Classroom Community and Time: Comparing Students' Perceptions of Classroom Community in Traditional vs. Accelerated Online Courses

Patrick R. Lowenthal
Boise State University

Jesús Trespalacios
Boise State University

Abstract
Online educators regularly experiment with ways to create a sense of classroom community in the online courses they design and teach. They do this in part to battle feelings of isolation and loneliness but also to align with prevailing theories of learning (e.g., social constructivism) as well as to mimic idealized in-person face-to-face learning experiences. However, little is known about how well a sense of community is developed in accelerated online courses. Given this, we investigated students' perceptions of classroom community in traditional length online courses (e.g., 15-week courses) and accelerated online courses (e.g., 7-week courses) taught by the same instructors. The results showed that there was not a statistically significant difference in students' perceptions of classroom community between the 15-week and 7-week courses. Students in this study rated the accelerated 7-week courses as having a higher sense of classroom community. In this paper, we present the results of our inquiry. We conclude with the implications of our research on research and practice.

Keywords: classroom community, community, connectedness, online learning, accelerated, social presence

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Even before COVID-19, millions of students were taking online courses each year (Allen & Seaman, 2016; Hobson & Puruhito, 2018; Seaman et al., 2018). While reports suggest that students' experiences learning online during COVID-19 were often far from ideal (Hodges et al., 2020; Stewart, 2021), enrollments in online courses and programs are only likely to increase in the coming years (Lowenthal et al., 2021). Many students who might have avoided taking online courses prior to COVID-19 for various reasons found that they liked the convenience of learning anytime, from anywhere. One problem, though, is that research over the years estimates that attrition rates are 10 to 20% higher in online courses than in traditional in-person face-to-face courses (Angelino et al., 2007; Boston et al., 2009; Wladis et al., 2014) and that certain high-risk populations of students might actually perform worse in online courses than in face-to-face courses (Jaggars, 2011; Jaggars & Xu, 2010; Hart et al., 2015). Thus, while student interest in enrolling in online courses and programs might continue to grow (especially compared to enrollments in in-person face-to-face courses and programs), questions remain about how successful this body of students will be learning online over the coming years (Fitzgerald, 2022; Glazier, 2020; Lockee, 2021).

Students drop out of courses and programs for many reasons (Shea & Bidjerano, 2014, 2019). Research, though, suggests that one of these reasons is because of feelings of isolation, loneliness, and an overall sense of disconnectedness (Drouin, 2008; Thomas et al., 2014). Researchers have argued that one way to help students address feelings of isolation and loneliness and in turn persist is through establishing social presence and a sense of classroom community (Boston et al., 2011; Kaufmann & Vallade, 2020; Rovai, 2002b, 2003). However, from its inception, people have questioned the ability to develop social presence and a sense of classroom community in fully online environments, especially those relying predominantly on asynchronous text-based communication (Anderson, 2008; Lowenthal & Dunlap, 2020; Reese, 2015). Part of their concern has always been the lack of visual cues in asynchronous text-based communication (Berge & Collins, 1995; Lowenthal, 2010; Lowenthal & Mulder, 2017); however, critics have also found that the lack of immediacy in this type of communication often leads to misunderstandings and in turn make collaborating online difficult (Watts, 2016).

While researchers have demonstrated over time that social presence and even a sense of classroom community can be developed online, many have agreed that it can take longer to develop when using asynchronous communication alone (Akyol & Garrison, 2008; Tu, 2001; Walther, 1992, 1996). Although previous research has mentioned the need for "time together" to develop a sense of community (McMillan & Davis, 1986; Dawson, 2016), few studies have investigated this variable (see Akyol & Garrison, 2008). This issue of taking extra time to develop a sense of social presence and classroom community could have direct implications for the increasing number of accelerated online courses (e.g., 3-week, 5-week, 7-week) being offered today at colleges and universities (Lowenthal, 2016). Given this, the purpose of this study was to investigate if there was a difference in students' sense of classroom community in traditional length online courses (e.g., 15-week courses) compared to accelerated online courses (e.g., 7-week courses) taught by the same instructor. The following research questions guided this study: (1) Is there a significant difference in the sense of community between students in a 15-week course vs. a 7-week course? (2) What are students' perceptions about the sense of classroom community in their online courses? In this paper, we present the results of our inquiry. We conclude with the implications for research and practice.

