SPACE AND CONSEQUENCES: THE INFLUENCE OF LEARNING SPACES ON
STUDENT DEVELOPMENT AND COMMUNICATION

by

CAROLINE S. PARSONS

KARRI A. HOLLEY, COMMITTEE CHAIR
ANDREW C. BILLINGS
JASON E. BLACK
DAVID E. HARDY
AARON M. KUNTZ
JOHN A. McARTHUR

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ABSTRACT

Learning spaces can provide a site for social change by influencing student development and communication in colleges and universities. During a time when teaching, learning, and technology is changing rapidly, researchers and practitioners are addressing the need for learning spaces that promote student development in a modern university setting. From a social constructionist standpoint, this study sought to explore how the design of learning spaces influences three outcomes of student development and communication: 1) student dialogue and community building, 2) interactive learning, and 3) socialization into future professions. McArthur’s (2011) paradigm of user-experience of instructional space was utilized to assess the influence of physical and virtual space on these three outcomes. Qualitative analysis of the learning spaces in a liberal arts undergraduate initiative, which employs the use of roundtable classrooms and minimal technology, was conducted. Collection and analysis of interviews and focus group data from students and faculty in the program, in addition to classroom observations, field notes, photographs, sketches, and historical documents, resulted in the finding that the low-tech roundtable classroom not only employed user-design experience principles, but also empowered students to spark their own dialogue, interactive learning, and socialization. While this study found support for the idea that virtual learning spaces can positively influence student development and communication, findings suggest that in-class use of technology can hinder dialogue and learning. Classroom dialogue followed a consistent pattern of socializing intellectual talk, resulting in a typology of instructor follow-up statements.
DEDICATION

For my parents, Joe and Marie Parsons.
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CHAPTER I: INTRODUCTION

“Reform the environment. They will reform themselves if the environment is right.”

– Buckminster Fuller

As a central activity of colleges and universities, learning occurs in the places created and designed by an institution. Formal or informal, face-to-face or virtual, these places – or learning spaces – have the power to unite people. Learning spaces can foster discovery, exploration, collaboration, and dialogue. Learning spaces can also convey disconnectedness, isolation, silence, and distance between and among faculty and students. Provision of learning spaces often communicates concern for student dialogue, development, and transformation. These spaces, both physical and virtual, provide a site for personal transformation and social change, by influencing student development and communication in colleges and universities.

For years, scholars have emphasized the important link of space to social construction of reality and how humans come to know the world. Foucault (1986) wrote, “The present epoch will perhaps be above all the epoch of space,” adding that, “We are at the moment, I believe, when our experience of the world is less that of a long life developing through time than that of a network that connects points and intersects with its own skein” (p. 22). As Thrift (2009) contended, place, “is a crucial actor in producing affects, because, in particular, it can change the composition of an encounter by changing the affective connections that are made,” adding that, “certain places can and do bring us to life in certain ways, whereas others do the opposite” (p.
104). With this potential to change our encounters and to change the connections that we make there, learning spaces offer a range of cognitive and affective consequences.

Brooks’ (2012) coining of the term “space and consequences” aptly captured the idea that built and virtual learning spaces send messages to users, who then interpret the meaning of those messages. Temple (2014) contended that, “campus designs give out signals” (p. 4) about what a university deems as important. For example, Edwards (2000) argued that university buildings are “silent teachers,” allowing users to detect “the exacting agendas of intellectual inquiry, of scientific experiment, and refined taste…in the design of its many university buildings” (p. 150). Further, Chapman (2006) claimed that, “the institutional story is told through the campus…The campus is an unalloyed account of what the institution is all about” (p. xxiii). Other scholars (Orr, 1993) posited that academic architecture possesses its own “hidden curriculum” (p. 226). Clearly, learning spaces have the capability to teach, to tell a story, and to communicate.

As built, geographical locations on campus, learning spaces are “designed to support, facilitate, stimulate, or enhance learning and teaching” (Journal of Learning Spaces editorial policies, 2011). Learning spaces can be both physical and/or virtual. A physical learning space can be found in the familiar and formal classroom, lecture hall, or office space. Informal physical learning spaces are located in hallways, residential study bays, lobbies, common areas, and multimedia sandboxes or virtual spaces for creativity. Virtual learning spaces, which incorporate technology, include the learning management systems, websites, and online virtual environments that assist physical learning spaces or exist on their own. These learning spaces provide locations in which users construct meaning, communicate with each other, engage in dialogue, and learn.

Edward T. Hall, a cultural anthropologist who coined the term *proxemics* in 1963, defined it as the use of space: “the interrelated observations and theories of [the] use of space as
a specialized elaboration of culture” (Hall, 1966, p. 1). Hall contended that the value of studying proxemic space comes from its utility in evaluating not only the way people interact with others in daily life, but also “the organization of space in [their] houses and buildings, and ultimately the layout of [their] towns” (Hall, 1963, p. 1003). This layout and organization of spaces can be studied from a variety of perspectives, in terms of its ability to invite participation from its users, to spark creativity and innovation, to facilitate interaction between faculty and students, to empower users to be a part of its design and upkeep, to fit in with the surrounding campus and virtual architecture, to respond user needs, and to expand and contract based on user needs.

Soja (1989) and Massey (2005) conceptualized space in education as less of a bounded, discrete entity, and more of a contested process wherein social and material factors operate to construct space. According to Cox (2011), “A constructed space recursively molds social practice” (p. 197). Wide, pre-existing, social forces and networks produce the places for knowledge to occur. Space is not a pre-given backdrop for action, rather it is the outcome of an ongoing, productive process in these places: the meaning one assigns to a place. Wilson and Cervero (2003) argued that, “Knowledge, power, space/place closely intertwine to frame our social practices” (p. 124). Because space and place are so intertwined, it is important to distinguish them for the purposes of analysis. Different from place, which is the built, geographical location where learning occurs, space is the social, cultural, and individual meaning attributed to a location (Gildersleeve & Kuntz, 2011; Hall, 1966).

Effective design of learning spaces sends signals to students, whether they enroll full-time in on-campus classes, are enrolled part-time, or experience a campus through a hybrid or fully online virtual campus. In order to investigate how best to improve learning spaces on modern university campuses today, this introduction to a study of learning spaces will describe:
1) the problem, 2) the purpose of the study, 3) topic justification, 4) intentional design of learning spaces, 5) the influence of learning spaces on student development, 6) the influence of learning spaces on student development, 7) the evolution of classroom design, 8) definition of key terms, 9) limitations, 10) theoretical assumptions, and 11) researcher positionality.

**Statement of Problem**

Oblinger’s (2006) book, *Learning Spaces*, offered many case studies, research, and recommendations for both scholars and practitioners about the influence of physical space on learning and development. She wrote, “More and more we see the power of built pedagogy (the ability of space to define how one teaches) in colleges and universities” (p. 1). Students do not necessarily learn while sitting in chairs bolted to the floor in large lecture halls. Neither do they necessarily engage in active learning when a professor is located at a central focal point in the front of the room (Brooks, 2012). Although contemporary students perceive traditional classrooms as obsolete, inflexible, and uncomfortable (Bartlett, 2003), the cell-like, linear arrangements of classrooms conceptualized by Henry Barnard’s *Practical Illustrations of the Principles of School Architecture* (1851) have remained largely unchanged for over a century. Educators and architectural theorists (McClintock & McClintock, 1968) have deemed such inflexible spaces obsolete. Jamieson, Dane, and Lippman (2005) proclaimed, “the death of the traditional classroom as we know it,” citing the importance of informal learning spaces outside the classroom and the kind of increased flexibility necessary to bridge instructional and social design goals. In particular, adapting traditional classrooms into more active learning spaces challenges faculty, students, administrators, designers, and planners to think about ways to revive the traditional classroom.
Purpose of the Study

Because many learners favor the active, participatory, and experiential learning spaces, Oblinger (2006) called for a reconceptualization of learning spaces to facilitate their preferences. In addition to comfort, safety, usability, and aesthetics, Cornell (2002) described the importance of functionality, flexibility, and mobility – particularly of furniture – in a classroom environment. Choi, Guerin, Kim, Brigham, and Bauer (2014) found that students’ perceived quality of furnishings, lighting, aesthetics, viewing and hearing conditions, and of technology was positively correlated with desired student outcomes. Suggesting a strong, positive correlation between the way a space is designed and the way that students perceive they are supposed to use that space, Strange and Banning (2001) argued that, “The extent to which the design and layout facilitates interaction of participants is thought to be an important antecedent to involvement” (p. 145). They found that improved classroom attractiveness, flexibility, and lighting led to students’ improved motivation and task performance and suggested that flexibility is essential to such a collaborative, built design. The flexibility and adaptability of floor plans, building materials, furniture, and technology clearly influences learning and development and therefore warrants further scholarly attention.

In his study of physical territory as it relates to educational spaces, Sommer (1969) wrote that the majority of teachers are, “hindered by their fatalistic acceptance of the classroom environment” (p. 119). Even though he found that students sitting in the middle or front of a classroom are more likely to participate than those sitting near the back or along the sides of a room, Sommer’s observations of outdated, ineffective built pedagogy, recorded over 45 years ago, have yet to be addressed. Sommer and Olsen (1980) found that a traditional classroom – once described as drab, sterile, and institutional – was later described as a classroom that produced favorable student attitudes with increased classroom participation and student-to-
student discussion when it was converted into a softer, more aesthetically pleasing room. Clearly, opportunities for improved student outcomes through more collaborative learning spaces exist and need to be further examined.

The editorial board of the *Journal of Learning Spaces*, created in 2011, defined learning spaces as built places designed to support, facilitate, stimulate, or enhance learning and teaching. The focus and scope of the journal is to study learning spaces in formal, informal, and virtual environments. In the inaugural edition of the *Journal of Learning Spaces*, Crumpton (2011) wrote that the purpose for scholars of learning space over the next decade is to determine which factors could most influence a 21st century learners’ ability to gain maximum return from the spaces in which they are taught, study, experiment, and collaborate. By adapting an environment, and allowing engagement physically and/or virtually, students have an opportunity to develop and change as a result of interacting within a learning space. Thus, the purpose of this research is to investigate ways of providing learning spaces conducive to student development and communication in a modern university setting.

**Justification**

Watson (2011) wrote, “We spend a lot of time trying to change people. The thing to do is to change the environment and people will change themselves” (p. 24). A higher education environment that promotes dialogic and interactive learning offers more likelihood for students, undergraduate students in particular, to transform and be transformed by their university experience. Although many users underestimate its influence on student development, intentional design of space – both physical and virtual – is an agent of change (Oblinger, 2006). Rapid changes in teaching, learning, and technology, coupled with spaces that are currently obsolete, inflexible, and uncomfortable, together form the contention that the study of learning spaces
must become more central in a dynamic, changing educational world. Although the creation of the *Journal of Learning Spaces* a few years ago has generated specific research on this particular topic, up to this point research on learning spaces has been remarkably limited.

**Intentional Design of Learning Spaces**

In the *American Clearinghouse for Educational Facilities Journal*, John McArthur (2011) organized a conceptual framework to define an intentional, user-experience design for learning spaces (see Table 1). In it, he defined a common user-experience design (UXD) language for educators and creators of educational spaces, by combining two unrelated texts: Cooley’s (2000) model of human-centered systems from information design and Oblinger’s (2006) compilation of current practices in spatial design from education.

The emergent paradigm for envisioning instructional space emphasized nine UXD principles: 1) transcendence, 2) engagement, 3) malleability, 4) purpose, 5) ownership, 6) panoramic, 7) responsiveness, 8) inclusiveness, and 9) coherence (McArthur, 2011). The first principle, *transcendence*, refers to the need for a space to facilitate interaction between faculty and students of different disciplines. Transcendence refers to “the system’s ability to challenge its users to move beyond the boundaries of the system, to blur the channels of communication and encourage communication across typical departmental boundaries” (p. 70). *Engagement* represents the system’s ability to spark creativity and innovation. Areas devoted solely to creativity, experimentation, and innovation, for example, provide students with space for group work and sharing necessary resources. *Malleability* is the tendency for a system to modify and adapt to a variety of users. Convertible spaces that expand and contract invite interaction between and among users of the learning space. The UXD principle of *purpose* suggests that a learning space was designed with the user’s learning, not necessarily the teacher’s placement at
the front of the room, in mind. *Ownership* refers to “the users’ perception that they are a part of the design and upkeep of the system” (p. 72).

Table 1

*User-Experience Design (UXD) Principles (McArthur, 2011)*

<table>
<thead>
<tr>
<th>UXD Concept</th>
<th>Applications for Spaces of Learning</th>
<th>Examples of Current &amp; Possible Practices</th>
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| Transcendence | The space should be designed to facilitate interaction between faculty & students and among various disciplines. | · Locating offices near classrooms.  
· Assigning diverse disciplines to the same space.  
· Creating formal learning spaces close to informal ones (cafes, corridors, etc.). |
| Engagement | The space should have areas devoted solely to experimentation and innovation. | · Designating accessible areas for individual and group work.  
· Providing accessible materials to encourage creativity (whiteboards/computer software). |
| Malleability | The space should be modifiable to meet the needs of its variety of users. | · Investing in flexible furniture and technology.  
· Guaranteeing ubiquitous wireless access.  
· Designing convertible spaces which can expand/contract. |
| Purpose | The space should be designed with learning (not teaching) in mind. | · Considering pedagogy-based assessment in the design phase of the building. |
| Ownership | The design phase should integrate the views of students, faculty, facilities management, and tech support; and/or the building should be accessible to each of these parties when needed and often. | · Forming user councils to address practices and changes in the space.  
· Allowing access to formal and informal spaces for all users at regular times. |
| Panoramic | The space should fit into the overall model of campus architecture. It should also allow pass-throughs to and from other buildings. | · Aligning the building with campus architecture.  
· Supporting user-access.  
· Demonstrating quality wayfinding practices. |
| Responsiveness | The space should include in-house tech support and necessary student services. | · Locating information and technology support and student services in dedicated spaces within the building. |
| Inclusiveness | The space should be comfortable, aesthetically pleasing, and inviting. | · Assessing color, lighting, temperature, and comfort of the users of the space. |
| Coherence | The space should be managed by a team of representatives, selected from each of its user constituencies, who are responsible for relaying information about the space to its users. | · Empowering user councils to address changes in the space.  
· Creating routes and channels for information delivery within and about the space. |
The user-design experience principle of panoramic refers to the system’s fit into a wider view or architectural scheme of the campus or community. Campus panorama typically includes a wide variety of built pedagogy: classrooms, student centers, hallways, libraries, residence halls, computer labs, signage, and companionate virtual spaces. Each of these locations has the potential to help or hinder students find their way around campus. In his book *The Image of the City*, American urban planner and theorist Kevin Lynch (1960) defined wayfinding as, “the ease with which parts can be recognized and organized into a coherent pattern” (p. 2). On a university campus, signs and posters help students find their way around, especially if they are on campus for the first time, such as university orientation. In virtual space, universities sometimes offer virtual 360-degrees tours through the campus, with stopping points to hear descriptions of various locations. Digital navigating through a university web page can be user-friendly and intuitive, or it can dissolve into an exhausting journey of dead-end links and documents that are not relevant or will not open.

