Learning the Ropes: The Influence of the Roundtable Classroom Design on Socialization

Caroline S. Parsons

University of Alabama

This study investigated the influence of physical and virtual learning spaces on students' socialization into future professions while attending a modern university. Qualitative analysis of an undergraduate liberal arts program that employs the use of roundtable classrooms was conducted. Findings revealed that the roundtable classroom promotes socialization by facilitating the exchange of elaborate feedback and intellectual talk between students and instructors. However, some students reported feeling exposed or uncomfortable and thus less likely to participate. Virtual learning spaces influenced socialization, and their effectiveness was heavily moderated by the instructor and by the frequency and use of educational technology. Recommendations and suggestions for future research are provided.

Introduction

Organizational culture scholar Edgar Schein (1968) defined socialization as a process of "learning the ropes," in which individuals acquire the knowledge and skills necessary to assimilate into a profession or organization (p. 2). Through active participation and vicarious observation, newcomers socialize into an organization and thereby become members of it.

College students learn the norms, rules, and rituals of their future professions by participating in learning spaces that promote socialization. By learning the ropes, students develop a sense of community that produces higher levels of academic performance (Kuh, 2000), self-empowerment (Baxter-Magolda, 1999), and persistence (Tinto, 1997). Oblinger (2006) and Fisher and Newton (2014) have suggested a reconceptualization of learning spaces that center on this type of student learning experience. Research on learning spaces and socialization has been limited up to this point and thus deserves further study.

As locations designed to support, facilitate, stimulate, and enhance learning and teaching (*Journal of Learning Spaces*, 2011), learning spaces can be found in classrooms, lecture halls, or common areas and are regularly blended with virtual learning spaces. This study investigated the influence of physical and virtual learning spaces on students' socialization into future professions. In order to investigate how learning spaces can promote socialization on a modern university campus today, this article: 1) examines relevant literature, 2) describes methodology, 3) provides results, and 4) offers discussion.

Learning Space Design and Student Engagement

Cox (2011) found that active classroom designs which facilitate interaction between faculty and students can improve student learning outcomes. Experimental classrooms that feature flexible use of furniture, such as tablet desks on gliders (Henshaw & Reubens, 2014), swivel seat desks (Henshaw, Edwards, & Bagley, 2011), and swivel chairs used with tables on gliders (Rands & Gansemer-Topf, 2017), have shown to increase classroom participation and engagement by allowing students to form small groups. McArthur (2015) found that classrooms featuring swivel chairs and tables on gliders, while heavily moderated by the instructor, substantially influence student learning. The roundtable classroom design has also shown to promote interactive learning (Author, 2017) and dialogue (Author, 2016) by promoting face-to-face interaction and engagement.

Variations on Beichner's (2008) Student-Centered Active Learning Environment for Undergraduate Programs (SCALE-UP) classroom design demonstrates not only the usefulness of the circular seating design as an alternative to the traditional classroom in which students sitting in the front row engage more than other students (Park & Choi, 2014), but also the usefulness of educational technology when it is intentionally integrated into the classroom. The SCALE-UP classroom - which features multiple round tables with chairs, laptop connections at every seat, projection screens at multiple points in the room, and does not employ a teaching podium - has shown successful results in faculty-student interaction and other favorable student outcomes

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Caroline S. Parsons is Assistant Professor, University of Alabama.

(Beichner, 2014; Brooks, 2012; Van Horne, Murniati, & Saichaie, 2012).

Feedback and Socialization

Instructor feedback serves an important and necessary socializing function for students who are beginning to pursue professions. By providing feedback during classroom discourse, instructors guide students toward new ways of thinking and teach them the intellectual vocabulary necessary for success. Pre-professional programs such as law school and architecture/design studio classrooms have served as sites for studying classroom discourse, instructor feedback, intellectual talk, and socialization.