Background

During the last 20 to 30 years, educators have increasingly focused on the importance of social interaction and specifically, community in teaching and learning (see Brown & Duguid, 1991; Jonassen, 1995; Lave, 1991; Rogoff, 1994; Wenger, 1999, 2000). Thus, when educators began experimenting with using the internet for teaching and learning in the mid-1980s and 1990s, they were not simply interested in improving correspondence distance education; rather, they wanted to find ways to get groups of students to interact and communicate, and ultimately form a sense of classroom community and learn together at a distance (Gunawardena, 1995; Harasim, 1987, 1990). In the late 1990s, Garrison and his colleagues developed the Community of Inquiry (CoI) framework. Building off the work of Dewey (1933, 1959) and Lipman (1991), they posited that communities of inquiry can be developed when teaching presence, social presence, and cognitive presence are evident (Garrison et al., 1999, 2000; Rourke et al., 1999). Around this same time, researchers started focusing specifically on whether and how learning communities could be formed in an online environment.

Swan and her colleagues published some of the first research focused directly on the development of learning communities in online courses. In one study, Swan et al. (2000) surveyed 1,406 online students in the SUNY Learning Network as well as analyzed the course design of 73 online courses to better understand learning communities. They found that consistent and transparent course design, regular and constructive instructor interaction with students, and active discussions influence the success of online courses. They went on to argue that these three factors in turn help lay the foundation for knowledge-building communities.

Later, drawing from the results of two different studies, Swan (2002) investigated course design features and student immediacy behaviors that influence the social development of learning communities. Building on her previous research, Swan reiterated the importance of clear course structure, interactive instructors, and dynamic discussions but also argued that students use verbal immediacy behaviors--specifically, affective, cohesive, and interactive behaviors--in online discussions to develop a sense of community among classmates.

Around the same time, Rovai (2001, 2002a, 2002b) began researching what he conceptualized as "classroom community." In one of his early studies, Rovai (2001) conducted a mixed-methods case study where he examined course interactions, sense of classroom community, and learner feedback in a five-week fully online graduate course. Rovai found that the sense of classroom community did increase over a five-week course and therefore concluded that online "instructors can create virtual learning environments that promote a sense of classroom community" (p. 45). Rovai also found females were more positive and had a stronger sense of classroom community. In addition, he reported a moderate relationship between classroom community and the number of times someone posted. Rovai (2001) pointed out that other things could impact classroom community, such as instructor writing styles, instructor immediacy, course content, or length of the course. He suggested that future research might investigate how course design and pedagogy influence classroom community.

Shea and his colleagues also conducted a number of studies on learning communities and presence (see Shea, 2006; Shea, Li, Swan, & Pickett, 2005; Swan & Shea, 2005). For instance, Shea et al. (2005) created an instrument (that included Rovai's Classroom Community Scale) to investigate the role of teaching presence in developing a learning community online. Shea et al. found that teaching presence was related to classroom community; more specifically, they explained: "that a strong and active presence on the part of the instructor—one in which she or

he actively guides the discourse—is related to students' sense of both connectedness and learning" (p. 71).

While research suggests that a sense of community is related to student satisfaction and perceived learning (Caskurlu et al., 2021; Chatterjess & Correia, 2020; Shea et al., 2005; Shea 2006; Trespalacios et al., 2021) and can improve the online learning experience (Fiock, 2020), some researchers have focused specifically on how instructors and course designers actually develop a sense of community online. There have been several attempts to identify general recommendations to promote a sense of community in online environments. Early on, Haythornthwaite et al. (2000) suggested that designing opportunities for initial bonding, monitoring and supporting interaction and participation, and providing multiple ways of communication can help promote community. Palloff and Pratt (2007) suggested active interaction, collaborative learning, socially constructed meaning, resource sharing, and expressions of support and encouragement can all help build community. Later, Shackelford and Maxwell (2012) found that introductions, collaborative group projects, contributing personal experiences, entire class online discussions, and exchanging resources all impact students' sense of community. Additionally, Cuthbertson and Falcone (2014) argued that faculty need to provide opportunities for students to regularly be themselves and share their experiences, thoughts, and interests in a relevant way throughout the semester. But all of these community development strategies take time. They take time to facilitate and time to develop, which led some to conclude as Dawson (2006) did that "the formation of a learning community may be influenced by the time required to establish close social relationships among the student cohort." (p. 160).