Digital media can be used to navigate in virtual space, as well as to navigate the corresponding physical, built places. In particular, digital wayfinding refers to the ways that digital media can create and/or influence the experience of a physical, built space. For example, digital wayfinding displays installed on campuses can help students navigate the space. Blogs, twitter, and other internet tools can empower local community members to gather at a community center to discuss local issues, or to facilitate the physical meeting of an online meet-up group. Digital design can also shape in-store shopping experiences, allow schools to create virtual classrooms alongside traditional ones, and recreate definitions of online social space. Effective user-experience design empowers all users, in this case, students, giving them a sense of ownership and identity in the space in which learning takes place. In keeping with Cooley’s
(2000) concept of panorama, a space that fits into the overall model or scheme of campus and/or virtual architecture will be easier to find and thus use.

The last three principles of McArthur’s (2011) user-experience design are responsiveness, inclusiveness, and coherence. *Responsiveness* is defined as a system’s ability to respond efficiently and adequately to user needs. For example, integrated technology on college campuses has resulted in the need for ubiquitous wireless service to assist in learning. *Inclusiveness* relates to a system’s ability to invite participation from its users. In particular, thinking spaces on college campuses can be difficult to find, especially during prime-time hours of the day or during exam week. Students are often forced to return to their residence halls or apartments to study, which are not necessarily conducive to thinking. For one to learn, a space should also be a comfortable place to think. The final UXD principle is *coherence*, reflecting a transparent operational process within the system. Empowering user councils to address changes in the space gives students a chance to voice what they need in the space. Involving users in the decision-making about design of learning spaces increases input and ideas, particularly during the design of new learning spaces on campus (Lee & Tan, 2013; Temple, 2007). University space becomes what it is because of the decisions made by designers, users, and those who manage and maintain it. For example, inviting feedback from such stakeholders as administrators, industry professionals, custodial staff, faculty, and students, can generate ideas about the usability of a newly proposed design for a space. Taken together, these learning and design principles compel researchers and practitioners alike to move toward designing built pedagogy with user-experience design principles in mind. The result of user-experience design is more effective learning, by having a sense of ownership of the space in which it takes place.
The Influence of Learning Spaces on Student Development

Students’ commitment, persistence, and loyalty to an institution can be bolstered by intentionally creating a “sense of place” for them, by connecting campus architecture and design to meaningful experiences and memories of activities (Kuh, Kinzie, Schuh, & Whitt, 2005). According to Strange and Banning (2001), “the actual features of the physical environment can encourage or discourage the processes of learning and development” (p. 12). For example, proximity of student residences to academic buildings can promote and/or inhibit interactions between students from different majors and backgrounds (Kuh, 2000). Campuses such as Miami University were “designed to feel small” (Kuh, Kinzie, Schuh, & Whitt, 2005, p. 106), in order to encourage human interaction.

Tinto’s (1975) social integration model contended that students’ commitment to a goal and to the institution determines whether or not they decide to continue enrollment or drop out of the university. According to Tinto’s (1993) model of institutional departure, students need be integrated into both formal (e.g., academic performance) and informal (e.g., faculty and staff interactions) academic systems and into both formal (e.g., extracurricular activities) and informal (e.g., peer-group interactions) social systems in order to be motivated to persist in enrollment. Academic difficulties such as the inability to resolve educational and occupational goals, along with failure to remain connected to the intellectual and social life of the institution, often result in a student’s decision to depart from the university.

Student learning and student persistence is enhanced through the cultivation of human scale settings and an ethos of learning, exuding from all corners of campus (Kuh, Vesper, & Krehbiel, 1994). A learning environment with these markers of student centeredness does not come by them accidentally. They must be intentionally designed (Schroeder & Hurst, 1996; Kuh et al., 2005). According to Strange and Banning (2001), “campus environments set conditions
that affect student learning and, in turn, students influence the shape of campus environments” (p. 200). Harking back to Edwards’ (2000) university buildings as “silent teachers” and to Chapman’s (2006) claim that “the institutional story is told through the campus,” students assign meaning to the built and to the virtual structures that they experience while enrolled at a university.

Kuh, Kinzie, Buckley, Bridges, and Hayek (2006) contended that, “The natural and built physical environments of the campus shape behavior by permitting certain kinds of activities while limiting or making impossible other kinds” (p. 1). For example, an institution may place benches and comfortable seating near classrooms, in order to foster student-faculty interaction and peer-to-peer interaction before and after class. An academic department may provide a group study room near faculty offices, increasing the likelihood of student-faculty interactions (Kuh et al., 2005). However, faculty office space in many academic buildings is located far away from classrooms and sometimes in another building, discouraging interaction between faculty and students. According to Chism (2006), “The segmentation of faculty offices from classrooms increases this distance and lack of agency on the part of students and reinforces the transmitter image of the faculty member” (p. 3). In contrast, environments that provide opportunities for rehearsal, feedback, application, and active exchange of information between and among faculty and students are more likely to support learning. The design and arrangement of academic office space can play a key role in facilitating this culture of interaction between faculty and students.

The degree to which an institution’s physical environment and learning spaces encourage or are congenial to student success varies considerably from campus to campus (Berger & Milem, 2000). For example, the physical places and social spaces of the Blount Undergraduate Initiative at The University of Alabama have specific meaning for participants. According to
Hutt (2012), because almost all students in this initiative live in the same dormitory as freshmen, students frequently reported feeling comfortable and “at home” in the learning spaces at Blount:

The design of the Blount dormitory includes large meeting areas, an open lobby, and classrooms that are accessible at all hours. Students saw these spaces as intertwined; they were both social and intellectual spaces, often at the same time... more than just convenient locations, the Blount academic buildings were havens, and became the academic “homes” for Blount students (p. 166).

What students consider an academic “home” is clearly influenced by the experiences they have with other students and with faculty in that space. When a learning space has been designed with student success in mind, students are encouraged to claim some ownership of the space and are empowered to interact with one another.

An institution’s built environment affects what everyone is able to do, including those with physical or visual limitations. For example, sidewalks that prevent adequate wheelchair access force individuals with disabilities to navigate on the street or other navigable surfaces, whereas ample, flat sidewalks prioritize wheelchair access. Artifacts in the physical environment, too, symbolize meanings that can have an impact on users of a space. While artifacts often celebrate universal values, they also have the potential to value or privilege certain groups over others, leaving all or some members of other groups feeling alienated and/or aware that their peers feel alienated. For example, paintings, portraits, and statues of exclusively white male campus leaders in popular meeting rooms in the student center can create a sense of alienation (Banning and Bartels, 1997). Banning and Cunard (1996) contended that part of student satisfaction and success should be measured by gauging how students from across campus perceive and react to these artifacts in the physical environment.

Design of learning spaces clearly influences the behaviors and actions of individuals within those spaces. Strange and Banning (2001) described architectural probabilism as a space
designed in such a way that some behaviors are more likely to occur than others. For example, a church often has plenty of entries, exits, and paths of behavior, but users are more likely to walk down the aisles and through the grid of pews than they are to jump across pews to find a seat. Monahan (2002) further referred to built pedagogy as “architectural embodiments of educational philosophies” (p. 4). For example, desks bolted to the floor leave little room for flexibility, while movable partitions and desks allow users to adapt a space for their own purpose. Users’ ability to interpret what they are supposed to do and how they are supposed to move in a space is influenced by architectural probabilism. Student development is contingent upon intentionally designed pedagogy that places evolving student needs at the center of construction and design.

Recent experimental classroom designs attempt to answer the call for classroom environments that are conducive to interactive learning and student development. Iterations of Beichner’s (2008) SCALE-UP classroom (see Figures 5.1 and 5.2) have been successful in facilitating interaction between faculty and students that leads to improved student outcomes (Park & Choi, 2014; Van Horne, Murniati, & Saichaie, 2012; Brooks, 2012; Pellathy & Leibovich, 2008; Beichner, Saul, Abbot, Morse, Deardorff, Allain, Bonham, & Risley, 2007; Benson, Biggers, Moss, Ohland, Orr, & Schiff, 2008; Dori & Belcher, 2004). Other active classroom designs have also been successful in improving student outcomes by intentionally facilitating interaction between faculty and students (Cox, 2011; Douglas & Gifford, 2001; Sommer & Olsen, 1980).

Evolving student demographics and student needs challenge planners and designers to re-examine the creation of learning spaces for students who experience a college campus solely face-to-face. Because the College of 2020 (Chronicle Research Services, 2010) will bring with it many part-time students who experience a campus through its virtual technologies just as much –
if not more than – its face-to-face interactions, colleges and universities should examine the built pedagogy of the digital presence as well as the on-campus presence. For example, an intentionally designed university webpage with intuitive pathways that naturally facilitate students’ navigation is more likely to lead to student development and student success. Students use virtual resources throughout their university experience: to apply for admission, to register for classes, to submit and receive feedback on assignments, to receive updates and information about their progress toward graduation, to communicate with faculty and staff across campus, to pay tuition, and to apply for graduation. The growth of this increasingly diverse and technology-socialized generation of students prompts a re-examination of technology-enriched spaces on campus.

According to Kuh et al. (2005), learning is not only a function of what students do in college, but also a function of the degree to which their institutions provide opportunities for, support, and reward student learning, development, and success. Creating a campus environment in which all students are empowered to learn is therefore a high priority for those who design learning spaces.

The Influence of Learning Spaces on Human Communication

Student development is also contingent upon intentionally designed learning spaces that emphasize students’ needs for human interaction and interpersonal communication during design and construction. For example, designing campuses such as Miami University to feel small encourages human interaction and communication (Kuh, et. al, 2005, p. 106). Locating student residences near academic buildings can promote dialogue and interaction between students from different majors and backgrounds (Kuh, 2000). Placing classrooms near faculty offices can promote communication between faculty and students. Providing comfortable and adaptable
furniture and lighting in and around classrooms can also encourage communication between faculty and students, as well between students themselves (Henshaw & Reubens, 2014; Choi, Guerin, Kim, Brigham, & Bauer, 2014; Henshaw, Edwards, & Bagley, 2011; Yildrim, Capanoglu, & Cagatay, 2011; Veltri, Banning, & Davies, 2006). These classroom redesign studies promote awareness about which learning environments that are most conducive to human communication and interaction.

Alexander, Cohen, Fitzgerald, Honsey, Jorn, Knowles, Oberg, Todd, Walker, and Whiteside (2008) found that an experimental, redesigned active learning classroom at the University of Minnesota (see Figures 3.1 and 3.2) changed the relationships between students who worked together during collaborative projects and also helped instructors to feel closer to their students. For example, instructors reported a shift in their role of faculty from simply relaying information to that of a learning coach or facilitator in the active learning classroom. Students reported that the active learning classrooms were effective in promoting collaboration, teamwork, and active discussion, encouraging them to be more talkative and participatory during class.

Learning spaces that emphasize student-centered dialogue and interpersonal communication must be planned intentionally. Virtual learning spaces are no exception. Resources such as learning management systems, websites, online virtual environments, and other virtual spaces for creativity (e.g., multimedia sandboxes) can provide students with virtual learning spaces in which to share dialogue, information, feedback, and resources among themselves. Online virtual environments, for example, offer students a platform through which to exchange constructive criticism and timely feedback on team projects (Conanan & Pinkard, 2001). Computer screens that can be arranged for viewing by multiple students in a classroom
promote teamwork and collaboration. Fast and reliable wireless access allows for communication, dialogue, and feedback in virtual learning spaces at any time or place. For example, the Transform, Interact, Learn, and Engage (TILE) classrooms at the University of Iowa (see Figure 8) include a large monitor display for each student table, large screens and projectors that allow viewing of an image by the entire class, network connectivity for student computers, microphones available at each table in larger rooms, and other technology as needed to supply presentation and multi-media content (University of Iowa website, 2014). In addition to this provision of technology, TILE classrooms promote student collaboration by providing moveable chairs, tables and writing surfaces that allow students to work in small groups, and ample surfaces for student work, such as whiteboards, glass boards, or slate boards. Van Horne, Murniati, and Saichaie (2012) found that students engaged more in courses taken in TILE classrooms than did students in non-TILE classrooms.

Classrooms that remove students from a traditional classroom or lecture hall format and put them in an environment where they are more comfortable interacting with peers and technology not only improve grades, increase registration and attendance, and reduce the drop/fail/withdraw rate, but they also develop essential communication and teamwork skills (Beichner, 2008). Creating a campus environment in which students are able to interact and communicate with each other is vital for student development. Through the purposeful design of learning spaces, institutions provide opportunities for and support interpersonal communication and dialogue between students, realistically preparing them for future learning and success.

The Evolution of Classroom Design

As a primary site for learning, the classroom learning space is integral to student development. Classroom design has evolved over time, adapting to changes in educational
purposes and methods throughout history. As depicted in Figure 1a, the history of classroom design traces back to Greek times and extends to the present (Park & Choi, 2014). Instructional style was rhetorical during Greek times, with students surrounding their teachers for Socratic-style dialogue. Medieval universities, the first to use a more structured space for education, were comprised of desks arranged in two vertical lines facing each other, a pattern used by monks and nuns for mass in cathedral schools. The *lectus*, a Latin word for lecture, occurred when a teacher stood at the front of a room behind a lectern reading a book to students in the 14th century.

During the industrial revolution in the United States, lecture rooms expanded in size in order to meet a growing demand for enrollment, representing an educational shift from elitism to massification. Baker (2012) described the standardized, utilitarian classrooms built during the late 1800s and early 1900s as spaces built to house as many students as possible: “While they could be quite elegant buildings, they were just as often crowded and impersonal” (p. 1-2). In line with Frederick Taylor’s (1911) principles of scientific management, classrooms built during this time were designed to be efficient and manageable. This traditional, efficient layout is still common in many higher education classrooms today.

![Diagram of historical changes in classroom design](image)

Fig. 1.1: Historical changes in classroom design (Park & Choi, 2014)
To examine the influence of learning spaces on student development, it is necessary to understand: 1) the traditional, transmission design of classrooms, and 2) intentional, interactive design of classrooms.

**The Traditional, Transmission Design**

Deemed obsolete by educators and architectural theorists (McClintock & McClintock, 1968), the cell-like, linear arrangements of classrooms conceptualized during Greek times, during Medieval times, and by education scholars such as Henry Barnard (1851) have remained largely unchanged. Lecture-style classrooms, for example, are typically designed with the teacher, not necessarily students, in mind.

In his book *Pedagogy of the Oppressed*, Paulo Friere (1970) critiqued the economic, transmission model of teaching, in which an instructor deposits knowledge into the minds of students. The stale, sterile arrangement of many traditional classrooms supports an arcane method of lecture-style teaching. On the contrary, Friere forwarded a critical pedagogy, which encourages students to think, discuss, and learn from each other.