Law school classrooms. Mertz (2007) described the language and discourse used in law school classrooms to socialize students into becoming future attorneys. In Mertz's (1998) study of law school classroom dialogue, if a student answered a question one way when the instructor wanted to hear the question answered in a different way, the instructor would redirect or re-contextualize the question. In one exchange,

> The professor, after rephrasing a question several times (and receiving the same, "incorrect" answer – "no") tells the student, "Try yes." The student initially responds with silence. The professor repeats, rising intonation, added stress, "Say yes." "Yes," says the student at last. 'Why?' the professor proceeds to attempt a continued dialogue (p. 329).

This exchange of feedback demonstrates instructors' guidance of a talk sequence, with follow-up statements that indicate an appropriate and expected language usage for the discussion.

Architecture and design studio classrooms. Schön (1983, 1985) described the importance of the instructor's role in providing feedback and oral critiques of student work in architecture and design classrooms. Dannels (2005) found that through giving and receiving feedback in a design studio classroom, architecture students learned to perform "tribal" rituals that are unique to the profession. The design studio thus becomes an incubator for students, providing them with a laboratory in which to exchange feedback with their instructors and peers, one-on-one and in front of groups. Students thereby learn the intellectual talk and vocabulary that they will be expected to know and use in the future.

Described by Leiboff (2010) as the classroom of the future, the studio classroom is known for being student-centered, interactive, and collaborative (see Figure 1). For example, during oral presentations of student work instructors provide feedback such as brainstorming, free-associating,

making direct recommendations, commenting on students' process, rendering judgments about the final product, expressing confusion, and questioning or interpreting concepts (Dannels & Martin, 2008; Dannels, 2011). In one design studio, an instructor stated:

> I think we need to explore other ways of creating dimension…Unless we see it, you might not see it…Sit down and be really quiet and listen…Be in a room with it. Play with it. Sit and look at it. What is it telling you? (Dannels & Martin, 2008, pp. 143-147).

This give-and-take teaching and feedback philosophy is common in design disciplines, as instructors guide students to engage in intellectual talk about their work.

Figure 1. **An architecture design studio classroom** (photo credit: University of Washington)

Architecture and design studio classrooms (virtual). Dannels' (2011) ethnographic study of a virtual graphic design studio described the instructor's role of using educational technology to provide feedback as socialization. She wrote, "the explosion of new technologies in education adds an additional layer of simulat[ion] in that we are able to use online discussions, virtual worlds, and wikis…to further an authentic workplace reality and pre-professional learning experience" (p. 29-30). This emphasis on pre-professional communication and education technology serves as an example of how instructors can use technology as a socializing tool. Conanan and Pinkard (2001) found that architecture students who gave and received feedback from their peers and instructors in an online, collaborative learning environment improved their understanding of themselves as future architects.

Clearly, the feedback and intellectual talk exchanged in a pre-professional program such as law school or architecture school realistically socializes students into their future

professions. Because the socializing of intellectual talk in the classroom is such an integral part of the learning process, and because learning spaces that promote socialization have not been investigated beyond a generalized and descriptive level, more research into how learning spaces can promote socialization is warranted.

Methodology

The next section of this article will address the methodology and tools for analysis of the roundtable classroom and surrounding spaces in an undergraduate liberal arts community. This section will describe: 1) research questions, 2) the site and participants, 3) data collection and artifacts, and 4) analysis and coding.

In light of recent literature and current gaps in our understanding about the influence of learning spaces on socialization, this study asked the following research questions:

RQ1: In what ways do physical, built learning spaces influence socialization?
RQ2: In what ways do virtual learning spaces influence socialization?

The Site

The site for this study was an undergraduate liberal arts program designed to promote innovation and creativity at a large public southeastern university. As part of the program, students complete two 100-level seminar foundation courses, then take 300-level thematic seminars, completing their experience with a 400-level capstone course. The capstone course integrates prior coursework into each student's development of an individual worldview.

At the time of the study, about 250 students were enrolled in the program. Fourteen instructors, called senior fellows, were teaching in the program. Teaching assistants, called junior fellows, who are graduates of the program, assisted in teaching and facilitating the classes. According to its promotional materials, the program provides the nature of a small liberal arts college within a major university. Learning outcomes of the program include developing: 1) intellectual breadth in the liberal arts, 2) critical reading and writing skills, 3) problem solving skills, including research and analytical skills across disciplines, 4) debate and discussion skills, and 5) a sense of community among freshmen who live together.