Despite research like this, questions remain about how things like course duration, course design, instructional strategies, and even instructor disposition might influence students' perceptions of classroom community. For instance, do students perceive a stronger sense of classroom community in traditional length online courses than in accelerated online courses? Are certain courses simply designed better to establish a sense of classroom community regardless of the course duration? Or could it be that certain instructors are more effective at establishing classroom community than others?

Method

This study was grounded in Rovai's (2000, 2002a, 2002b; 2003) work on classroom community. Rovai thought of community in terms of a sense of connectedness that consisted of of cohesion, spirit, trust, and interdependence. He created the Classroom Community Scale (CCS) to measure students' perceptions of classroom community (Rovai, 2002a). The CCS consists of essentially two subscales. There are 10 questions in the connectedness subscale focused on connectedness and 10 questions in the learning subscale focused on learning. Students are asked how they feel about each question using a 5-point Likert scale ranging from strongly agree to strongly disagree. The results are added up to calculate a classroom community score per student.

To investigate the research questions guiding this study, we employed a survey research design (Creswell, 2015). The survey included all 20 questions of the CCS and one open-ended question seeking additional comments on students' perceptions of classroom community. We identified six courses in a fully online Master's of Educational Technology program that were taught during a summer term (7 weeks) and a fall term (15 weeks) by the same instructor prior to the COVID-19 pandemic. After the analysis of the online course contents taught in the summer

and fall, we confirmed that they had the same textbook, course description, learning objectives, and grade scale. We administered the survey at the end of each semester.

We had 86 students complete the survey in the summer and 102 complete the survey in the fall. It was possible that some students could be enrolled in two summer courses or one in the summer and one in the spring. Since the survey was anonymous, we could not verify whether a student took the survey more than once.

Results were downloaded from Qualtrics and imported into SPSS to analyze. Descriptive statistics and frequencies were first calculated. Then an independent-samples t-test was used to compare scores for two different groups (summer versus fall). The data from the open-ended questions were downloaded and analyzed by the first author using a constant comparative technique (Leech & Onwuegbuzie, 2007). This type of analysis is useful when trying to explore and understand the big picture of a phenomenon such as students' perceptions of classroom community. This type of data analysis involves taking a multistage coding process. First descriptive codes are created; then a type of pattern coding is used to group and analyze the data (Saldana, 2016). The first researcher returned to the qualitative analysis months later to review the initial codes, patterns and groupings, and the themes to improve the trustworthiness of the original analysis.

Table 1

Course Titles and Enrollments

Course	Summer Enrollment 7 weeks	Fall Enrollment 15 weeks
EDTECH 501: Introduction to Educational Technology	19	18
EDTECH 502: Creating Educational Websites	12	32
EDTECH 503: Instructional Design	7	8
EDTECH 504: Theoretical Foundations of Educational Technology	10	4
EDTECH 505: Evaluation for Educational Technologists	19	22
EDTECH 541: Integrating Technology in the Classroom	19	18

Results

To answer the first research question, we initially compared the averages of the total sense of classroom community between the summer and fall semesters. The average sense of classroom community of the six courses over the summer was $M = 56.15$, compared to $M = 53.68$ over the fall; 80 is the highest possible score with Rovai's instrument. A t-test showed that there was not a statistically significant difference between the two. Then when looking at the averages across the two subscales, the average connectedness subscale was higher over the summer ($M = 25.69$) than the fall ($M = 23.25$) as was the learning subscale for the summer ($M = 30.46$) compared to the fall ($M = 30.43$).