The writings of Michel Foucault underscored Friere’s notions of some forms of pedagogy as oppressive. Foucault’s (1975) book *Discipline and Punish: The Birth of the Prison* explained a strict exercise of administrative power as a means of normalizing behavior. By encouraging conformity, such as through the bolting down of chairs and tables in classrooms, discipline makes individuals into docile bodies. In Foucault’s words, “[discipline] is the specific technique of a power that regards individuals both as objects and as instruments of its exercise. It is not a triumphant power...it is a modest, suspicious power, which functions as a calculated, but permanent economy” (p. 170). Imprisoned by this form of discipline, subjects can be made to be docile and compliant through learning space planning. This concept of power tells students that they should be immobilized at all times, so their behavior can be viewed and, if necessary,
policed, punished, and normalized. The digital equivalent of bolted-down desks, for students who experience the university primarily online, may be the confusing website links that lead to nowhere, impeding students’ ability to find what they need in order to complete coursework and to collaborate with their instructors and/or other students.

Traditionally, students have the least amount of input and power over decisions of facilities and learning space design and implementation. The traditional, transmission model for classroom arrangement has the potential to impede the kind of thinking that engages student with course material, with each other, and with decision-making about the learning spaces they experience.

A Time to Rearrange

Rising enrollment in higher education in the early 2000s (U.S. Department of Education, 2013) brought with it increased emphasis on student-centered learning and on the construction of campus structures such as student centers and libraries. During that time, Temple and Barnett (2007) revived theoretical interest in physical space on university campuses in the wake of newly built structures in higher education. However, according to Temple (2009), the educational objectives and practices of such campus spaces and places remain fundamentally unchanged since the time of the teacher-centered 20th century factory model. Campuses often undergo such renovation without much thought given to the cultural consequences and meanings evoked by newly built structures (Kuntz, Petrovich, & Gonocchio, 2012), rather than considering what opportunities for improved pedagogy a new construction may offer.

Learning spaces have yet to address the educational needs of learners in the 21st century. Just as newly built physical structures on college campuses continue to reflect outdated educational objectives, so do the newly built virtual components of universities, also flourishing during recent surges in higher education enrollment. A report from the National Board of
Employment, Education, and Training (1993) acknowledged the growing influence of the new technologies on university teaching:

Education in all institutions is becoming multi-media education…through the enterprise of academics and the demands of students, the thoroughly conventional classroom lecture plus tutorial, with no other mode of delivery or interaction, may in our lifetime become a minority activity in universities (p. 27).

With higher education executive summaries (Chronicle Research Services, 2010) predicting an increasingly higher population of part-time students who will experience a campus primarily through its virtual technologies, new media will play an increasingly meaningful role in defining what it means to be a student in the College of 2020.

These new trends in the classroom and in education have prompted scholars to examine virtual learning spaces in the same way that they have examined physical, built learning spaces. Instructors and students have reported that they are hindered by spaces that limit their interaction with technology and with each other (Jamieson, 2003; Kolleny, 2003; Okojie & Olinzock, 2006; Venezky, 2004). For example, “Computer labs that do not provide for multiple viewers of a monitor or libraries that do not permit talking convey a built pedagogy contrary to the ideas of social constructivism” (Chism, 2006, p. 5). Thoughtful implementation of virtual space and computer technology will continue to be a high priority for planning and designing spaces that empower student development.

Fisher, Gilding, Jamieson, Taylor, and Trevitt (2000) posit that universities must balance the development of the growing online teaching presence and the redesign of existing built environments by strategically managing, planning, and allocating educational resources. Jamieson and Fisher (2000) found that the development of online and virtual teaching and learning on college campuses challenges the meaning of the on-campus student learning
experience, calling for planners and designers to reconsider learning spaces from both an on-campus and digital-campus perspective.

**Classroom Redesign**

Although some findings have shown that experimental, active learning classrooms are superior to the traditional classroom in promoting student development, more research into the redesign and/or replacement of traditional classrooms is necessary. Classroom redesign is often ambitious and can bring with it substantial cost and risk. For this reason, rigorous and multi-layered assessment and evaluations of current designs is necessary in order to produce evidence of the need for change (Lee & Tan, 2013). The results of some classroom studies will be introduced here and examined in more depth in the literature review in Chapter II.

Park and Choi (2014) found, in a comparative study, that a newly designed active learning classroom provided a more suitable environment for creating and sharing ideas, lively interaction and participation, improved attitudes toward learning, and improved integration of knowledge and concepts than a traditional classroom. The traditional classroom was reported not only to be suited mostly for memorizing facts and theories, but also divided students into two seating positions: a “golden zone” and “shadow zone”:

Students perceived seats in the golden zone as a learning environment that enabled better communication with instructors, better understanding, and more interest and concentration on lecture material. Also, students in these seats tend to be more active participants and more motivated. Second, even though 74.8% of the students preferred sitting in the golden zone, fewer than 10% were actually able to obtain these seats. Third, the consequence of who ends up sitting in the golden zone depends on classroom arrival time and the seats selected by close friends. Fourth, students with confidence in their learning achievement, strong preference for assignments requiring creative ideas, and willingness to ask questions were less influenced by other factors. Finally, in the traditional classroom, students with positive learning traits usually sit in the golden zone. Consequently, they are naturally situated for better learning conditions, and these students eventually demonstrate better learning outcomes compared with students in other seating zones (p. 20).
As depicted below (see Figure 1b), students prefer to sit in the golden zone and will settle for the semi-golden zone if they arrive late or want to sit with friends. Most students dislike sitting in the shadow zone. This figure indicates that professors communicate most frequently and directly with students sitting in the golden zone and the semi-golden zone.

Fig. 1.2: The golden zone and shadow zone in classroom design (Park & Choi, 2014)

Clearly, the traditional classroom has the potential to divide students into discriminate learning conditions, whereas the seating arrangement in an active learning classroom minimizes divisions between students and faculty. This finding confirms the notion that traditional classrooms need to be redesigned and/or replaced in order to promote student development for each person enrolled in a class.

Quasi-experimental studies conducted at the University of Minnesota found that flexible, technologically enhanced classroom spaces improved student learning – as measured by course grades – more than taking the same course in a traditional classroom setting (Whiteside, Brooks, & Walker, 2010; Brooks, 2011; Walker, Brooks, & Baeplear, 2011). Brooks (2012) conducted a study of a traditional classroom and an active learning classroom at the University of Minnesota, in order to compare the amount of learning gains experienced by students. The traditional classroom (see Figure 2) consisted of long tables with four to five seats at each table. The
projector shone an image onto a screen located next to the instructor’s podium at the front of the room.

Fig. 2.1: Traditional classroom at the University of Minnesota (photograph)

Fig. 2.2: Traditional classroom at the University of Minnesota (scale drawing)

In comparison, the active learning classroom (see Figure 3) contained nine large, round tables that seated nine students each. The tables could be broken out into teams of three for small group work. The projectors shone an image that was visible from multiple points in the room. The instructor’s podium was located at the center of the room. The active learning classroom also offered marker boards mounted to the walls around the perimeter of the room, offering students a ready working surface.
Brooks (2012) found the active learning classroom to be superior to the traditional classroom in promoting accelerated learning gains, leading him to syllogize that: 1) space shapes instructor behavior and classroom activities, 2) instructor behavior and classroom activities shape on-task student behavior, and therefore, 3) space shapes on-task student behavior.

Despite growing knowledge of the positive outcomes of these active learning spaces, most university classrooms remain in the style of the traditional classroom. To overcome the limitations associated with traditional classrooms, more information about whether new classroom designs would result in value-added benefits to colleges and universities in other areas of the country and/or world is needed. Without well supported findings about learning spaces beyond the isolated clusters of literature exploring spatiality in school architecture, policy on equality, curriculum, literacy, and critical pedagogy – such as the literature summarized by Gulson and Symes (2007) – many questions about how space and place affect education have
gone unanswered. Education scholars (Edwards & Usher, 2003; McGregor, 2003) have called for space to be more fully theorized in scholarly literature. Lee and Tan (2013) have also suggested that, because of the substantial cost and risk associated with redesigning classrooms, evidence and stakeholder input is necessary to determine how best to allocate time, money, and resources into the design of future learning spaces.

**Definition of Key Terms**

**Active Learning Classroom (ALC)** - A learning space that is malleable, equipped with some combination of convertible furniture (e.g., moving tables, roundtables, semi-round tables, detached chairs, swivel chairs, tablet chairs on gliders); suitable for lecture and active discussion; technology-enhanced. Adapted from the University of Minnesota model in Figure 3 (Brooks, 2012).

**Blount Undergraduate Initiative (BUI)** - A four-year living-learning community at The University of Alabama that affirms the value of a liberal arts education based on classical traditions (Blount website, 2014). Students enrolled in the Blount Undergraduate Initiative live together during the freshman year, major in a variety of disciplines, and earn a minor in liberal arts through BUI.

**Dialogue** - The co-creation of meaning between individuals in a community or group (Gergen, 2009), leading to authentic interpersonal communication and community building.

**Interactive Learning** - The positive cognitive consequences resulting from students participating in an engaged classroom, predicated on the idea that learning is a transaction
between a person and the social environment and that learning is not complete without social interaction (Vygotsky, 1962, 1978).

Learning Spaces - Built, geographical locations on campus – both physical and virtual – “designed to support, facilitate, stimulate, or enhance learning and teaching” (Journal of Learning Spaces editorial policies, 2011). For this study, physical learning spaces can be formal (e.g., classrooms, lecture halls, offices) and/or informal (e.g., hallways, residential study areas, learning commons); virtual learning spaces include technology (e.g., online virtual collaboration, videoconferencing, learning management systems, Web 2.0) used in a learning space.

Living-Learning Community - A learning community that includes a residential component. Designed to foster increased interaction between faculty and peers and opportunities for coordinated learning activities in an academically and socially supportive environment (Gabelnick, MacGregor, Matthews, & Smith, 1990; Lenning & Ebbers, 1999; Shapiro & Levine, 1999), students in living-learning communities typically live and study together, at least during the freshman year.

Socialization - The process of learning about a future profession or discipline through involvement, engagement, investment of time and energy, collaboration, and integration with others; socialization is an active process of assimilation requiring newcomers to make sense of a culture, which can determine whether or not they become part of the organizational in-group (Graen & Scandura, 1987).
**Space and Place** - For this study, **place** refers to a built, geographical location on a university campus; **space** includes the social, cultural, and individual meaning each student attributes to a location (Gildersleeve & Kuntz, 2011; Hall, 1966).

**Studio Classroom** - A learning space that is fluid and open, or studio-style, equipped with some combination of convertible furniture (e.g., moving tables, swivel chairs, tablet chairs on gliders); technology-enhanced; suitable for some lecture and for working individually, in one-on-one consultation with an instructor, or in small groups. Designed for large, lecture classes. May be simultaneously inhabited by other users. Adapted from the North Carolina State University SCALE-UP model (Beichner, 2014).

**Traditional Classroom** - A learning space fitted with conventional tablet desks; technology-capable; suitable for lecture and some discussion. Adapted from the University of Minnesota model in Figure 2 (Brooks, 2012).

**User Experience Design (UXD)** - a conceptual framework that describes the way in which students experience learning spaces on a university campus (McArthur, 2011).

**Limitations**

Although the researcher attempted to mitigate their effects, some limitations of generalizability and reliability may have existed in this study. Some of these limitations include:
1. **Limited generalizability** - This study focused on one undergraduate learning initiative, a purposive, convenience sample rather than random sample, limiting access to a wider array of undergraduate student participants.

2. **Limited artifacts** - Data was collected during only one semester, with one instructor and two sets of students. Longitudinal analysis of the space may have yielded richer data.

3. **Potential researcher bias** - Although the researcher attempted to be authentic in reporting participants’ perceptions, researcher bias can occur. Additionally, the researcher may have unwittingly misinterpreted the articulations shared by the participants.

**Theoretical Assumptions**

From a social constructionist standpoint, this research seeks to investigate how learning is shaped by the communication and social interaction that takes place in learning spaces. Theorized from a host of disciplines, such as education, communication, psychology, and sociology, social constructionism refers to individual meaning making that occurs through interpersonal interaction and human cognition (Pearce, 1976). Several theories of human communication support the idea that communication is a process of social constructionism, especially in interpersonal communication (Berger & Luckmann 1966; Pearce & Cronen, 1980; Mead, 1934), critical theory (Cronen, Chen, & Pearce, 1988), and organizational communication (Weick, 1969, 1995). Social construction scholar Kenneth Gergen (2009) wrote, “It is through coordinated action – not individual minds – that meaning originates” (p. 397). Through this coordinated action, social constructionism centers on co-created reality and the importance of developing self-identity through interaction with others.
Emanating from Peter Berger and Thomas Luckmann’s (1966) treatise *The Social Construction of Reality*, Vernon Cronen and Barnett Pearce developed coordinated management of meaning (CMM) theory in the 1970s in their book *Communication, Action and Meaning: The Creation of Social Realities*. Substantially expanded and developed over the years, CMM provides understanding about how meanings are created, coordinated, and managed through stories lived and stories told. In the 1970s, this concept of explaining meaning in its cultural, historical, and social context was seen as a cutting-edge change of pace from the positivist accounts of interpersonal communication. Pearce (1976) described the different, interpretive approach of the theory in an early presentation of the theory:

> The coordinated management of meaning differs from other treatments of interpersonal communication largely because it is avowedly general, unabashedly theoretical, deliberately based on a set of assumptions differing from recent orthodoxy, and self-consciously two levels of abstraction away from observable exchanges of messages (p. 18).

Although CMM is no longer on the cutting edge three decades later, interpretive and critical theories that developed in the meantime have added heuristic value to the importance of CMM as a theoretical contributor to the development of interpersonal communication. Pearce and Pearce (2000) wrote, “The constellation of ideas on which CMM was based has moved from the periphery toward the center of scholarly thought” (p. 405). The relevance of this constellation of ideas is illustrated in the theory’s hierarchical-serpentine model. The model serves as an example of how one person’s interpretation of a speech act is nested in a hierarchy of all elements involved in the event: episode, relationship, culture, and identity. In other words, what one person says affects, and is affected by, what another person says.

**Social Constructionism and Learning Development**

A major theoretical assumption of social constructionism is that learners’ shared experience fosters student development. Pioneer of social development theory, Russian
psychologist Lev Vygotsky (1962, 1978), posited that social interactions among students revolve around shared intellectual experiences with peers who are in similarly situated, proximal, or nearby stages of cognitive development and activity. Predicated on the idea that learning is a transaction between a person and the social environment, Vygotsky’s theory of social development suggested that shared experiences create learning and that learning is not complete without social interaction.

The construction of social reality centers on the idea that the collective environment fosters situated learning and development. Through situations and communities of practice, learners also develop through what Broffenbrenner (1977, 1979, 1995) called the ecology of human development. Nested arrangements of structures, each contained within the next, come together to comprise a learner’s community of practice: courses, classrooms, residence hall, family, social structures, and institutional policies and procedures. From this social constructionist perspective, learners develop within their particular locations, situations, and social structures.