The Classrooms. The classrooms utilized for this study were roundtable classrooms, emphasizing face-to-face communication in small groups. The freshman seminar class took place in a large seminar room with connected semi-round tables arranged into a full-circle in the middle of the room. The circle of tables was surrounded by 15 to 20

standard chairs. There were windows on one side of the room. The 10 freshman participants in this study met in the program's living-learning residence hall classroom (see Figure 2) on Tuesdays and Thursdays from 9:30 to 10:45 a.m.

Figure 2. **Classroom in the program's residence hall**

The upper-level class took place in one of the program's academic houses, located on the main quadrangle of campus. The eight student 400-level senior capstone class was held in a small seminar room (see Figure 3) on Tuesdays from 2:00 to 4:30 p.m. and was composed of eight students. The seminar room had a large conference table in the middle of the room, surrounded by ten to 15 standard chairs, with a projector on the ceiling, and windows around the room's perimeter.

Figure 3. **Classroom in one of the program's academic buildings**

The Academic Buildings. The program offers exclusive use of two academic buildings, both of which are located on the central quadrangle of campus. Students may access these buildings at any time. Both buildings contain classrooms for upper-level seminars, common study spaces, a computer/printing lab, and office space for program faculty and administrators.

Participants

Freshmen and seniors enrolled in the liberal arts undergraduate initiative were the focus of this study. The liberal arts program administrative team helped to identify an instructor who was simultaneously teaching a freshman and senior seminar and was willing to participate.

The 18 students interviewed ranged in age from 18 to 22. Of the ten freshmen, seven of them were female and three were male. Of the eight students enrolled in the senior seminar class, all were seniors; four of them were female and four were male. Overall, 11 of the 18 students interviewed were female (61%), and seven students were male (39%).

The students in this study came from a variety of backgrounds, though most grew up in southeastern states and described their socioeconomic backgrounds as middle class. Almost all of the participants were Caucasian; one student was African American. Among the 18 students participating in the study, 21 majors were represented.

The primary instructor has an academic home in the History Department and serves as a senior teaching fellow in the program. A graduate assistant instructor had completed the program while he was an undergraduate student. The third instructor had taught the freshman and senior seminar classes study in this program for more than a decade.

All participants were provided with a description of the study and received a copy of an Institutional Research Board (IRB) information sheet, which they were asked to sign. They were informed that their identities would be protected and that all data would be used only for purposes of the project and destroyed after use.

Data Collection and Artifacts

Data was collected in the proposed site from both a freshman seminar course and a senior capstone course. Artifacts included audio-recorded classroom observations, interviews, notes from focus groups, and reflection journals. Before the first classroom observation photographs, sketches, and notes about the unoccupied physical space were also collected.

Classroom Observations. The first classroom observation took place during the fourth or fifth week of the semester and continued until near the end of the semester. Audio footage was collected with a recording device placed in the middle of the roundtable and was later transcribed and analyzed.

Interviews. Interviews with both faculty and student participants were based on their experience of the learning spaces, especially the instances of students' socialization that they observed and/or experienced there. Interviews included such questions as: How has the layout of this classroom (e.g., the desks, chairs, board, projector, lab computers, spatial orientation) influenced you/your students' ability to socialize into their future chosen professions? How would you compare the use of technology (or lack thereof) in this program to other experiences you have had on campus? To gather information about how the classroom compared to other classrooms, participants were asked what aspects of the classroom made it more or less enjoyable than other classrooms. Interviews were audio-recorded and were later transcribed and analyzed.

Focus Groups. Students were invited to participate in a focus group that met in the classroom space. Groups consisted of five to eight students. Focus groups were audio-recorded and those conversations were later transcribed and analyzed. During the focus group, students were asked about how the layout of the classroom influenced their ability to engage in socialization. Any necessary follow-up to these focus group discussions and/or member checking took place during the last two weeks of the semester.

Journals. Students and instructors were asked to keep reflection journals, in which they described their experiences and reactions to learning spaces.