Table 2

Sense of Classroom Community Summer (7 weeks) vs. Fall (15 weeks)

	Summer Average n = 86	**Fall Average n = 102**	**Total Average n = 188**
Sense of Classroom Community	56.15	53.68	54.86
Connectedness Subscale	25.69	23.25	24.42
Learning Subscale	30.46	30.43	30.44

We were then interested in looking at the average classroom community score, as well as connectedness and learning subscale scores across each accelerated 7-week and traditional 15-week course. The total classroom community scores ranged from 52 to 60.33 for the summer 7-week courses and from 47.61 to 60.18 for the fall 15-week courses. EDTECH 502 and EDTECH 505 had the highest overall scores for both semesters (see Table 3).

Table 3

Comparison of Course by Course Summer (7 weeks) vs. Fall (15 weeks)

	Summer				**Fall**			
	n	Classroom Community	Connectedness	Learning	n	Classroom Community	Connectedness	Learning
EDTECH501	19	54.74	25.42	29.32	18	47.61	20.72	26.89
EDTECH502	12	60.33	27.17	33.17	32	57.47	23.44	34.03
EDTECH503	7	53.14	24	29.14	8	49.38	23.13	26.25
EDTECH504	10	52	23.3	28.7	4	50.75	21.75	29
EDTECH505	19	57.68	26.74	30.95	22	60.18	27.41	32.77
EDTECH541	19	52.53	23.42	29.11	18	47.61	20.72	26.89

Finally, we were interested in looking at the results by question per term to identify which items students felt the strongest about—in other words, which items did they rate the highest vs. the lowest. Overall results in many ways across the accelerated summer 7-week term and the traditional fall 15-week term mirrored each other (see Table 4). For instance, with the connectedness subscale, students reported the strongest agreement with the following:

- they did not feel isolated[1] (*M* = 2.81)
- they trusted others in the course (*M* = 2.78)
- they felt confident others will support them (*M* = 2.78)

However, they then reported the strongest disagreement with the following:

- they feel connected to others in the course (*M* = 2.29)
- they thought members of the course depended on them (*M* = 1.78)
- the course felt like a family (*M* = 1.69)

See Table 4 for more comparisons.

[1] Rovai created some questions like this one to be reversed during analysis to create a total score.

Table 4

A Comparison of Responses per Question on the Classroom Community Scale

Questions	Summer *M*	Fall *M*	Combined *M*
Connectedness Subscale			
I feel that students in this course care about each other	2.80	2.61	2.70
I feel connected to others in this course	2.49	2.11	2.29
I do not feel a spirit of community	2.63	2.40	2.51
I feel that this course is like a family	1.82	1.58	1.69
I feel isolated in this course	2.92	2.70	2.81
I trust others in this course	2.83	2.74	2.78
I feel that I can rely on others in this course	2.72	2.44	2.57
I feel that members of this course depend on me	2.03	1.54	1.78
I feel uncertain about others in this course	2.71	2.49	2.60
I feel confident that others will support me	2.82	2.75	2.78
Learning Subscale			
I feel that I am encouraged to ask questions	3.22	3.25	3.23
I feel that it is hard to get help when I have a question	3.15	3.15	3.15
I feel that I receive timely feedback	3.27	3.34	3.31
I feel uneasy exposing gaps in my understanding	2.64	2.66	2.65
I feel reluctant to speak openly	2.94	2.88	2.91
I feel that this course results in only modest learning	2.95	2.83	2.89
I feel that other students do not help me learn	2.86	2.85	2.86
I feel that I am given ample opportunities to learn	3.17	3.19	3.18
I feel that my educational needs are not being met	3.19	3.14	3.16
I feel that this course does not promote a desire to learn	3.17	3.21	3.19

To answer the second research questions about the students' perceptions about the sense of community in their online course, the following themes emerged from the open-ended data.