Perceptual frames or mental maps shape the way in which we co-create this social reality in learning organizations and institutions of higher education (Bolman & Deal, 2003; Senge, 1990). This frame of reference often determines what we pay attention to, what we ignore, and how we act as we interpret what we experience. However, members of a culture or organization do not necessarily agree on one subjective interpretation of reality. Bolman and Deal (1997) wrote, “Organizations are filled with people who have different interpretations of what is happening and what should be happening…no single story is comprehensive enough to make an organization truly understandable and manageable” (p. 13). Unlike positivist researchers, social
constructionists do not account for objective reality, but choose to focus on the subjective reality emanating from the culture, history, and language in which lived experience occurs.

**Critique and Evaluation of Social Constructionism**

Because it has existed for over three decades, social constructionism – in particular, coordinated management of meaning (CMM) – has garnered a fair amount of both praise and criticism. Although it has been praised for its scope of applicability and its explanatory power, CMM’s testability, simplicity, and consideration of power has been questioned.

According to Shoemaker, Tankard, and Lasorsa (2004), a useful theory is simple, parsimonious, and offers explanatory power and scope. In their words, “A theory that can be stated succinctly but can also explain a great deal is high in explanatory power” (p. 173). When a theory is elegant in describing the richness of communication processes, for example, other scholars are likely to apply it in other research studies across disciplines and develop the theory more formally. Pearce and Cronen’s coordinated management of meaning has fared well in its scope, in that it has been applied across a wide range of contexts, including investigations of various conversational patterns, functional and dysfunctional relationships, intercultural interaction, and organizational communication (Philipsen, 1995). The use of CMM concepts has led to rich insights that have reverberated through the communication discipline of scholarship and into other interpretive disciplines as well. Its goal of shedding light on the human condition lends heuristic value to the theory.

The basic tenets of CMM, however, are criticized by communication studies scholar Em Griffin (2009), who argued that its “astute observations are hard to grasp” (p. 81) and that “CMM has a reputation of being a confusing mix of ideas that are hard to pin down because they’re expressed in convoluted language” (p. 82). As a rule theory, CMM’s explanations of constitutive rules, regulative rules, reconstructed contexts, gamemastery, grammars, and the
daisy model are not necessarily as accessible as other parts of the theory, such as the hierarchical and serpentine models of communication. According to Griffin, the theory’s “lack of clarity has seriously limited its aesthetic appeal” (p. 82). This lack of clarity impedes its relative simplicity and its ability to be further tested in such a way that could result in its expansion and/or falsification.

Coordinated management of meaning has also been criticized as a social constructionist theory that is highly broad and abstract in nature, offering shifting definitions that prevent potential falsification or disproving of the theory. Poole (1983) noted, “It is difficult…to paint with broad strokes and at the same time give difficult areas the attention they deserve” (p. 224). Furthermore, Brenders (1987) contended that CMM’s broad-stroked approach to human interaction has missed many of the linguistic, interactional, and theoretical nuances necessary for an understanding of communicative meaning. These critiques of the theory as being too broad and abstract underscore Griffin’s critique that CMM is lofty and inaccessible.

According to Shoemaker, Tankard, and Lasorsa (2004), a useful theory is testable, conceptualizing key variables so thoroughly that they can be consistently and accurately detected and measured. This testability lends heuristic value to the theory and generates formal development by a scholarly community, which further expands its theoretical value. When a theory stands the test of time by constantly being tested, extended, and reformulated and not being disproven or falsified, it moves “through stages – young, middle-aged, and mature” (p. 167). An ongoing criticism of CMM, and of social constructionism in general, is that it does not have specific and testable hypotheses on which to evaluate its quality as a theory. Coordinated management of meaning does not account for one objective reality, allowing researchers to analyze a subject and environment or setting as two independent concepts or variables. Because
social constructionists do not separate the study of reality from a subject’s experience of that reality, a subject and his or her situation cannot be separated for purposes of analysis.

As an answer to this critique, the goal of social constructionism is to develop “thick descriptions” that convey the richness of human complexity (Geertz, 1973), not to isolate variables for analysis. Sandberg (2001) wrote, “not only is reality mediated through our lived experience, but it is also mediated through the specific culture, historical time, and language in which we are situated” (p. 31). Although social constructionists do not specifically separate the leader from the situation in research studies, Fairhurst and Sarr (1996) advocated for using social constructionism to understand how both leaders and followers construct leadership, and how those constructions of leadership are mediated by culture, history, and language in a particular organizational setting.

A final criticism of social constructionism is that it does not account for whose reality may be most influential in learning organizations. Critical theorists, for example, contend that in the social constructionist view certain individuals have far greater influence in constructing reality than do others (Deetz, 1992; Mumby, 1988). Bolman and Deal (2003) emphasized the importance of symbolic power in analyzing decision-making, particularly in institutions of higher education. Social constructionism does not necessarily account for the politics or the powers of dominant discourse to influence members or cause them to reject a dominant discourse during their meaning-making.

**Situated Pedagogy**

Another theoretical underpinning of this study is that situated pedagogy or critical geography forms a basis for such student development and communication. Through situated pedagogy, students attend to place not only as the focus of student inquiry or academic study, but also as the space for performative action and transformation. Situations – like learning spaces –
are not necessarily physical places, but are constructs of a person’s experience in a social environment. Lave and Wenger’s (1991) situated learning theory described how learner’s acquired knowledge is embedded in situations or practices. Harking back to the nested arrangement structure described in Brofenbrenner’s (1977, 1979, 1995) ecology of human development, Lave and Wenger described the role of the learner’s situation in knowledge development.

Situated pedagogy and critical geography emphasize learners’ self-identity and psychosocial development. In describing the pedagogy of placelessness that is prevalent in public schools today, Kitchens (2009) called for more emphasis on providing students with places and spaces for their own development. A situated pedagogy connects learning to students’ everyday lives and seeks to build identity and self-formation, as well as social-formation, as students pay attention to their environments. As learners read and decode the political, social, historical, and aesthetic forces around them, they remap both their material and curricular landscapes. Morgan (2000) argued that space, because it is involved in the production and reproduction of social relationships, is a social construction. Linked to political and cultural struggles of inclusion and exclusion related to gender, ethnicity, and sexuality, one’s experience of space informs and is informed by this social identity. In this situationist perspective, listening to what places have to tell them builds students’ identity, self-formation, and social-formation, in pedagogical environments.

While the theoretical lens used in this study is a decidedly social constructivist one, the conceptualizations of space and of critical geography provide a critical lens as well, further informing the chosen methodology. By combining several qualitative methods of analysis (e.g., interviews, focus groups, observations, open-ended, sketches and notes), this study may bring
about social change in the community being investigated, as well as in other communities with which the findings are shared. Because these qualitative methods – particularly the focus groups – present the opportunity for social change and participatory action (Friere, 1990/1973; Fals Borda, 1985; Kozol, 1985; Madriz, 2000), this research design could later be expanded into ethnographic or expanded case study research. Although driven from a social constructionist standpoint, some of this study’s theoretical grounding in situationist pedagogy and critical geography opens opportunities for future expansion into critical theory and research.

**Researcher Positionality**

My background as an instructor of communication studies for two decades gives me a strong bias toward incorporating dialogue, community building, interactive learning, and socialization into the classroom. I believe that improving the space in which students learn improves student development in a modern university setting. Because of this constructionist, educational, and communicative standpoint, I readily observe and evaluate how student behaviors and outcomes are affected by learning spaces. In the methodology section, I will elaborate on how my subjectivity may bias the way that I collect, interpret, and analyze data.

Effective user-experience design and sensible cues toward wayfinding increase the chances that undergraduate students transform during their experience with higher education. In order to make a case for improving learning spaces on modern university campuses today, this introduction to a study of this influence of learning spaces on communication and student development described: 1) the problem, 2) the purpose of the study, 3) topic justification, 4) intentional design of learning spaces, 5) the influence of learning spaces on student development, 6) the influence of learning spaces on student development, 7) the evolution of classroom design,
8) definition of key terms, 9) limitations, 10) theoretical assumptions, and 11) researcher positionality.

**Outline of the Dissertation**

Divided into five chapters, this dissertation introduces the research design for and implementation of a study of learning spaces in an undergraduate liberal arts initiative at The University of Alabama. Chapter I was designed to introduce the purpose, problem, and justification for the study of learning spaces in modern colleges and universities. Chapter II provides a review of the extant literature relevant to the study of learning spaces, particularly as it relates to the student development, communication, and socialization. Chapter III discusses the methodology used in this study: the research questions, the methodological approach, data collection and instrumentation, and limitations. Chapter IV presents the themes and findings from interviews, focus groups, reflection journals, classroom observations, and other relevant artifacts collected during the study. Chapter V includes a discussion of findings, limitations, conclusions and recommendations for policy and practice, and suggestions for future research.
CHAPTER II: LITERATURE REVIEW

Introduction

“To remain viable in today’s competitive educational market, higher education institutions must acknowledge that learning and pedagogy are changing in the 21st century, while reaffirming their commitment to…modern educational practices and learning space planning” Harvey and Kenyon (2013, p. 1).

Using Edward T. Hall’s (1966) general definition of proxemics and space as “a specialized elaboration of culture” (p. 1), this literature review will define learning spaces as the built structures, both physical and virtual, in which student development and communication takes place. As described in Chapter I, recent surges in higher education enrollment have resulted in the construction of new physical campus buildings, as well as the construction of ubiquitous wireless networks, new media, and virtual technology to connect remote and/or part-time users to campus. Virtual construction is flourishing as much as, if not more than, physical construction.

With higher education executive summaries (Chronicle Research Services, 2010) predicting an increasingly higher population of part-time students who will experience a campus primarily through its virtual technologies, new media will play a role in defining what it means to be a student in the College of 2020. The proliferation of online and virtual teaching and learning on college campuses challenges the meaning of the on-campus student learning experience, calling for planners and designers to reconsider learning spaces from both an on-campus and digital-campus perspective.

In order to propose informed research questions, this chapter seeks to explore literature about the influence that physical and virtual structures on campus – its places – along with the
social and individual meaning each student attributes to a physical location – its spaces – have on student development and communication. To form this conceptual base, this chapter will examine literature relevant to three student learning outcomes: 1) dialogue and community building, 2) interactive learning, and 3) socialization into a future profession. This triad of student outcomes related to learning spaces is depicted in this diagram:

Fig. 4: Venn diagram of learning spaces research

*Dialogue and community building* is defined as group dynamics occurring in a supportive, collaborative classroom. As the free and open co-creation of meaning between individuals in a supportive and collaborative community or group, dialogue builds community. Second, *interactive learning* is defined as the positive cognitive consequences resulting from students finding or having voice and connection or collaboration with others in an active classroom. The literature about the role of space in interactive learning will include an emphasis on the social construction of learning and the traditional, transmission design of classrooms as it contrasts to intentional, interactive design.

Finally, this chapter will summarize literature about *socialization* in general, and about the classroom as a site for socialization. Socialization is defined as the process of learning about a future profession or discipline through involvement, engagement, investment of time and
energy, collaboration, and integration with others. This literature review will provide an overview of the role of intentionally designed spaces that have the potential to produce these desired student learning outcomes.

**The Influence of Learning Spaces on Dialogue and Community Building**

Oblinger (2006) emphasized the role of learning spaces to facilitate active, social, participatory, and experiential learning in higher education. Suggesting a positive correlation between the way a space is designed and the way that students perceive they are supposed to use that space, Strange and Banning (2001) argued that, “The extent to which the design and layout facilitates interaction of participants is thought to be an important antecedent to involvement” (p. 145). Through architectural probabilism, Strange and Banning (2001) described how spaces are designed in such a way that some behaviors are more likely to occur than others. For example, some campuses are built with attention to design details such as comfortable places to sit and talk, which encourage social interactions and connectivity (Chapman, 2006).

Strange and Banning (2001) found that classroom attractiveness, flexibility, and effective lighting led to students’ improved motivation, task performance, and collaboration. Seating location has also shown to influence student participation and learning (Sommer, 1969; Fernandes, Huang, & Rinaldo, 2011). Sommer and Olsen (1980) found that a traditional classroom that had been converted into a softer, more aesthetically pleasing room produced more favorable student attitudes, classroom participation, and student-to-student discussion. Bennett (2007) argued that student learning may improve when such informal interactions occur. Intentionally designed learning spaces increase the probability that students will interact with each other while they are in that space.
As users experience learning spaces, a range of cognitive and physical experiences can occur. For years, scholars have emphasized the importance of space in the social construction of reality. Foucault (1986) described the “epoch of space” as an experience through which we intersect and connect with each other. Thrift (2009) described place as, “a crucial actor in producing affects,” adding that, “certain places can and do bring us to life” (p. 104). Users bring into and take away from learning spaces their own social realities. Facilitating a shared social reality (Bormann, 1972) between class members, wherein a group of strangers create a supportive atmosphere, can result in high levels of academic performance (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007; Tinto, 1988, 1997, 1999). Because of the potential transformation that dialogue and community building offers, this section of the literature review will overview: 1) the foundation of dialogue through co-creation of reality, 2) the importance of dialogue and community building in student development; and 3) past studies of learning spaces and dialogue.

**The Foundation of Dialogue: Co-Creation of Reality**

In his book *I and Thou*, Martin Buber (1958/1923) described a philosophy of dialogue, in which relationships bind humans together into a co-created existence. In these living *I-and-Thou* relationships, human bonds are formed. In his words, “no objects of thought intervene between I and Thou” (p. 26). Personal dialogue defines the nature of reality. Similarly, Gadamer (1999/1975) wrote, “Tradition is a genuine partner in dialogue, and we belong to it, as does the I with a Thou” (p. 358). Dialogue is a living, breathing conduit through which we co-create reality. In Freeman’s (2006) words, “it is through engaging, in being in dialogue with the world and others that I recognize and come to know myself” (p. 86).

Communication ethicist Ronald Arnett echoed Buber’s ideas of dialogue when he further elaborated on *I-Thou* living as a narrow ridge: the dialogic tension between standing one’s
ground while being profoundly open to the other. In describing ethical communication and
community, Arnett (1987) wrote, “living the narrow-ridge philosophy requires a life of personal
and interpersonal concern, which is likely to generate a more complicated existence than that of
the egoist or the selfless martyr” (p. 37). In an I-Thou relationship, we regard our partner(s) as
the very one we are. Buber and Arnett both contended that humans walk this narrow ridge only
through dialogue.

This co-creation of social reality is predicated on the idea that humans cannot operate in a
void; a collective whole fosters group identity. Social construction scholar Kenneth Gergen
(2009) argued that, “it is through coordinated action – not individual minds – that meaning
originates” (p. 397). Bonds develop within such relationships as friendship, marriage,
communities, clubs, teams, religions, military units, and political parties. We value those we find
to be trustworthy and reliable in relationships.

Gildersleeve and Kuntz (2011) wrote, “we must find new ways of accessing our spatial
experiences, the many ways in which we engage in and react to the ongoing productions of
space” (p. 21-22). This call for more research on spatiality requires studying not only the place
(e.g., the classroom, hallway, library, website, online virtual environment, or residence hall), but
also the space (e.g., where dialogue, engagement with education, social meaning is interpreted,
and thus transformation occurs). Investigating both the geographical places on campus – its
places – and the social and individual meaning each student attributes to a geographical location
– its spaces – sheds light on the influence that learning spaces have on dialogue in a supportive
community.