Analysis and Coding

Using Glaser and Strauss' (1967) grounded theory approach, this analysis coded for categories that emerged as relevant themes in reference to the research questions. Grounded theory refers to an inductive process of uncovering theories and central concepts that are grounded in the information provided by participants (Strauss & Corbin, 2008). As key concepts emerged from the data (Kvale & Brinkmann, 2015; Stake, 1995), participant perceptions of the learning spaces were assessed inductively. Following this grounded theoretical approach, and the methodological strategies of Charmaz (2014), initial coding strategies included word-by-word and line-by-line coding of each incident as it happened.

The use of this coding method sought patterns and themes that emerged from audio-recorded classroom proceedings, classroom observations, interviews, focus groups discussions, and reflection journals. Analysis of these initial codes led to a systematic coding structure. Nvivo software was also utilized to create memos that summarized key themes into clusters. Clustering is a method of coding in

which the researcher groups the emergent themes into meaningful categories and systems (Marshall & Rossman, 2015). Following Emerson, Fretz, and Shaw's (2011) instructions for writing ethnographic fieldnotes, the researcher in this study developed jottings into detailed notes of analysis, which were then open-coded, clustered, and thematized.

Results

Overall, both students and faculty provided evidence that the roundtable classroom provided more opportunities for socialization than do most traditional classrooms. This section presents the primary themes and findings from the artifacts collected in the study.

The roundtable classroom promotes socialization by facilitating consistent and immediate verbal and nonverbal feedback.

Students described how the immediate sharing of feedback with classmates was a useful socializing feature of the roundtable classroom and also one of the primary features that attracted them to the program. A senior in the program, who admitted that he had tremendous fear of public speaking as a freshman, described how exchanging peer feedback in the roundtable classroom had improved his performance and confidence over the years. A freshman in the program described how giving and receiving immediate feedback about her writing was a primary benefit of the roundtable classroom. Students remarked that the roundtable discussions had shaped them into better writers, speakers, critical thinkers, and active participants in debate and dialogue. Instructors described how the quality of roundtable discussions serves as evidence that the students in the program can think and are willing to learn, an enduring trait that will serve them across their lifespans.

While several students reported that they enjoyed lively and engaging discussions, others reported feeling uncomfortable or exposed in the roundtable classroom. One freshman stated that "it's kind of hard to have all eyes on you" and another stated a desire to stay in the background or simply "fade away." A senior said that "sometimes it is just nice to go and sit in lecture halls and melt away and not have to worry about anything…just let the professor do their thing." Classroom observations revealed that students disengaged by looking away, fidgeting, and/or doodling in their notebooks, particularly during discussions that had gone on for a lengthy period of time with one or two of the same students doing most of the talking.

The roundtable classroom promotes socialization by facilitating the exchange of feedback and intellectual talk between students and instructors.

Classroom discourse provided ample evidence that students were highly familiar with the course material and openly expressed their thoughts and ideas during class. Examination of specific segments of turn-taking showed a pattern of students consistently attempting to come to some form of understanding about a question, observation, or thought they were investigating out loud. The instructor guided and facilitated each discussion as it unfolded. Close examination of this pattern evolved into two categories describing the instructor's use of feedback and follow-up statements during classroom discourse.

Follow-up statements tend to occur at transition-relevant moments of conversation (Sacks, Schegloff, & Jefferson, 1974). In this study, these transitions took place when a pause occurred, or when students looked at the instructor or each other silently for a moment. The third or fourth turn in a sequence of participant turn-taking was typically the site for an instructor's follow-up statement. Instructors' use of follow up statements came in two forms: revoicing and contextualizing (See Table 1).

Table 1. Socializing intellectual talk: Follow-Up Statements in the Roundtable Classroom	
Type	**Definition**
Revoicing	Restates students' ideas in different terms.
Contextualization	Connects students' ideas to conventional knowledge and broader perspective.

Revoicing. Erickson (1982) posited that instructors are in a state of constant activity: initiating, responding, and evaluating. Revoicing challenges the instructor to adapt to each student and underscore the value of their spoken ideas. O'Connor and Michaels (1993) defined revoicing as a linguistic structure, often used by instructors to bring students into the process of intellectual socialization. In so doing, the instructor and student jointly construct the lesson.