Theme 1: Classroom community is not necessarily dependent on every student in a class

Participants in this study talked about how there were students who participated a lot and were, in turn present, trusting, and helpful and those who participated very little and appeared to do the bare minimum and therefore did not appear present. Participants described how a sense of community can still develop even when some in class appeared disinterested or absent thus suggesting that a sense of classroom community is not dependent on every student feeling connected. The following comment capture this idea:

> There were a group of 6 students that were trustworthy and reliable in the course who created a community… The rest of the class was unreliable…

Theme 2: Interest in developing a sense of classroom community varies by student, course, and context and can feel forced or artificial at times

Students have busy lives with many competing priorities. Adult learners completing a professional graduate degree also often have busy careers, often with a strong professional network already. Some participants described simply having no interest in developing a sense of classroom community with a bunch of strangers, regardless of the format. Others talked about how the workload of a specific course and/or current competing priorities outside of class could influence the degree to which they have time and interest in developing a sense of classroom community. And finally, others talked about how the nature of the assignments and/or the sheer fact that they were required to interact and discuss with their peers simply felt forced and artificial and in turn hampered any real sense of classroom community from developing. The following quotes capture this theme:

> I am not looking for them to be my new best friends or family just classmates. ... It seems like a sense of community is difficult to pull off in this setting, but I'm not sure that is a bad thing. I don't find a sense of belonging as rewarding as the knowledge I gained in this course. Learning is paramount, a sense of belonging is simply a bonus.

> I would not expect, nor would I want, a 15-week class to feel like a family, and I wouldn't expect to come away from such a class feeling real "trust" in classmates...many of these people are strangers when we begin the class, and many will be strangers at the end of class (even in a F2F setting). The feeling of "caring" and "connectedness" are, in my opinion, superficial and based on whether it is convenient to be connected in any classroom setting.

> I feel that course members provide feedback that's helpful and genuine, but the sense of community feels somewhat artificial because students are required to participate in order to receive credit. I think the best times that I've noticed a sense of community is when students work on project in small groups. Communities can also be established when the same students are in same course for more than one occasion.

Theme 3: Classroom community depends on intentional design, encouragement, and active facilitation

Participants in this study described how there were things an instructor can do to help develop a sense of classroom community as well as things an instructor can do to help thwart a sense of classroom community. For instance, they talked about how workload, the structure and focus of discussions, faculty participation and encouragement, and the types of assignments can impact the development of and their perceptions of a sense of classroom community. Some described how the way a course is designed and set up can highlight how an instructor values community development and can set the stage for the rest of the semester. They talked about how discussions in some courses felt like busywork, where students and the instructor were just checking the boxes off a to-do list, whereas at other times they felt relevant, and meaningful, with students and the instructor actively and genuinely engaged. Others talked about the power of group work and small group discussions in developing a sense of community when they find themselves working with a good group of like-minded motivated students. The following quotes capture these sentiments:

> There were no class introductions in the beginning of the course, and because of that, everything felt very disjointed.
>
> The structure of the discussions were set up in a way that I felt increased participation and dialogue which made for a stronger community feel than I have experienced in other classes.
>
> There was no sense of community, in spite of the fact that we were required to comment on each other's posts… was entirely non-personal in nature. We weren't encouraged to get to know each other, and nobody seemed to feel compelled to try.
>
> The success of online community … was due to the dedication of Dr. Smith who insisted to help us all and gave us a sense of belonging. In addition to the well designed forum rubric … [that] encouraged us all to participate and help each other.

Discussion

Prior to COVID-19, about a third of students took at least one course online each year (Seaman et al., 2018). However, almost overnight, the COVID-19 pandemic and the safety measures enacted forced nearly every student in the United States alone to complete coursework in some type of remote, blended, and/or online format. While students' experiences learning online varied, many believe that this new, even though forced, experience of learning online will likely result in more students opting for this option over the coming years.