The Importance of Dialogue and Community Building in Student Development

As one of the cornerstones of student development, interpersonal communication
competence encourages students to engage in substantial dialogue with peers who are similar to
and different from themselves. Patterson, Grenny, McMillan, and Switzler’s (2012) popular press book *Crucial Conversations: Tools for Talking when Stakes are High* defined dialogue as, “The free flow of meaning between two or more people” (p. 20) that is at the core of every successful conversation. They described dialogue as a pool of shared meaning, composed of their own personal thoughts and feelings, as well as others’ thoughts and feelings. Dialogue helps students to negotiate this pool of shared agreement, informing participants and propelling them into action, so that they feel competent and confident enough to add their own meaning to a shared social reality.

Students who engage in dialogue to build a community among their peers cultivate an ethos of social responsibility, promote student engagement across cultural and social divides, and foster learning about their social identity (Zúñiga, Nagda, Chesler, & Cytron-Walker, 2007). Social identity is explored through dialogic encounters, in which students can describe their own historical and current reality. Unlike the transmission model utilized in higher education in the past, dialogue recognizes the value of listening and speaking honestly and openly, encouraging the kind of shared meaning that improves interpersonal communication and relationships (Ellinor & Gerard, 1998). By doing so, students take ownership of their social identities and promote active, generative, and transformative connections with other participants through dialogue.

**Past Studies of Learning Spaces: Dialogue and Community Building**

In his book, *What Matters in College*, Astin (1993) reported the results of a four-year study of 500,000 college students at 1,300 institutions. The college-experience variable having the most significant impact of students’ educational development was the frequency of student-student and student-faculty interaction and dialogue. Active involvement in the campus community leads to social integration (Tinto, 1975, 1993; Astin, 1984, 1985; Weidman, 1989), which strengthens students’ sense of community membership. Hillier and Hanson (1984) argued
that, “the ordering of space in buildings is really about the ordering of relations between people” (p. 2). Although they cannot ensure active learning for all students, learning spaces designed to meet the need for dialogue promote student development.

With ever-evolving technology in higher education, many relationships between students also develop and/or are maintained in virtual space and through web-assisted technology. For example, Conanan and Pinkard (2001) found that students’ perceptions of giving and receiving feedback in an online, collaborative learning environment helped them to engage in dialogue that improved their development both as students and as future working professionals. Dialogue clearly occurs in both physical and virtual places that foster community.

**The role of furniture.** The classroom is described as a behavioral setting, comprised of both a physical environment and a social aspect (Griffin, 1990; Banning, 1993), where everything from lighting to air quality, to the furniture in a classroom has been found to have a social impact. For example, Veltri, Banning, and Davies (2006) reported student comments that they were unable to complete necessary coursework in rooms that did not contain furniture conducive to group work and peer interaction. Students commented that they preferred spaces that facilitated group work, student-to-student interaction, good sight lines, and had ambiance. Cornell and Martin (1999) found that replacing student desks with 20-by-60-inch tables and lightweight chairs resulted in improved student interaction and engagement because the tables widened the aisles of the classroom and allowed the class to form U-shaped layouts and small group clusters. Yildrim, Capanoglu, and Cagatay (2011) further emphasized the importance of seating arrangement in facilitating collaboration between students in computer classrooms. Walczak and Van Wylen (2014) reported that, while faculty preferred half-round tables – instead
of traditional straight tables – for both group work and lecture classes, students preferred half-round tables for group work and straight tables for lecture.

**Experimental classroom: Tablet-glider desks.** Henshaw and Reubens (2014), researchers at the University of North Carolina-Chapel Hill, compared a traditional tablet desk with an experimental tablet desk on gliders or casters (see Figure 5) and found that students reported much improved flexibility, mobility, ample writing space, and ease of use during small group work in the use of the experimental desk. The experimental tablet desk provided a much larger writing surface than the traditional tablet desk, and provided adjustment to left-handed or right-handed users. It also provided slanted storage racks underneath the seat.

![Fig. 5.1: Tablet desk on gliders model (University of North Carolina-Chapel Hill)](image1)

Both faculty and students reported that the experimental desk facilitated interaction because it was so easy to form groups with minimal noise or discomfort. Almost all students reported that the experimental desks allowed them to work and communicate with others easily during group work.

![Fig. 5.2: Tablet desk on gliders, classroom photograph (University of North Carolina-Chapel Hill)](image2)
work activities, compared to less than half of students using the traditional desks. Faculty reported that they were more likely to try group discussions and paired work, because the experimental desks were easier to move than traditional desks.

**Experimental classroom: Tablet-swivel desks.** Henshaw, Edwards, and Bagley (2011) conducted a similar comparative study between traditional tablet desks and experimental tablet desk seats that swiveled 360 degrees and were fixed to the floor (see Figure 6). In a mid-size classroom that seated 48 students, the experimental tablet desk seats were arranged in four quadrant-clusters of 12 students each. The 12 students in each of the quadrants were placed as such in order to maximize the number of peer groupings possible: in sets of two, three, four, or six. Students could swivel to face each other and could also swivel to face the instructor, who circulated through two four-foot wide aisles crossing through the four quadrants. The classroom was already fitted with standard media equipment and the instructor typically used a hand-held remote to advance podium-based slides from other locations in the room.

![Fig. 6.1: Tablet-swivel desks, classroom photograph (University of North Carolina-Chapel Hill)](image1)

![Fig. 6.2: Tablet-swivel desks, classroom photograph (University of North Carolina-Chapel Hill)](image2)
With an emphasis on student engagement (Kuh, 2009) and a sense of community (Lichtenstein, 2005), Henshaw, Edwards, and Bagley (2011) found that all but one of ten instructors surveyed reported that the experimental swivel seats supported student interactions, noting that the ability of students to face each other when a student across the room was speaking made the class more interactive. One instructor reported, however, that some students “frequently swung around to chatter” (p. 5) about topics that were not relevant to class discussion. Even though this experimental classroom had 48 students in it, instructors reported that the class felt intimate. Students echoed many of these instructor reports, with 94% of them (n=215) reporting that the swivel seats contributed to the quality of their interactions with other students. In sum, the swivel seats promoted classroom participation and limited students’ ability to “hide” as they may do in traditional classrooms.

Space may play just as important a role in connecting its users to learning and meaning, as it does in connecting its users to itself. Gumperz (1990) defined a speech community as one in which individuals who have “a common history and have undergone similar communicative experiences within the context of institutional networks” earn a “badge of membership” (p. 12). As summarized in the literature, dialogue has the power to bind students together into a co-created reality and is more likely to occur in a classroom that promotes peer collaboration and dialogue. These findings about classroom seating and furniture arrangements support Hill and Epps’ (2010) contention that the extent to which an overall classroom environment aligns with students’ expectations and values is a predictor of student satisfaction.

**The Influence of Learning Spaces on Interactive Learning**

According to Pascarella and Terenzini (1979), student attitudes, persistence, retention, engagement, and achievement are positively correlated with a high degree of informal student-
faculty interaction. However, traditional classrooms – unless adapted for interactive use – do not necessarily promote the type of student-faculty interaction suggested by Vygotsky’s (1978) social development theory and are not necessarily the spatial arrangement preferred by students. For example, when shown photographs of 35 different college classrooms, each of the professors (n=20) and undergraduate students (n=51) surveyed preferred “friendly” classrooms offering an interactive seating arrangement, a view to the outdoors, and comfortable seating (Douglas & Gifford, 2001). Sommer and Olsen (1980) found that a traditional classroom that had been converted into a softer, more aesthetically pleasing room produced increased classroom participation.

Park and Choi (2014) found that seating arrangement in the classroom plays a major role in students’ ability to interact with the instructor and with their peers. They found that, in a traditional classroom, students who were able to obtain a seat in the “golden zone” communicated more with instructors, were more active participants, demonstrated better understanding of the material, and were more able to concentrate on lecture material than students who sat in the “shadow zone” (p. 20). The active learning classroom, however, did not produce this potential for learning discrimination. On the contrary, the active learning classroom provided a more suitable environment for creating and sharing ideas, more interaction and participation, improved attitudes toward learning, and improved integration of knowledge and concepts than the traditional classroom.

Students also perceive technology-rich environments as more interactive. When shown photographs of a traditional lecture-style classroom and a redesigned classroom with laptops at clustered tables, students, who had taken classes in both of those classrooms, preferred the interactive, specialized, spacious, and technology-rich environment over the stereotypical,
utilitarian, traditional, and old-fashioned lecture-style classroom (Cox, 2011). Learning spaces that host an interactive seating design, placement, and arrangement, along with reliable, ubiquitous access to digital technology, consistently prove to be the most conducive to interactive learning. To examine the literature about the role of learning spaces in interactive learning, the following literature review will analyze: 1) the importance of interactive learning in student development, and 2) past studies of learning spaces and interactive learning.

The Importance of Interactive Learning in Student Development

Social development theory (Vygotsky, 1978) posited that social interaction is necessary for cognitive development. As opposed to the transmissionist model, which places central emphasis on the instructor, social development theory emphasizes the collaboration between students and instructors in order to facilitate students’ cognitive construction of meaning. In order to become effective learners (Keeton, Sheckley, & Griggs, 2002), students must overcome prior transmissionist conditioning that encouraged them to be passive recipients of knowledge. In contrast, self-authorship empowers students to take charge of their own learning (Baxter-Magolda, 1999; Kegan, 1994; King, 2003). Increasing this capacity for self-direction overcomes the tendency to default into transmissionist learning (Boyatzis, 1994; Robertson, 1988). Claiming an internal locus of control allows students to engage in a more active construction of meaning and cognitive development.

In identifying the factors that influence students’ decisions to withdraw or persist in academic pursuits, Tinto (1993) found that much of the successful integration of students into a college or university is dependent upon favorable, daily interactions between faculty and students. Astin’s (1993) model of inputs-environments-outcomes described the positive impacts that faculty-student contact has on student engagement and learning. In their landmark publication, *Principles of Good Practice for Undergraduate Education*, Chickering and Gamson
(1987) outlined the importance of encouraging active learning, communicating high expectations, encouraging contact between students and faculty, and using active learning techniques as engagement indicators predicted to directly influence the quality of students’ learning and educational experiences. Umbach and Wawrzynski (2005) found that that students report higher levels of engagement and learning at institutions where faculty members use active and collaborative learning techniques, engage students in experiences, emphasize higher-order cognitive activities in the classroom, interact with students, challenge students academically, and value enriching educational experiences. Taken together, these findings suggest that students’ active collaboration with their instructors plays a key role in their learning success.

**Past Studies of Learning Spaces and Interactive Learning**

Whether a traditional classroom, a redesigned traditional classroom, an active learning classroom, a studio classroom, or any of the colorfully named experimental classrooms currently being tested in higher education, each learning space should create an environment that encourages students’ active participation in the learning experience. Studies of new classroom designs are producing more evidence each year of the improved classroom participation and learning outcomes that result from redesigned learning spaces.

**The SCALE-UP Classroom.** One of the most distinguished examples of recent classroom design was created by Robert Beichner, a physics professor at North Carolina State University. The Student-Centered Active Learning Environment for Undergraduate Programs (SCALE-UP) project, supported by the U.S. Department of Education, National Science Foundation, Hewlett-Packard, Apple Computer, and Pasco Scientific, offers an innovative educational environment designed to facilitate and encourage interaction between students and faculty in large lecture classes of 100 or more students. Classrooms in the SCALE-UP project (see Figure 7) include such features as 7-foot-diameter round tables, laptop computers at each
seat, wireless access, computer projection screens at multiple points in the room, and large whiteboards covering the walls.

Fig. 7.1: SCALE-UP classroom at North Carolina State University (photograph)

Fig. 7.2: SCALE-UP classroom at Michigan State University site (scale drawing)

Fig. 7.3: SCALE-UP classroom at The University of Alabama site (photograph)
According to the SCALE-UP website (2014), “The setting is very much like a banquet hall, with lively interactions nearly all the time” (p. 1). Beichner (2008) and Beichner et al. (2007) found that SCALE-UP classrooms resulted in such student outcomes as improved problem-solving ability, conceptual understanding, attitudes toward learning, and a dramatic reduction in failure rates, particularly for women and minorities. Over 250 colleges and universities have adopted and/or adapted the SCALE-UP room design and pedagogy for courses in physics, chemistry, math, engineering, and literature. Currently, the University of Minnesota has 20 SCALE-UP classrooms; Florida Gulf Coast University has four; the University of Wisconsin-Platteville has three. The SCALE-UP website (2014) lists several other colleges and universities that have adopted the program.
Pellathy and Leibovich (2008) found that SCALE-UP classrooms at the University of Pittsburgh produced striking gains in knowledge and retention compared with traditional lecture halls. Utilizing the Brief Electricity and Magnetism Assessment (BEMA) multiple-choice test to evaluate students’ comprehension of broad topics within the discipline of physics, Pellathy and Leibovich found that physics students in the SCALE-UP classroom experienced a 65% gain in BEMA scores, while the physics students in lecture hall class spaces experienced a 34% gain. In addition, they found that student attendance in class was notably more consistent in SCALE-UP classrooms. Clemson University also adopted SCALE-UP active learning classrooms for instruction in math, science, horticulture, nursing, English, computer science, civil, and mechanical engineering, and reported overall improved student outcomes (Benson et al., 2008). Stan Jones, a physics professor emeritus at The University of Alabama, wrote a letter to the American Physical Society (2008) to report that the SCALE-UP format he initiated in his introductory physics classes stimulated much more student-instructor interaction than was possible in the large traditional lecture/lab format.

**The TEAL Classroom.** An adaptation of SCALE-UP, Massachusetts Institute of Technology (MIT) has begun a classroom redesign project called Technology Enabled Active Learning (TEAL). With the same active learning approach, MIT’s TEAL classroom utilizes media-rich software for simulation and visualization activities, desktop experiments, web-based assignments, and a personal response system (see Figure 8). Dori and Belcher (2004) reported that, in an experimental study of an MIT freshmen physics class (n=811), students in the TEAL classroom improved their conceptual understanding of the subject matter to a significantly higher extent than their control group peers. A majority of the students in the experimental group also
noted that they would recommend the TEAL course to fellow students, pointing to the benefits of
the interactivity, visualization, and hands-on experiments that the technology helped to enable.