During the following excerpt of classroom discussion, the assistant instructor asked students to describe altruism, which related to the day's reading. As a student summarized what she understood from the reading, the assistant instructor revoiced what he was hearing in different terms. The discussion unfolded in this way,

Student: So, do you see a clear difference between altruism and compassion, altruism and kindness? Because…I've lumped em together, you know like, an act of kindness and an act of compassion is probably going to be altruistic behavior…

Instructor: But…I guess **I wouldn't define that as altruism**. I think **there are other words that are more appropriate** to describe that kind of symptom.

Student: Then, wouldn't you say that animals are altruistic? Because most of the time they're just providing resources for each other, versus like, sacrificing themselves for another one.

Instructor: Right, I think…you're talking about it as an action itself…**You're saying, this has qualities that are reminiscent of altruism, but it is not…you're not laying down your life for somebody**.

Here, the student described what she believed to be a definition of altruism. The instructor overlapped and revoiced the thought with a different vocabulary. What at first appeared to be a corrective statement, guiding the student towards a "correct" answer, was the instructor's attempt to restate the student's idea in different words. His follow-up statement indicated that he wished to provide other words to describe the same concept, while at the same time underscoring the value of her idea.

Contextualization. Contextualization occurs when an instructor attempts to place a student's ideas into a larger perspective and give the student a new direction in his or her thinking. Reisman and Wineburg (2010) described how contextualization allows teachers to weave a rich and dynamic portrait of an event, grounding it within the particular worldviews, institutions, policies, and circumstances that were relevant at a given moment in time. For example, the instructor in this particular study was skilled at providing stories and anecdotes to contextualize student responses.

During the following excerpt of classroom discussion, the instructor asked the students what they thought William Shakespeare was trying to communicate in the play King Lear. During this exchange, the instructor shared some of the historical context relevant to the time period in which the play was written, in an attempt to give a broader context for the message of Shakespeare's play. The discussion unfolded in this way,

Student: So, do you think Shakespeare would have been making the argument that the divine right of kings is more or less illegitimate at a time when most monarchs in Europe thought that was completely true?

Instructor: **I think that you're heading in a very useful direction here** with discussing the whole issue of the divine right of kings because…**when was the play written**?

Student: 1607, I think.

Instructor: …**This is during the reign of James VI of Scotland**…it's at this time that we got King Lear. **So now, can William Shakespeare write a satire about what had just happened in England?** No, he cannot…so you've got the divine right of kings represented by Lear and then you've got a kind of, **don't you get a kind of Machiavellian world perspective with Goneril and Regan?**

In this discussion, the instructor stated that the student's description of the divine right of kings was correct, as represented through the character of King Lear, but that Shakespeare was also trying to communicate a Machiavellian worldview through the characters of Goneril and Regan. This contextualization served as another example that the instructor is not necessarily interested in providing "correct" answers, rather he encourages students to place their ideas in context with history and with the author's intent. His follow-up statement indicated that he wished to ground the student's idea in a historical context and help him think about the play in a new way.

Virtual learning spaces influence socialization and their effectiveness is heavily moderated by the frequency and use of educational technology.

A primary finding was that virtual learning spaces influence socialization and their effectiveness is heavily moderated by the frequency and use of educational technology. Participants described how virtual learning spaces, when designed and implemented thoughtfully, have had a mostly positive influence on their ability to socialize into their future chosen professions.

Each student in this study had taken a class in both a technology light classroom that employs minimal to no use of media platforms and in a technology rich classroom that employs the use of one or more media platforms and

applications inside and/or outside of the physical, built classroom. Students and faculty in the study reported a strong preference for technology light classrooms because they are more conducive to face-to-face communication and the exchange of feedback. Freshmen in the program described how rarely students used computers, laptops, screens, or phones during class, underscoring that "your mind is here." Seniors emphasized that technology hinders discussion and that "we use our minds more than technology." Classroom observations corroborated these reports from participants that technology light classrooms promote the exchange of feedback more than do technology rich classrooms.

