. The standard deviation of these findings for the first three questions were as follows:

- .21 used Canvas in face-to-face courses
- .36 experienced used discussion boards in Canvas
- .25 had used discussion boards online

Below is a table that shows student responses to all questions as well as a comparison of all questions that align in both pre- and post-surveys (see Table 1).

Table 1: Participant Responses

Survey Questions	Questions	Pre-Survey Questions					Post-Survey Questions				
		SA	A	D	SD	SD	SA	A	D	SD	SD
Experienced Canvas		95.56	4.44	.21							
Experienced using DB		84.44	15.56	.36							
Developed Questions DB		66.67	33.33	.47							
Facilitated Group Discussions		55.56	44.44	.50							
Enjoy Using DB		2.22	55.11	40	6.67	.65	0	40	40	20	.75
Understand Purpose		91.11	8.89	.28	86.67	13.33	.34				
Comfort of Using DB		20.0	60.0	15.56	4.44	.34					
DB Support Learning		6.67	66.67	20.0	6.67	.68					
DB Help to Learn from Peers		0.0	66.67	26.67	6.67	.73					
Helps to Understand Content		6.67	55.56	33.33	4.44	.67	6.67	46.67	26.67	20	.88

Survey Questions	Ques-tions	Pre-Survey Questions					Post-Survey Questions				
		SA	A	D	SD	SD	SA	A	D	SD	SD
DB Supports Learning of Others		6.67	57.78	33.33	2.22	.63	0.0	53.33	33.33	13.33	.71
Point of View was Acknowledged by Peers		6.67	73.33	13.33	6.67	.65					
DB Help to Develop a Sense of Collaboration with Peers		0.0	53.33	26.66	20.0	.79					
DB Helped to Answer Questions Meaningfully		0.0	66.67	26.67	6.67						
Reflection Time on DB made it Easier to Participate in Class		0.0	73.33	26.67	0.0	.44					
Being Responsible for Developing a Topic or Questions for DB Helped me to have Ownership in my Learning		13.33	73.33	0.0	13.33	.81					

Note. SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree; DB = Discussion Board; SD² = Standard Deviation.

The post-survey included seven open-ended questions. The questions asked for a variety of information related to students' past and present experiences related to discussion boards. The questions included:

1. How have discussion boards been used in your previous face-to-face course?
2. What do you think is positive about the use of discussion boards in a face-to-face course?
3. How was the use of discussion boards in this class different than how it was used with other face-to-face courses where discussion boards were used?
4. In what ways did the use of discussion boards impact your learning of the content this semester?
5. In what ways did developing a question or topic impact your learning of the content this semester?
6. In what ways did facilitating a discussion impact your learning of the content this semester?

7. In what ways did the format of the online discussions impact your participation, and your understanding of the content presented during face-to-face class meetings?

Overall, the questions elicited positive responses and the students mentioned how the discussion boards supported their learning. From the seven open-ended questions, three overarching themes emerged. Discussion boards enabled students to (a) digest content that was more in-depth (giving them a deeper understanding of the material); (b) take ownership for their own learning and; (c) develop relationships with peers.

In recent years, researchers have found that online students often use lower-level thinking skills to participate in their classes and complete class work (Kim et al., 2007). During discussions board forums, students post minimal responses and fail to add, reflect on, or challenge their peers' ideas. Rather, they post a short, polite response of agreement that only touches the surface of the content and the discussion (Williams et al., 2015). Students' responses to the open-ended questions that related to their learning of the content included some of the following:

- “The discussion boards forced me to do research outside of just reading the book.”
- “It made me actually read the book in order to answer the questions effectively.”
- “I learned more from others' points of view.”
- “It made me think more specifically about each chapter.”
- “It forced me to think deeper about what I learned.”
- “It forced you to analyze what you read to create a discussion.”
- “Opened my eyes to new aspects of my degree.”
- “More critical thinking about each topic.”
- “It increased my awareness of the material discussed.”