![TEAL classroom at Massachusetts Institute of Technology (photograph)](image)

**Fig. 8.1:** TEAL classroom at Massachusetts Institute of Technology (photograph)

![TEAL classroom at Massachusetts Institute of Technology (scale drawing)](image)

**Fig. 8.2:** TEAL classroom at Massachusetts Institute of Technology (scale drawing)

**The SCALE-UP/TEAL Classrooms.** Pilot testing of two active learning classrooms that
were designed as modified versions of the SCALE-UP and TEAL classrooms at the University
of Minnesota led to the design of an active learning classroom building on campus and the
development of an institution-wide rubric for all learning spaces on campus. The active learning
classrooms included large round tables that seat nine students each, laptop connections for each
seat, multiple fixed flat-panel monitors along the walls, and an instructor station that allows for
the selection and display of specific information (see Figure 9).
Alexander et al. (2008) reported that instructors who held classes in the active learning classrooms at the University of Minnesota not only felt closer to their students, but also observed improved relationships between students during collaborative projects. Instructors reported a shift in their role of faculty from simply relaying information to that of a learning coach or facilitator. Faculty indicated a strong attachment to the active learning classroom teaching experience and a high preference for teaching in the active learning classroom in the future. Students reported that the active learning classrooms were effective in promoting collaboration, teamwork, and active discussion, prompting them to be more talkative and participatory during class. Although recommendations included allowing more space for personal items and a more consistent temperature in the room, more than 85% of students indicated that they would recommend the active learning classrooms for their other classes.
**TILE Classrooms.** To compare traditional classrooms with active learning classrooms, the University of Iowa began a Transform, Interact, Learn, and Engage (TILE) project in 2010. Designed by the Learning Spaces Executive Committee at the university, TILE classrooms are equipped with extensive technology and adaptable furnishings (see Figure 10). Furnishings include an instructor podium that is not located at the traditional front of the room, room furnishings designed to promote student collaboration, chairs that are movable, tables and writing surfaces allowing students to work in small groups of several students, and ample surfaces for student work (e.g., whiteboards, glass boards or slate boards). Technology in the classroom includes a large monitor display for each student table, large screens and projectors that allow viewing of an image by the entire class, network connectivity (e.g., wireless or wired, as appropriate) for student computers, microphones available at each table in larger rooms, and other technology as needed to supply presentation and multi-media content (University of Iowa website, 2014).

Fig. 10: TILE classroom photograph (University of Iowa)

The project compared four TILE courses and four non-TILE courses taught by the same instructors. Van Horne, Murniati, and Saichaie (2012) found that the students in TILE classrooms exhibited more positive attitudes toward learning, achieved higher grades, and showed more engagement in the course than did the students in non-TILE classrooms.
Comparing Traditional, Versatile, and Studio Classrooms. In a study of instructional communication and classroom spaces, McArthur (2008) found that learning spaces influenced students’ perceptions of their cognitive, behavioral, and affective outcomes, and that these perceptions were mitigated by the instructor. In the study, four out of five instructors reported that the traditional classroom was favorable to teaching in a versatile classroom or in the fluid “studio” classroom, while students reported that they enjoyed the mobility and comfort of the fluid classroom more than the traditional classroom.

In this study, the traditional classroom was comprised of standard tablet desks, a podium with a computer and LCD projector, and a dry-erase board at the front and side of the room. The versatile classroom consisted of mobile trapezoid-shaped tables and mobile chairs on gliders, allowing for more desk space, as well as a multiple ways to rearrange into various groupings and configurations. The third classroom was a fluid, studio-style space with mobile round tables and 360-degree swivel chairs on gliders in two open, adjoining areas that allowed different events to occur simultaneously. This studio-style classroom was labeled fluid because it allowed movement of light, sound, people, and air throughout the space. Like the versatile classroom and the traditional classroom, the fluid classroom had the same dry-erase boards and computer equipment. Based on the properties of flexible space described by Monahan (2002), the fluid classroom was the most versatile and convertible of the three classroom styles.

Instructor feedback revealed that instructors saw some of the challenges of the versatile and fluid classroom as positive and necessary, while others “found the challenges were significant negatives and offered unnecessary stress to their pedagogical choices and endeavors” (p. 102). In stark comparison to instructor perceptions, students perceived the fluid classroom to be more comfortable and more enjoyable than the traditional classroom and the versatile
classroom. Although students indicated that the fluid classroom “had more distractions and made it harder to hear the instructor and other class members” (p. 90), students also reported that they were more comfortable and enjoyed the fluid classroom more. Students also reported enjoying the classrooms in which they moved the furniture a lot for small group work, which occurred often in the fluid classroom.

The Influence of Learning Spaces on Socialization

Schein (1968) defined socialization as “the process of learning the ropes, being indoctrinated and trained, the process of being taught what is important in an organization or some subunit thereof” (p. 2). By demystifying new and ambiguous situations, socialization requires students to make sense of their surroundings as they integrate into a classroom environment, a future profession, or discipline. Van Maanen and Schein (1979) described socialization as “the process by which an individual acquires the social knowledge and skills necessary to assume an organizational role” (p. 211). Serving as a professional rite of passage, socialization has the potential to increase self-efficacy, leadership potential, interpersonal communication, small group collaboration, and overall enjoyment of and transition into one’s chosen career.

As a new member adapts to an organizational setting, Weick (1995) defined sensemaking as one way of understanding the social context, one’s identity, and ongoing, retrospective observation of what is happening. Socialization also helps future employees determine whether or not an institution aligns with their own personal goals, through personal-organizational fit (Braddy, Meade, Michael, & Fleenor, 2009; Chatman, 1989). As an active process of assimilation requiring the newcomer to make sense of the culture, socialization is not the passive imprinting by a society on individuals (Giddens, 1979). A speech community forms when
individuals share enough common history and experiences to earn a badge of membership (Gumperz, 1990). This badge of membership is earned by choosing to assimilate, and can determine whether or not new members become part of the organizational in-group (Graen & Scandura, 1987).

As a conduit for enculturation, language expresses the norms and expectations for actions in a local culture. Ochs (1986) described how language is used to socialize affect, relationships, and intellectual practices in various cultures. Through talk, we learn about a local culture: its behavioral patterns, what is acceptable, and what is not. Goffman (1981) described how a leader addresses his or her intended audience, as well as an unintended audience, through forms of talk. Talking and listening to others talk is essential to socialization. Bourdieu and Passeron (1977) described education as a local setting in which language and culture is transmitted. Finding one’s voice, through simulations and through talk in an appointed space, enables individuals to pursue future careers equipped with a more appropriate vocabulary and knowledge of their field or discipline.

Gee and Hajduk (2005) argued that the entire university campus is a learning environment, in which collaboration and socialization are critical components. Gee (2005) claimed that social, community space connects faculty with students, forging connections that reinforce learning and create a sense of belonging. To explore socialization in the literature, this section will focus on: 1) the importance of socialization in student development, 2) the classroom as a site for socialization, and 3) past studies of learning spaces and socialization.

**The Importance of Socialization in Student Development**

Traditional theories of undergraduate student socialization explain that integration results from participation in a college environment. Tinto’s (1993) model of student departure, for example, pointed to social integration as a key factor in undergraduate student retention.
Normative influence from peers, coupled with a student’s background, personal characteristics, and academic experiences work together to form a student’s person-environment perspective relating to student development. Weidman’s (1989) Model of Undergraduate Socialization described integration as a positive student outcome resulting from a student’s decision to be involved and engaged in the college environment. A personal investment of time, money, and intellectual energy into a community and committing to its demands and values engages students in becoming members of a community of practice.

Applying a learning space framework based on the work of John Dewey (1897, 1916, 1934, 1938) and Kurt Lewin (1951), Kolb and Kolb (2005) suggested that learning spaces which foster experiential learning and situated learning allow students to extend their knowledge far beyond the realm of the classroom itself. Experiential learning spaces promote, “Socialization into a wider community of practice that involves membership, identity formation, transitioning from novice to expert through mentorship and experience in the activities of the practice, as well as the reproduction and development of the community of practice itself as newcomers replace old-timers” (p. 18). In these active learning spaces, students learn the norms, rules, and rituals of their future professions, gaining informal membership into them. Through experiential interaction with faculty and peers, students actively participate in a learning space that realistically prepares them for their future careers.

**The Classroom as a Site for Socialization**

The classroom is a specific culture in which language can be used to transform student behavior. Anyon (1981) and other anthropologists and sociolinguists have found the classroom to be a powerful center for student orientation, and for socialization. Through classroom discourse, instructors can communicate what kind of knowledge counts as knowledge as part of
students’ assimilation and socialization process. Participation in classroom discourse expands students’ agency and voice, by verbally contextualizing and re-contextualizing their ideas in the context of instructor-guided discussion (O’Connor & Michaels, 1993). As a central facilitator, soliciting questions, responding to questions, and interacting with students, an instructor communicates how talk should occur. In such disciplines as law, engineering, graphic design, and architecture, the classroom becomes a central site for pre-professional socialization.

**Past Studies of Learning Spaces and Socialization**

Weidman, Twale, and Stein (2001) identified three elements of socialization that occur during rites of passage, in particular into graduate and professional schools: 1) involvement, 2) knowledge acquisition, and 3) investment of time, money, and energy. Involvement is described as participation in a profession, while knowledge acquisition involves demonstrating competency of the cultural norms, language, and behavior in a chosen field. By participating in apprenticeships, training, and workshops, for example, students learn to become practitioners in a field or discipline. In their investigation of the socializing elements of knowledge acquisition, investment, and involvement, Holley and Taylor (2009) found that collaborative engagement with peers and faculty members in an online undergraduate nursing program, “facilitate[d] student identity, socialization, and learning,” adding that, “we believe that this social interaction has been underestimated in previous research” (p. 266). Clearly, working together in a learning space that promotes peer interaction and collaborative learning is realistic training and simulation for a future profession.

**Physical, built learning spaces and socialization.** Socialization into graduate school, for example, is a process that requires learners to adopt values, skills, and norms needed for membership in a group (Austin, 2002; Bragg, 1976; Merton, 1957; Tierney, 1997; Van Maanen,
1984; Weidman et al., 2001). In interviews with ten doctoral students in higher education, Gardner and Barnes (2007) found that all participants reported their local and national involvement was an integral part of socialization for readiness and employability in their future chosen professions. They found that, “representation on faculty search committees and university task forces contributed to students’ socialization as it allows students to learn about faculty and university governance as well as offering opportunities to network with other faculty and administrators on their campuses” (p. 14). In interviews with 16 doctoral teaching faculty, Gardner (2010) found that many of them supported the idea of creating space for student interaction in offices, lounges, and in departmental colloquia and symposia in order to promote more socialization.

The law school classroom. The law school classroom is also a site for socializing students into their future professions. With the learning goals of developing intellectual capabilities, self-authorship, and active participation, Rogers (1997) described ongoing law school classroom dialogue as a process of being called on randomly and graded anonymously. To emphasize the development of the analytical thinking required in the law school classroom, Brown (2000) wrote:

Let the law school classroom experience stretch your mind. You can and will grow within it. The more practice you get in solving problems, the more confident you will become in your law school undertakings. You will have learned to appreciate the law’s uncertainties, to observe its shifting trends, and to grasp opportunities for helping clients and for setting new precedents. Thus, in the transition from new law student to professional lawyer, a spark of interest will have been kindled — an interest in always seeking new knowledge, in improving skills, and studying human nature. Such interests will elevate your lifelong experiences. For to pursue professional excellence — both as you study and later practice law — is to strive continually for self-improvement (p. 1154-1155).

In this statement, Brown clearly challenges students to develop intellect and to take ownership over improving their current knowledge of legal precedents and trends in the profession. Being
prepared to answer questions at any given moment in the classroom requires hours of rigorous reading and studying. Students may be called on at any given moment to respond.

Law school classroom spaces often look like lecture-style classrooms (see Figure 11) and follow a traditional model of having an instructor in the front of the room. However, the intellectual rigor required of law school students is anything but transmissionist. While this law school classroom layout and design has not been studied, it seems to promote a studio-style discourse in an otherwise traditional, transmissionist classroom design.

Published in 2007, University of Washington legal anthropologist and law professor Elizabeth Mertz’s (2007a) book *The Language of Law School: Learning to “Think Like a Lawyer”* described how law professors employ the Socratic method between teacher and student, forcing the student to shift away from moral and emotional terms in thinking about conflict, toward frameworks of legal authority instead. In some of her other work, Mertz (2007b) described the language and discourse that was used in law school classrooms to socialize students into their future professions as attorneys. In Mertz’s (1998) study of law school classroom dialogue, if a student answered a question one way, but 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).

Discourse in the classroom has the power to shape students as they test their ideas and think aloud and classroom facilitators clearly have the ability to socialize norms of classroom behavior by the way that they speak and act.

*The architecture and design studio.* Schön (1983, 1985) described the role of a reflective practitioner in demystifying some of the ambiguity that exists in many architecture and design classrooms, through providing regular feedback and oral critiques of work in order to improve its professional quality. 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 became an incubator for students, providing them a laboratory in which to exchange feedback with their instructors and peers, one-on-one and in front of groups.

Design studios in such disciplines as architecture, graphic design, and engineering have long been regarded as sites for pre-professional socialization. Described by Leiboff (2010) as “the classroom of the future” (p. 1), the studio classroom is becoming popular due to its student-centered, interactive, and collaborative design (see Figure 12).

![Fig. 12.1: Typical architecture design studio classroom photograph (from www.lifeofanarchitect.com)](image)
Through oral presentations of student designs, and through listening to subsequent feedback from instructors, design studio students participate in classroom discourse that socializes them into their future professions (Dannels, 2000, 2009; Dannels & Martin, 2008; Dannels et al., 2008, 2011). For example, some of the categories of evaluative feedback exchanged in the design studio included brainstorming, free-associating, making direct recommendations, commenting on the students’ process, rendering judgments about the final product, expressing confusion, and questioning or interpreting concepts (Dannels & Martin, 2008; Dannels, 2011). In one design studio, instructors shared feedback such as:

It produces a rhythm and it’s really quite wonderful…I like that sketch but not that design. I don’t like this up here…I think we need to explore other ways of creating dimension…We’d like to see it. Those things that you deem not successful enough to show, we want to see those things too. Suspend judgment. What you deem as not working might be working in some other way. Unless we see it, you might not see it…Sit down and be really quiet and listen. You have this energy and you come at this stuff and it doesn’t get a chance to talk back. Be in a room with it. Play with it. Sit and look at it. What is it telling you?…If you took a piece of wire and threaded it through the entire thing like an accordion what would happen?...Good idea, but I think you should try a pencil because it has the feeling of being an illustration right now…I mean, you’re the designer. We break the rules all the time. The engineers stay with the rules…You waste a lot of time bringing things up that shouldn’t be brought up. And you know at 300 dollars an hour, a client would be angry (Dannels & Martin, 2008, p. 143-147).

This give-and-take teaching and feedback philosophy is common, but not necessarily unique, in design disciplines. Feedback, such as comments and suggestions offered in a studio classroom,
serves an important and necessary socializing and enculturating function for students and future professionals in the design field. This method of classroom community, accountability to classmates, and real-time conversation in a dialectical community of peers is an essential function in the studio classroom experience (Young, 2006). The studio learning space is a primary location where this exchange of socializing feedback occurs.

**Virtual learning spaces and socialization.** Just as the built, physical classroom creates a site for socialization, classrooms that integrate new technologies create a site for socialization as well. Along with promoting an energy and excitement about attending class (Gikas & Grant, 2013), virtual online collaboration can also promote team cohesion, empathy, and time management when students use new and unfamiliar technology to interact across time and space with unseen team members (Long and Meglich, 2013). Adapting to such web-based technologies as wikis, forums, and other virtual communication modes helps students to move beyond the predictable and familiar use of email and social networking sites and to prepare for working in a modern, collaborative, and technological environment.