Participants reported that technology rich learning spaces, while useful for disseminating information and viewing slides in large lecture halls, tend to impede interactive discussion and feedback. The following table (see Table 2) displays student and faculty comparisons of technology light classrooms and technology rich classrooms.

Table 2. Student and Faculty Comparisons of Technology Light and Technology Rich Classrooms		
	Technology Light Classrooms (minimal use of media platforms)	*Technology Rich Classrooms (frequent use of media platforms)*
Students	•Promotes feedback and socialization. •Effective for discussion. •Few distractions.	•Promotes feedback and socialization, in pre-professional programs (e.g., nursing, journalism, engineering). •Effective for larger class lectures. •Frustrating when misused.
Faculty	•Promotes feedback and socialization. •Effective for discussion. •Few distractions.	•Generally impedes socialization. •Has potential to teach students to manage time and be self-disciplined. •Effective for large lectures. •Often distracting.

Although participants reported that virtual learning spaces were generally not conducive to feedback and socialization, they did report that the 24-hour computing facilities provided by the program were useful and convenient for writing and printing papers. An instructor commented that students who use these facilities to prepare and print documents in a timely and professional way are more likely to be successful after graduation.

Virtual learning spaces influence socialization and their effectiveness is heavily moderated by the instructor.

Participants described how integrating technology into the classroom can enhance the quality and frequency of feedback and discussion in the learning space, as long as it is thoughtfully and consistently moderated by the instructor. Students described the usefulness of "laptop circles," in which they were instructed to rotate their laptops around the classroom so that other students could critique their writing and exchange peer feedback.

However, students do not always receive much needed guidance from the instructor as to the use and purpose of technology. For instance, during one classroom observation, students engaged in a lively discussion after viewing a short media clip on a student's laptop that was skillfully integrated and explained by the instructor. However, during a separate classroom observation, students began doodling, fidgeting, and looking away when the instructor showed a lengthy film on the projection screen with little explanation of its relevance to the course readings.

Throughout the semester, the unique design of this roundtable classroom provided several opportunities for students to speak openly, to develop their own voices, and to interact with each other and with the instructor. Overall, both students and faculty provided evidence that the roundtable classroom provided more opportunities for socialization than do most traditional classrooms.

Discussion and Conclusions

The next section of this article includes a discussion of the findings about learning spaces and socialization in this undergraduate liberal arts community. In particular, this section includes: 1) a discussion of findings, 2) recommendations for policy and practice, and 3) limitations and suggestions for future research.

Influence of Physical Learning Spaces on Socialization

RQ1 asked in what ways physical, built learning spaces influence socialization. Designed to support, facilitate, stimulate, or enhance learning and teaching, physical learning spaces can be formal (e.g., classrooms, offices) or informal (e.g., hallways, common areas, residential study areas) (*Journal of Learning Spaces*, 2011). Schein's (1968) concept of socialization guided the investigation of this research question.

The primary finding is that the roundtable classroom promotes socialization by facilitating the exchange of feedback and intellectual talk. Students and instructors

reported that the roundtable discussions developed students' writing, speaking, and critical thinking, along with their ability to engage in thoughtful debate and dialogue. These outcomes not only comply with the liberal arts mission of the program observed during this study, but also prepare students to perform in a broad range of future professional and personal endeavors. A recent survey found that more than half of employers wish to hire college graduates who have received a broad-based education that has taught them to write well, think critically, research creatively, and communicate easily (Association of American Colleges and Universities, 2013). Although liberal arts programs are sometimes criticized for not helping students to secure gainful employment upon graduation, they may equip students to be more successful in the long-term than students who graduate from other academic programs. In essence, the purpose of classroom discussions in this liberal arts program is to prepare students to articulate and defend their ideas with intellectual breadth and skill and the roundtable classroom certainly facilitated this mission.