Past research suggests that not all students are successful in learning online. Students have reported feeling isolated and alone. Researchers, though, have argued that developing a sense of classroom community can combat feelings of isolation and loneliness and in turn help students persist and to be successful learning online (Ahmady et al., 2018; Boston et al., 2009; Gerad et al., 2021; Fisher & Baird, 2005; Rovai, 2002b; Trespalacios & Uribe-Florez, 2020). However, despite online educators regular mislabeling any and all online courses as "learning communities" or "communities of inquiry" (see Lowenthal & Snelson, 2017; Trespalacios et al. 2021), we contend that developing a sense of classroom community is not common and actually more difficult than many believe (see Phirangee & Malec, 2017). As Rovai (2002) and others have illustrated, it takes intentional design and facilitation for a sense of classroom community to emerge. Further, it begins with regular interaction and the development and establishment of social presence with members of a course (see Lowenthal & Snelson, 2017; Picciano, 2002; Rovai, 2000). However, situational factors (e.g., personal dispositions, class duration, class size, opportunities for future interactions in subsequent courses) as well as the bounded nature of online courses (see Wilson et al., 2004) can all further influence its development. We were particularly interested in how time might influence students' perceptions of classroom community.

Our results illustrated that there was not a statistically significant difference between students' perceptions of classroom community in accelerated 7-week courses vs. traditional 15-week courses taught by the same instructors. In fact, students' perceptions of classroom community were slightly higher during the summer (M = 25.69) than in the fall (M = 23.25). This finding contradicts earlier research that suggests that developing a sense of social presence and collaboration—the building blocks for classroom community—takes longer online using

asynchronous text-based communication (Akyol & Garrison, 2008; Walther 1992, 1996). At the same time, prior research has shown that social presence could be developed in accelerated courses (Lowenthal, 2016; Soles & Maduli-Williams, 2019; Zajac & Lane, 2020), which could have implications for the time needed for a sense of classroom community to develop and emerge. Questions remain though how much social presence is needed to help develop a sense of classroom community as well as how much of a sense of connectedness, for instance with Rovai's classroom community subscale, is needed for an online course to feel like a classroom community.

The fact that students had even higher perceptions of classroom community over the summer could simply be due to instructors and students becoming more literate and adept with electronically mediated discourse. As people spend more time working, learning, and even socializing online (often with strangers), they are likely to get more successful with communicating online, which in turn might result in students feeling less isolated and alone when taking online courses. Further, accelerated courses could also encourage/require instructors and students to dedicate more time to the course that in turn could help speed up the building blocks for a sense of classroom community to emerge.

We also found that the same instructors, teaching the same courses had the highest classroom community scores across both the summer 7-week and fall 15-week semesters. This could highlight how well-designed courses and/or consistent and skilled facilitation are more important than course duration to develop a sense of classroom community. However, it could also point to the influence of an instructor's personality or disposition to shape students' sense of social presence and classroom community (see Trespalacios & Lowenthal, 2019).

But the findings also might support the notion that every student sees the need or finds the importance to develop a sense of classroom community differently. Students in this program have full lives and professions. Further, related to earlier findings about social presence, students' interest in developing a sense of connectedness or community might be influenced by students' expectations of how they might end up interacting with students in future courses and/or their profession (see Lowenthal & Dunlap, 2018).

Last but not least, there could simply be issues with how we conceptualize classroom community and/or how we measure it. For instance, Rovai (2002) grounded his work on a psychological conception of communication. He included questions such as "I feel that this course is like a family" which might demonstrate a bias and/or limited perspective. Many people might not see family as a positive metaphor for connectedness.

Conclusions

Our results should not be generalized to a larger population due to the small sample size. Additional research is needed to see how time, and specifically accelerated courses, influence student interaction, social presence, and classroom community. The results of our study point to the need to better understand which types of instructional strategies and course designs help establish a sense of classroom community in online courses—especially those relying predominantly, if not solely, on text-based asynchronous communication. Future research should investigate further how certain types of communication influence interaction, communication, and community development. At the same time, researchers and practitioners alike would benefit from a new instrument to measure classroom community. Rovai created his instrument over 20 years ago. He also worked and studied classroom community primarily in a private religious institution. It is time to develop a new instrument to measure classroom community.

Declarations
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