**The architecture and design studio (web-assisted).** Dannels’ (2011) ethnographic study of an online graphic design studio that integrated web-based technologies described how realistically the instructor was able to provide feedback in order to prepare students for their future professions. The use of collaborative technology (e.g., wiki, virtual collaborative tools) was essential in this exchange of feedback. Dannels wrote, “the explosion of new technologies in education adds an additional layer of simulated complications in that we are able to use inherently artificial contexts (online discussions, virtual worlds, wikis, etc.) to further the partially authentic (in its correspondence to workplace reality) pre-professional learning experience” (p. 29-30). This emphasis on pre-professional communication, facilitated by
technology, serves as an example of how to prepare students for future professions, many of which will consist of heavy use of technology for the exchange of feedback and information.

With the proliferation of technology in higher education, virtual classrooms and web-assisted classrooms have also become a site for socialization. Conanan and Pinkard (2001) found that architecture students who gave and received online feedback from their peers and instructors in an online, collaborative learning environment improved their understanding of themselves as future architects. Creating a space and place for the exchange of feedback and evaluative information, in this case, in an online design studio, simulates students’ future professions. While this process of enculturation may vary from discipline to discipline, it consistently occurs in learning spaces that emphasize the importance of pre-professional socialization.

*The human resource management class (web-assisted).* Long and Meglich (2013) found that a human resource management class in which students collaborated in a virtual environment promoted the skills and abilities necessary for their future work. Sixty-six students from two different universities were required to conduct all of their collaboration through web-based technologies, as they were not able to meet face-to-face. Students reported that the study challenged them to overcome conflicts about time delays and time management. They also reported having to learn to be flexible when using an unreliable platform. For example, if the online Zoho portal signal was unreliable, some of the teams in the study changed platforms to email, text messaging, and Facebook in order to keep in contact with their team members. For example,

Some participants demonstrated a high degree of flexibility to adapt when team communications broke down. The ability to discover more effective ways of communicating served some of the teams well as they were better able to accomplish project objectives. Instead of letting the difficulties with Zoho derail their projects, these participants creatively sought ways to reach out and ensure timely communication (p. 4).
Students reported learning to bridge the divide between team members located at two different locations, which developed their leadership abilities, written and spoken communication skills, and problem-solving abilities.

Web-based technologies, applied in virtual collaboration, create a simulated workplace in which students can learn the information technology and collaboration skills that have been identified as a priority for future work (Eisner, 2010). Communication skills, relationship building, project management, time management, organizational skills, and flexible use of multiple technology platforms will likely become even more valuable as the workforce becomes even more geographically dispersed. Creating this virtual space for team-building and leadership development prepares students for their future professions. This type of pre-professional socialization occurs in learning spaces that value and demonstrate experiential learning.

Enculturating into future life and work clearly begins in the classroom, wherein students learn the language and behaviors that will help them to be most successful. While these past studies describe the learning spaces in which socialization can occur, these studies do not show a direct link between the type of learning space in which the class took place and the kind of socialization that occurred there. Because none of these studies has specifically sought to identify the influence of learning space or classroom design on socialization, this study seeks to fill a gap in the existing literature by describing the specific ways in which design of learning spaces influences socialization.

**Summary of Learning Spaces Literature**

While Leiboff’s (2010) classroom of the future was described as a studio classroom popular for its interactive and collaborative design, current literature does not necessarily point in the direction of replacing all traditional classrooms with a studio-style or fluid design. The active
learning classrooms described by Henshaw and colleagues (2011, 2014) at the University of North Carolina-Chapel Hill offered support for the contention that traditional classrooms can be redesigned and tested in experimental locations across campus to determine what classroom design is the right fit for a particular campus. Best informed with input from a variety of stakeholders, classroom redesign is an important, time-consuming, and costly undertaking that requires feedback and input from across campus.

Just as the current literature does not suggest eliminating all traditional classrooms, neither does it suggest that studio-style, fluid classrooms have proven consistently preferable by multiple stakeholders. Experimental testing by scholars at the University of Minnesota and the University of Chapel-Hill, for example, is paving a navigable path toward more research on which types of active learning classrooms are most effective. Such research and testing informs higher education institutions on how to remain viable in a competitive educational market, to which Harvey and Kenyon (2013) argued learning space planning is central. More learning space research and testing may support the idea that traditional classrooms, when properly adapted by instructor’s pedagogical choices and by adaptive use of current furniture and technology, perform just as well as if not better than experimental active learning classrooms. This current study will describe the experiences of two such active learning classrooms in order to determine whether students and faculty believe they are effective in achieving desired student outcomes.

**Conclusion**

This literature review emphasized past research on the role of learning spaces in dialogue and community building, interactive learning, and socialization. Chapter III will include a description of these components of the research methodology: 1) the pilot study, 2) research questions, 3) the site and participants, 4) data collection and artifacts, 5) analysis and coding, 6)
validity and design controls, 7) researcher positionality, 8) trustworthiness, 9) timeline for data collection, 10) possible results of the study, and 11) limitations and suggestions for future research.
CHAPTER III: METHODOLOGY

Introduction

After summarizing the literature relevant to learning spaces in higher education, this dissertation will now turn to methodology and tools for analysis of an undergraduate liberal arts community. This methodology section will include a description of: 1) the pilot study, 2) research questions, 3) the site and participants, 4) data collection and artifacts, 5) analysis and coding, 6) validity and design controls, 7) researcher positionality, 8) trustworthiness, and 9) timeline for data collection.

Pilot Study

In the summer of 2013, two classroom meetings of an undergraduate class in journalism reporting were observed. The class was composed of 11 students: three males and eight females. The 300-level class was composed of juniors and seniors majoring in journalism or public relations and met every day from 10:00 a.m. to 12:00 p.m.

The Site

Located in the College of Communication and Information Sciences at The University of Alabama, the class met in a spacious classroom, consisting of a large conference table in the middle of the room and a U-shape of computer tables around the perimeter of the room (see Figures 13.1 and 13.2). Designed to facilitate interaction between students and between instructor and students, including convertible furniture and computers that could be rearranged...
for individual and/or group work, the classroom was conducive to interaction and classroom participation.

Fig. 13.1: Reese Phifer Hall classroom photograph (The University of Alabama)

Fig. 13.2: Reese Phifer Hall classroom layout (The University of Alabama)

Research Question

The research question guiding this pilot study was:

RQ: How does physical and virtual space help and/or hinder student development?

Data Collection

Before the first classroom observation, the instructor was interviewed about the nature and context of the course. After the first observation, the instructor was interviewed again, providing more context for the class and the assignments. The instructor also provided a copy of the syllabus, which described the course objectives and outcomes. Immediately after the first
class observation, careful notes and observations about the unoccupied space were taken. All observations, interviews, and focus group interactions were recorded through jottings and later reflected upon through field notes, open coding, and analysis.

A one-hour focus group was conducted on the last Friday of class, for which five female members of the class remained and participated. This self-selected group was limited in size and diversity. In the future, the time and date for the focus group will be disseminated earlier and more often, in order to recruit a more representative sample of the class for participation.

**Themes and Analysis**

The pilot study was approached inductively, as an exploration into what would emerge as interesting, remarkable, or important in the learning space. Following Emerson, Fretz, and Shaw’s (2011) instructions for writing ethnographic field notes, researcher jottings were later developed into detailed notes of analysis, which were open-coded, clustered, and thematized. Analysis of field notes about the space, two observations, a focus group, and two interviews with the instructor resulted in the emergence of three themes relevant to an analysis of learning spaces: dialogue and community building, interactive learning, and socialization.

**Dialogue and community building.** One emergent theme in the pilot study involved what Gumperz (1990) called the speech community: individuals who share a common history and thus earn a badge of membership. In this study, it was clear that the instructor created a climate of support among members of the class, resulting in a co-creation of meaning between the students in that community (Gergen, 2009). This supportive environment created a safe space, conducive to dialogue and community building. For example, some focus group participants in the pilot study reported feeling excited that their professor invited them to lunch after their reporting coverage of the university’s 50th Anniversary of Integration event. At this informal lunch, they got to rehash the event and spend time with each other discussing their
reporting styles. This apparent camaraderie transferred into classroom interactions as well, building a community among and between classroom peers and the instructor.

**Interactive learning.** Another theme that emerged in this analysis was that the presence of student voice in the classroom has cognitive significance. The positive cognitive consequences resulting from students having voice in an engaged classroom are predicated on the idea that learning is a transaction between a person and the social environment and that learning is not complete without social interaction (Vygotsky, 1962, 1978). In this pilot study, the instructor wanted to hear what students had to say and was willing to open the floor for them to speak, often leaving long pauses during his interactive lectures to promote participation. He engaged students in multiple oral quizzes, Socratic-method questioning, computer-assisted activities, feedback and coaching, and an overall conversational discussion aided by his kinetic movement throughout the room. In the focus group, students reported that the learning space was conducive to their learning the course objectives.

**Socialization.** The final theme emerging from analysis was socialization. Socialization is defined by Schein (1968) as, “the process of learning the ropes, being indoctrinated and trained, the process of being taught what is important in an organization or some subunit thereof” (p. 2). As a way of demystifying new and ambiguous situations, socialization requires students to make sense of their surroundings as they integrate into a classroom environment or into a future profession or discipline. Weick (1995) argued that sensemaking requires understanding the social context, one’s identity, and ongoing, retrospective observation of what is happening and evolving in an organizational setting. Weidman et al. (2001) contended that involvement in and investment of time, money, and energy toward the acquisition of this knowledge results in feeling and being more integrated into the environment.
In order to prepare students for the urgent and fast-paced, deadline-driven nature of the modern journalist, the instructor used the space as a simulated newsroom. Students were quizzed on current news headlines, legal terms, and textbook terms. In doing so, students learned not only how to perform on a test, but also how to perform in their future careers. The instructor, a journalist for many years, simulated the nature of the journalism profession in the practical curriculum organized for the course. The practical nature of the journalism discipline, and the wealth of the instructor’s journalism experience outside of the classroom, simulated a reporter’s newsroom.

Discussion of Findings

In drawing attention to three particular student outcomes, this pilot study generated some important conclusions about how learning spaces can be utilized more effectively in the future. For example, the seminar table in the middle of the room was rectangular, making it easy for everyone in the room to see and hear and view the screen at the front of the room. The furniture and computer monitors could be rearranged for individual work, group work, and faculty-student conferences, making the space conducive to interaction (see Table 2). Although students did not choose to rearrange the furniture, it was arranged in such a way that they could easily change seats and assume a different learning task. For example, students could meet at the middle table for discussions and then report to the computer desks to begin individualized writing tasks and consultations with the instructor. Each of the three student outcomes was possible because of this logical design of the space. In addition, classroom materials such as whiteboards and fast, reliable internet access encouraged creativity among students and between students and faculty.

These elements of the space also facilitated socialization in the learning space. What made this space uniquely suited to socialize students into their future professions is that the computers on the perimeter of the room facilitated a studio-style work setting. Students were
able to consult with each other and the instructor while writing press releases, before joining
together again at the seminar table to discuss what they had written. Although this particular
class did not utilize Skype to visit with guest speakers and professional journalists, they did
utilize wireless access and social media to discuss each day’s news headlines. This studio-style
classroom environment simulated the work environment of a pressroom or a reporter’s
newsroom.

Table 2

Learning Spaces and Desired Student Learning Outcomes (Identified in Pilot Study)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Applications for Spaces of Learning</th>
<th>Examples of Current &amp; Possible Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialogue and Community</td>
<td>The space is designed to facilitate communication and interaction between students.</td>
<td>· The space was conducive to dialogue. · Furniture and computer monitors were arranged such that students could talk as a group and then write at computer desks. · Materials (e.g., whiteboards, computer software, internet access) available to encourage dialogue. · Formal learning space was not located near informal space, but the classroom was spacious enough for informal consultation.</td>
</tr>
<tr>
<td>Community Building</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactive Learning</td>
<td>The space is designed to facilitate interaction, innovation, and creativity between faculty and students.</td>
<td>· The space was conducive to interaction. · Furniture and computer monitors were arranged for faculty-student consultation. · Materials (e.g., whiteboards, computer software) available to encourage learning. · Faculty offices were not located near classrooms, but faculty could confer with students in the classroom.</td>
</tr>
<tr>
<td>Socialization</td>
<td>The space is designed to facilitate learning about a future chosen career or profession.</td>
<td>· The space was conducive to socialization. · Furniture and computer monitors mimicked the style of a pressroom or newsroom. · Materials (e.g., whiteboards, Skype) available to invite outside professionals’ advice. · Work was simulated in studio-style setting.</td>
</tr>
</tbody>
</table>

While the pilot study identified three types of communication and student development
that can occur in an intentionally designed learning space, these types of development need to be
further investigated to see if they consistently emerge. For example, researching other campus buildings, classrooms, computer labs, virtual spaces, libraries, and residence halls, and/or student communities would help to provide validity for how each of these communication and student development themes relates to the type of space in which learning takes place.

Utilizing qualitative research methods, the current study proposed to investigate communication and student development in an undergraduate liberal arts learning community at a public, flagship research university in the southeastern United States. The curriculum of this community is known for sparking creativity and innovation among a group of undergraduate students and thus served as a unique site for this study.

Research Questions

In light of the extant literature and current gaps in understanding about what types of learning spaces are most effective, this study posed the following broad research questions:

**Broad Research Questions**

**RQ1**: In what ways is student development and communication influenced by the physical design and layout of a learning space?

**RQ2**: In what ways is student development and communication influenced by the availability and use of technology and wireless access in a learning space?

**RQ3**: How do students perceive the influence of learning spaces on their own development?

**RQ4**: How do instructors perceive the influence of a learning space on student development?

**Narrow Research Questions**

This study also posed narrowed research questions in each of the three relevant communication and student development thematic areas that were identified in the pilot study. In order to gather more information about what types of learning spaces are most effective in
developing student dialogue and community building, interactive learning, and socialization in future careers, this study asked:

**RQ1a**: In what ways are students’ *dialogue and community building* influenced by the physical design and layout of a learning space?

**RQ1b**: In what ways are students’ *interactive learning* influenced by the physical design and layout of a learning space?

**RQ1c**: In what ways are students’ *socialization* influenced by the physical design and layout of a learning space?

**RQ2a**: In what ways are students’ *dialogue and community building* influenced by the availability and use of technology and wireless access in a learning space?

**RQ2b**: In what ways are students’ *interactive learning* influenced by the availability and use of technology and wireless access in a learning space?

**RQ2c**: In what ways are students’ *socialization* influenced by the availability and use of technology and wireless access in a learning space?