In particular, this study found that instructors' use of feedback and follow-up statements socialized students into their future professional roles. While past studies of classroom discourse have categorized instructors' feedback and follow-up statements as brainstorming, free-associating, making direct recommendations, commenting on students' process, rendering judgments about the final product, expressing confusion, and questioning or interpreting concepts (Dannels & Martin, 2008; Dannels, 2011) or as seeking "correct" answers (Mertz, 2007), this study categorized instructors' follow-up statements as revoicing and contextualization. By assisting students in elaborating on their own ideas, and helping them to restate or contextualize those ideas, the instructors elevated students' ability to articulate their thoughts. These findings support what is already known about the importance of socialization to student development (Weidman, Twale, & Stein, 2001) and to enmeshment in one's future career (Schein, 1968; Van Maanen & Schein, 1979). The findings also support past research about the importance of community that is created when students undergo similar communicative experiences (Kuh, 2000; Baxter-Magolda, 1999; Tinto 1997) and are able to employ the language and vocabulary that serves as a badge of membership in that community (Gumperz, 1990). Because feedback on and socialization of intellectual talk is necessary to be successful in future life and work, this line of research certainly needs to be continued. Discovering which types of learning spaces best promote socialization should be a priority in future research.

A surprising finding was that the roundtable classroom causes some students to feel exposed or uncomfortable and thus less likely to participate in discussion. This finding can perhaps be explained by variances in student preferences. McCroskey and McVetta (1978) reported that students who have low communication apprehension and a high desire to interact prefer a circular or horseshoe classroom arrangement and choose to sit where they can be a part of discussion. Totusek and Staton-Spicer (2015) found that students who have greater tendencies toward assertiveness, a high imagination, unconventional attitudes, and a need for help and attention choose a seat in the center of classroom interaction. Koneya (1977) found that highly verbal students choose to sit where interaction is easiest while less verbal students choose to sit far away from the center of interaction. In short, students select classroom seating arrangements that match their level of desire to participate. These personality traits may explain why some students do not enjoy the roundtable classroom environment. Future research should investigate student levels of motivation as a moderating variable in how students experience learning spaces.

Taken together, these findings support past conclusions that the circular classroom design is conducive to student learning and development. Variations on Beichner's (2008) SCALE-UP classroom design, for example, have been successful in generating desired student learning outcomes (Van Horne, et al., 2012; Brooks, 2012) that are not likely to occur when the teacher only interacts with the first few rows of students (Park & Choi, 2014). Classroom designs that allow rearrangement of classroom furniture into a circle has shown to enhance several desired student learning outcomes (Rands & Gansemer-Topf, 2017; Author, 2016; Author, 2017; McArthur, 2015; Henshaw & Reubens, 2014; Henshaw, Edwards, & Bagley, 2011). Clearly, learning spaces that allow small group discussion circles hold tremendous potential to promote desired student outcomes and thus warrant further scholarly attention as well.

Influence of Virtual Learning Spaces on Socialization

RQ2 asked in what ways virtual learning spaces influence socialization. Designed to support, facilitate, stimulate, or enhance learning and teaching, virtual learning spaces include all forms of technology (e.g., learning management systems, online virtual environments) used in a learning space (*Journal of Learning Spaces*, 2011). Schein's (1968) concept of socialization guided the investigation of this research question.

A primary finding was that virtual learning spaces influence socialization and that their effectiveness is heavily moderated by the frequency and use of educational technology. Participants in the study described how occasional in-class use of technology was useful in allowing them to write and receive immediate feedback on their writing, but that in general "we use our minds more than

technology" in the roundtable classroom. These findings ring true with past research showing how students and faculty prefer technology light classrooms that promote more face-to-face communication than do technology rich classrooms (Author, 2017). In light of the favorable student outcomes that Beichner's (2008) SCALE-UP have produced (Van Horne, et al., 2012; Brooks, 2012), future studies should investigate the best practices for promoting socialization in learning spaces that employ more instructional technology than did the site utilized in this particular study.

This study also found support for the idea that virtual learning spaces influence socialization, and that their effectiveness is heavily moderated by the instructor. Students described how the in-class use of computers or laptops can promote the exchange of feedback, self-efficacy, and a sense of community among their peers. They also described how using technology in the classroom can be distracting, particularly when its role and purpose has not been clearly communicated by the instructor. For example, past studies have shown that in-class use of computers or laptops can be distracting (Fried, 2008), however a skilled instructor who effectively integrates them into classroom instruction can achieve just as much interaction as, if not more than that of a traditional classroom (Samson, 2010). Online collaborative environments have also shown to be effective virtual tools for the instructor's facilitation of feedback and socialization (Conanan & Pinkard, 2002). More research on the best practices for integrating instructional technologies in an era of rapidly expanding new technologies would be helpful.