In addition to stating how discussion boards had an impact on their learning of the content, students shared, through the open-ended questions, how the development of posing a question to their peers and facilitating discussions encouraged them to take ownership for their own learning of the content. Comments related to this theme are below:

- “I felt like I was more responsible, so in turn I learned more.”
- “Motivated to be more understanding and interpreting the reading.”
- “It helped me with reflecting on the topic.”
- “It made me look deeper into the content.”
- “I really had to understand the information in order to facilitate the discussion board.”
- “It created a sense of leadership.”

The final overall theme that was apparent from the students' responses was the positive thoughts about collaboration and relationship building with their peers in the course. Several studies have typically criticized discussion boards for the low quality of engagement displayed by higher education students (Thomas, 2002; Webb et al., 2004). Thomas (2002) even went so far as to say “the virtual learning space of an online board did not promote conditions for coherent and interactive dialogue necessary for conversational modes of learning” (p. 361).

Dennen and Wieland's (2007) characterized online discussion boards as "message posting" rather than "an actual dialogue" (p. 281). That said, there was one group of researchers who posed used discussion boards with eight of their face-to-face courses. They offered no instructor facilitation or specific assignments for engaging students. Ochoa et al. (2012) found that the students posted to socialize and coordinate more operative issues. Scharmer's (2015) students were taught to self-facilitate, including such practices as coaching, listening, and self-assessment. By specifically asking students to practice skills that promote and encourage critical thinking and thoughtfulness, he moved the students to more in-depth conversations related to their values and behavioral change (Scharmer, 2015). Below are the responses from the open-ended questions about collaboration and relationship-building with their peers from this study:

- "It is a safe place to share ideas."
- "It allows for collaboration between students in a less pressured manner like Socratic seminars."
- "It allows more time to interact with the professor, peers, and the material."
- "It made me more comfortable with my group members."
- "With it being online, it allowed for easy access to communicate with my fellow classmates. It also gave me confidence to participate in class when I know there were others that agreed with my point."

Limitations & Future Research

Colleges and universities continue to experience growth in student enrollment for on-line classes (Lederman, 2018). Currently, approximately one-third of all college students have taken at least one on-line course (Lederman, 2018). While the literature on discussion boards spans across disciplines, it also varies related to the value both faculty and students have placed on activity engagement (Covelli, 2017). While this study raised several positive benefits for students, it is important to understand the limitations of the study and future research in this area continues to be needed.

The participants for the research study were from one university in the Midwest. A larger sample size would be helpful in determining trends of more universities across the United States. Since the research looked at how discussion boards were used in a face-to-face course, the students were all located at one university. Considering using other areas of study and other colleges or universities may provide other perspectives that were not considered by this group of participants.

Summary & Conclusions

This study focused on the value of using online discussion boards in the traditional classroom. As educators observe the way in which communication has changed amongst our students, the time has come to consider looking at different ways to incorporate diverse communication devices within the traditional classroom. Therefore, this research focused on the value of using online tools in the traditional classroom to help keep this approach of delivery present-day. In addition, this study took an in-depth look at whether discussion boards helped students take more responsibility for their learning.

The surveys concluded that approximately 87% of the students felt more responsibly for the education by facilitating and participating in the online discussion boards. The discussion

boards used in the online environment enables students to take more time to process material and give in-depth responses. Surveys of students showed approximately 73% of students felt discussion time on the discussion board made it easier to participate in class. Thus, students in traditional classroom setting do not have the same amount of time to engage and reflect on material when compared to their online counterparts.

The researchers wanted to know if the extra time given would encourage a deeper reflection and respond to questions or comments in the traditional classroom. According to the survey, the discussions boards supported learning (74.34%), helped them to understand content from other learners (64.45%), and lengthened students' reflection time (73.33%).

In addition, the online discussion tool was advantageous for introverted students who may need more time to respond and answer questions without the fear of speaking up in the traditional classroom environment. Therefore, one of the questions on the survey was to find out how comfortable students felt using the online discussion boards. Surveys found 80% of the students felt more comfortable using the online discussion boards. In the opinion of the researchers through the literature, surveys, and opened questions from the participants, the online discussion boards were a valuable tool for the traditional classroom environment.

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