Overall, this study corroborates previous findings that the roundtable learning space is more conducive to socialization than traditional desks in rows. Specifically, participants described how the active, roundtable classroom enabled instructors to engage students in higher order thinking and intellectual talk. Classroom discourse provided overwhelming support for the finding that instructor feedback statements socialize students into their future chosen professions and that the roundtable classroom facilitates the socializing of intellectual talk.

Recommendations for Practitioners

Learning spaces that are intentionally designed promote socialization by encouraging collaboration between faculty and students. In order to make informed decisions, administrators should seek feedback from user councils composed of industry professionals, custodial staff, instructors, and students, to improve the future design of learning spaces.

In order to promote socialization in a physical, built learning space:

- Instructors should thoughtfully arrange classroom seating to allow exchange of feedback between students and faculty.
- Furniture should be adaptable to rearrangement.
- Instructors should intentionally design and regularly explain their chosen modes of instruction (e.g., small group discussion, lecture, screen use) within a learning space.
- Formal learning spaces should be close to informal ones (e.g., faculty offices, common areas, study rooms).
- Visual aids (e.g., poster, screen, object) should be adaptable for rearrangement.
- User councils should regularly conduct space audits and implement changes accordingly.

To promote socialization in virtual learning spaces:

- Instructors should thoughtfully design and integrate educational technologies (e.g., learning management systems, online virtual environments) to promote feedback.
- Laptops, screens, and monitors should be adaptable to rearrangement.
- Instructors should regularly explain their chosen modes of instruction and feedback exchange (e.g., discussion boards, emails) within a virtual learning space.
- Digital materials necessary for interaction (e.g., computer software, wireless access) should be easy to find, see, and use.
- User councils should conduct virtual space audits and implement changes accordingly.

Exemplary instructors who regularly use these learning spaces are one of the most valuable assets for feedback and should be regularly consulted by user councils. Revisions to a traditional classroom may be as simple as replacing older chairs, replacing light fixtures, removing naps or snags in the carpet, repairing thermostats, removing clutter, and buffering noise distractions with acoustic pads can greatly improve the comfort and enjoyment of a classroom.

Recommendations for Instructors

One way that instructors can increase the quality of their feedback and socialization is to be familiar with their course material and to prepare discussion questions in advance. Thoughtful preparation of questions allows instructors to think through the ways in which students may respond and be prepared to follow up with revoicing, contextualizing, and/or elaborative responses. Allowing adequate class time for this discussion is essential.

Instructors can also increase the quality of their feedback and socialization by observing others' use of effective questioning techniques during classroom discourse. Observing exemplary instructors (e.g., live, recorded, webcasts) offers vicarious learning experiences that can improve future teaching. Administrators can provide support for instructors by encouraging them to form a community that shares resources and support.

Limitations and Suggestions for Future Research

A potential limitation of this study lies within its generalizability. Students in this program selected to participate in it and its demographic composition certainly does not represent the entire student body. This study focused on a small liberal arts program, limiting access to a broader representation of undergraduate students. Future research could survey and/or interview a larger sample of students and faculty at a variety of other institutions.

A second potential limitation of this study was that data were collected during only one semester with one particular set of students. The same study conducted in a different major or discipline, at a different time of year, or at a different institution may yield richer data in the future. Longitudinal analysis of the space would also be useful in confirming or contradicting the patterns that were identified in this particular study.

Concluding Remarks

While this study emphasized the influence that a roundtable classroom can have on socialization, visualizing what the active learning classroom looks like in other learning spaces will require more extensive research and testing. Future experimentation will help to identify which types of active learning classrooms are most effective for promoting desired student outcomes.

Diane Oblinger and others have called for more active and participatory learning spaces that focus squarely on learner needs. To harken back to the words of Edgar Schein, learning the ropes improves individuals' ability to be successful in their future chosen professions.

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