**The Site: Context and Location**

This site for this study is a liberal arts undergraduate learning initiative designed to promote innovation and creativity at a large, public, flagship, southeastern university. The Blount Undergraduate Initiative is known for its focus on creativity and innovation on the campus of The University of Alabama (BUI website, 2014). As part of the program, students complete two 100-level seminar foundation courses, then take 300-level thematic seminars, and complete their experience with a 400-level capstone course. The capstone course integrates prior coursework into each student’s development of an individual worldview. Most students in the program live in the Blount residence hall, at least during their freshman year. Students earn a minor in the Blount Undergraduate Initiative after completing the program.

The Blount Undergraduate Initiative “provides the intensive, exciting, and challenging world of a small liberal arts college within a major university” (The University of Alabama undergraduate catalog, 2004). Student learning outcomes of the program include: 1) developing
intellectual breadth and dexterity through study of the liberal arts, 2) critical reading and writing skills, 3) problem solving skills, and the ability to analyze and do research using data across the disciplines of the College of Arts and Sciences, 4) effective debate and discussion skills in and outside of class, and 5) a sense of community among freshmen who live together (BUI website, 2014). Affiliated with the College of Arts and Sciences, the Blount Undergraduate Initiative is situated on a campus that houses other undergraduate initiatives such as the University Honors College.

Founders of the Blount Undergraduate Initiative are Winston Malcolm “Red” and Carolyn Blount. Born in a small town in Alabama in 1921, Red Blount served in a United States Cabinet-level position as Postmaster General from 1969 to 1972. Following an unsuccessful campaign for the United States Senate, he founded and served as chief executive officer of a large construction company, based in Montgomery, Alabama, from 1974 to 1999. Blount is known as the founder of the Republican Party in Alabama. The Blounts were philanthropic patrons of the arts. In 1985, they founded a cultural park in Montgomery, which is home to a museum of fine arts and the Alabama Shakespeare Festival. In 2003, the year after his death at age 81, an elementary school in Montgomery County, along with the Blount Undergraduate Initiative in Tuscaloosa, were named in Blount’s honor.

Currently, 250 students are enrolled in the Blount Undergraduate Initiative. Fourteen instructors, called senior fellows, teach in the program. Seven teaching assistants, called junior fellows, are graduates of the program who assist in teaching and facilitating the classes. Most faculty have an academic home in another department and teach one or two sections of classes in the program, in addition to teaching classes in their home departments. For example, the primary instructor who was observed during this study has an academic home in the History department.
He returned to receive his Ph.D. after a 30-year career in the United States Federal Government. After earning his Ph.D. in 2007, he began teaching courses in the History department and in the program.

Site Selection

The University of Alabama was chosen as a site location because of its size, location, and because of the suitability of its Blount Undergraduate Initiative to answer the proposed research questions. Founded in 1831 and located in the western central part of the state, The University of Alabama is a flagship public institution with an enrollment of over 34,000 students in the spring of 2014 (UA factbook, 2014). The mission statement of The University of Alabama is “to advance the intellectual and social condition of the people of the State through the creation, translation, and dissemination of knowledge with an emphasis on quality programs of teaching, research, and service” (UA mission, 2014). With bachelor’s, master’s, and doctoral degrees in more than 200 fields of study (UA academics, 2014), the university offers 72 undergraduate majors and 121 graduate and professional degree options (UA factbook, 2014). The Fall 2014 undergraduate student population self-identified as 54% female, 46% male, 12% African American, 3% Hispanic American, and 1% Asian American (UA factbook, 2014).

Undergraduate tuition rates in 2013-2014 were $4,950/semester for Alabama residents, and $23,950/semester for out-of-state students (UA factbook, 2014).

The Academic Buildings

The program also offers exclusive use of two academic buildings, both of which are located at the central quadrangle of campus. Students may access these buildings, called Oliver-Barnard Hall, called OB Hall, and Tuomey Hall, at any time during the day or night. Both Tuomey and OB contain classrooms for upper-level Blount seminars, common study spaces, a
The Blount Undergraduate Initiative is supported by generous private gifts from alumni and other donors. However, many other colleges and universities struggle to find resources to support liberal arts initiatives and to continue recruiting bright and talented students, due to waning interest and demand in the liberal arts and humanities. For example, Harvard University experienced a 20% decline in humanities majors from 2003-2013, according to The New York Times (Lewin, 2013). A “profound shift toward viewing college education as a vocational training ground” since the recession has resulted in more demand for science, technology, and engineering courses and less demand for humanities courses (p. 1). An evolution toward career-oriented professional colleges brought on by the massification of higher education in the 1960s and 1970s (Breneman, 1994), coupled with the more recent push toward online education and for-profit educational programs in the 2000s (Baker, Baldwin, & Makker, 2012), has also posed challenges for liberal arts programs to overcome. Perhaps by recreating the intimate educational experience and prestige of a liberal arts college on a much larger campus in order to recruit the best and brightest students (Toma, 2012), the Blount Undergraduate Initiative has kept its unique position as a traditional liberal arts community despite some of the wavering interest in the humanities over the years.

**Applying to the Program**

Blount applicants are asked to submit an essay describing the best book they have ever read, an event that changed their lives, a project in which they felt engaged, and/or what they
find fascinating, amazing, or intriguing. The Blount Undergraduate Initiative website described the application process in this way: “Excellent candidates for the Blount Initiative may have high grades and test scores or they may not. This application is designed to help us get to know you and the qualities and abilities, beyond grades and scores, that will make you a successful Blount Scholar” (BUI website, 2014). Applicants are encouraged to respond to the questions that allow the selection committee to learn about them and their ideas on different issues and experiences.

The Freshman Year

According to their website (2014), the Blount Undergraduate Initiative (BUI) is a 20-hour curriculum in liberal arts and cross-disciplinary studies. Freshmen entering the program live in the Blount Living-Learning Center and take four hours of courses each semester, consisting of a three-hour seminar and a one-hour convocation. The foundations course focuses on origins for the first semester and on possibilities available for human progress during the second semester. During a bi-monthly convocation, the entire freshman class gathers to hear and talk with speakers who elaborate on course readings.

A recent common BUI 101 syllabus (2014) described the Blount mission in this way: “The Foundations Course, like the Blount program itself, affirms the value of a liberal arts education. It invites students to join faculty in the liberal arts tradition of exploring the intellectual and cultural heritage of Western civilization, and of developing the critical perspectives necessary to a broad understanding of the world in all of its diversity” (p. 2). The syllabus goes on to emphasize discussion and debate, the importance of the classic disciplines, and the theme of the class as “Origins.” The syllabus described the Origins focus in this way: “As far as we know, humans are the only species with the mental capacity to ask questions about origins. Where do we come from as individuals, as spirits, as a species, as a planet, as a solar
system?” In the class, students complete four papers, journals and reflections, and a final exam. Twenty percent of the course grade comes from class participation. All freshmen in the BUI program are required to attend the convocation of all BUI 101 sections about twice a month.

**The Sophomore Year and Junior Year**

Students take three thematic seminars during the sophomore and junior years. The seminars range across various disciplines, with a focus on the College of Arts and Sciences. Seminars, proposed by faculty members, are selected according to how neatly they mesh with Blount program curricular goals. Past seminars have explored topics such as: Gender, Self and Society, Screenwriting, Science and Culture, Ethics Matter, Trends in Health Care, 21st Century Archaeology, Football as a Southern Microcosm, Heroic Models in Literature and Film, Steampunk: The Victorian Age, Wild West and Its Science and Anthropology, and The Cinematic Worldviews of Stanley Kubrick, Terrance Malick, and David Lynch. Although the BUI website does not provide syllabi for the 300-level courses, it provides course descriptions to give an idea of what type of readings and discussions will take place in the course.

**The Senior Year**

The Blount program culminates in a 400-level senior capstone course that encourages students to revisit and revise their experience in the program and to develop a project that demonstrates a mastery of the problem-solving and critical-thinking skills they have learned. Each student’s worldview is integral in this capstone course. In the course, students complete a midterm exam, an independent study project, and a project proposal, outline summary, and presentation. According to the Blount website, the capstone course is intended to be a retrospective and prospective academic experience for the student. The independent study project accounts for about a third of the course grade, while participation accounts for 20% of the course grade.
grade. Sample readings in the capstone course include, Fyodor Dostoevsky’s *Grand Inquisitor*, Thomas Kuhn’s *Structure of Scientific Revolutions*, Steven Pinker’s *The Blank Slate*, William Shakespeare’s *Anthony and Cleopatra*, and E. O. Wilson’s *Consilience*. With its theme of “Worldviews,” the BUI 401 syllabus describes such topics for discussion as, “Given this commitment to things, processes, problems and standards: How should people act? What should they do or not do? How should people live? What counts as a good life, a good person, a good society, and a good world?” (BUI website, 2014). This capstone course seeks to address ethical, political, religious and aesthetic values as they relate to worldviews.

**The Living-Learning Center**

As a residential learning community, the Blount Undergraduate Initiative conducts its classes and meetings in appointed academic buildings and residence halls on campus. Almost all Blount freshmen must reside in the Blount Undergraduate Initiative Living-Learning Center. This residence hall contains four large classrooms where freshman seminars are taught, a lobby and common area, study spaces for students, and office space for Blount faculty in residence. Resident assistants (RAs) in Blount are usually upperclassmen enrolled in the program, who typically assist freshmen with mentoring and discussion about their classes. Students often use the first floor classrooms after hours for group and individual study. An expansive lobby on the first floor is comprised of several common areas with couches, chairs, multimedia equipment, and a piano. The residential spaces on the second, third, and fourth floors host freshmen in the Blount program, along with some Blount students who choose to continue living in the residence hall after the freshman year. Suites in the residence hall typically require each Blount student to share his or her personal space and bathroom with another person, rather than having a room to oneself.
The Learning Community as a Site for Studying Learning Spaces

The decision to make a liberal arts undergraduate initiative with a living-learning component the site for this investigation seemed a natural one, due to the interactive learning and sense of community that learning communities tend to offer. The classrooms in this particular learning community are arranged as active classrooms, rather than as traditional classrooms. This study of the Blount Undergraduate Initiative builds on Hutt’s (2012) finding that “the residential aspect and academic buildings connected with the program seem to hold considerable significance for the vast majority of the students interviewed” (p. 138). Furthermore, students frequently reported making connections with others whom they would likely never interact otherwise:

Out-of-class and after-hours engagements with peers (often resulting from impromptu collaborations on Blount assignments) were powerful and frequent experiences through which students found greater appreciation for dissenting opinions as well as respect for the value of [other] disciplines in achieving higher learning outcomes. The design of the Blount dormitory includes large meeting areas, an open lobby, and classrooms that are accessible at all hours [emphasis mine]. Students saw these spaces as intertwined; they were both social and intellectual spaces, often at the same time…more than just convenient locations, the Blount academic buildings were havens, and became the academic “homes” for Blount students living off campus. Often, these spaces provided an opportunity for upperclassmen Blount students to reconnect with former classmates and dormitory residents from the freshman year (p. 166-167).

This current qualitative study extends the current knowledge of the Blount Undergraduate Initiative by providing close observation of the site, along with student and faculty perceptions of its learning spaces.

The Nature of a Learning Community

Identified as the “single most potent source of influence on growth and development during the undergraduate years” (Astin, 1993, p. 398), the student peer group found in learning communities is central to students’ social integration (Weidman, 1989). Even in the least
coordinated, most basic learning community model, students in learning communities show “more positive outcomes (first semester GPA, retention, first-year experience) than non-learning community students” (Stassen, 2003, p. 581). As measured by the National Survey of Student Engagement (NSSE), participation in a learning community has been linked to higher levels of engagement (Kuh, 2003; Pascarella, Wolniak, Cruce, & Blaich, 2004; Umbach & Kuh, 2006). Using Chickering and Gamson’s (1987) principles for improving undergraduate education as its basis, the NSSE emphasizes student-faculty contact, cooperation among students, active and collaborative learning, prompt feedback to student, time on task, high expectations, and respect for diversity (Kuh, Hayek, Carini, Ouimet, Gonyea, & Kennedy, 2001).

Partly in response to criticisms that American research universities do not incorporate enough integrated and focused student learning into the undergraduate experience (Boyer Commission, 1998), several universities have implemented living-learning communities at their institutions in order to enrich the undergraduate experience. Designed to foster increased interaction with faculty and among peers and opportunities for coordinated learning activities in an academically and socially supportive environment (Gabelnick et al., 1990; Lenning & Ebbers, 1999), students in living-learning communities typically live and study together for at least one semester. Pascarella and Terenzini (1991) found that, “living-learning communities have a significantly positive effect on a number of student outcomes, including: student gains in autonomy and independence, intellectual dispositions and orientations, and generalized personal development” (p. 261). Pascarella, Terenzini, and Blimling (1994) further concluded that students in living-learning communities were more likely to persist, exhibited stronger academic achievement, interacted more with faculty, and engaged in a more intellectual residence hall atmosphere than students in conventional residence halls. Inkelas and Weisman (2003) found
that living-learning students exhibit higher levels of engagement in college activities, with stronger academic outcomes. Living-learning communities clearly provide a site conducive to student development.

**The Classrooms**

The classrooms utilized for this study were roundtable classroom designs, emphasizing face-to-face communication in small groups. Both classrooms were equipped with comfortable chairs, tables, and a dry-erase board. Both classrooms provided wireless access; the Oliver Barnard classroom was equipped with a projector. The BUI 101 class took place in a large seminar room that consisted of multiple, semi-round tables connected into a full-circle in the middle of the room, surrounded by 15 to 20 standard chairs, a dry-erase board on the wall, fluorescent lighting on the ceiling, and large windows on one side of the room. This freshmen class met in the Blount Living-Learning Hall Classroom (see Figure 14) on Tuesdays and Thursdays from 9:30 to 10:45 a.m. and was composed of 10 students.

![Blount Residence Hall classroom photograph (The University of Alabama)](image_url)
Fig. 14.2: Blount Residence Hall classroom layout (The University of Alabama)

Fig. 14.3: Blount Residence Hall classroom scale drawing (The University of Alabama)
Upper-level classes take place in the Blount Academic Houses, which flank the main library on campus: Tuomey Hall and Oliver-Barnard Hall. The BUI 401 senior capstone class utilized in this study took place in a small seminar room in Oliver-Barnard Hall (see Figure 15) on Tuesdays from 2:00 to 4:30 p.m. and was composed of eight students. The seminar room consisted of a large conference table in the middle of the room, surrounded by 10 to 15 standard chairs, with a projector on the ceiling, a dry-erase board on the wall, fluorescent lighting on the ceiling, and large windows around the perimeter of the room.
Fig. 15.1: Oliver-Barnard Hall classroom photograph (The University of Alabama)

Figure: Oliver-Barnard Seminar Room

Fig. 15.2: Oliver-Barnard Hall classroom layout (The University of Alabama)

Fig. 15.3: Oliver-Barnard Hall classroom scale drawing (The University of Alabama)
Participants

Freshmen and seniors enrolled in the Blount Undergraduate Initiative (BUI) freshman seminar and capstone course were the focus of this study. Freshmen helped to inform this study because they were new to the program and brought with them few preconceived notions about classroom design on a college campus. Seniors, because they had more experience in the program and had likely acclimated to its culture, were able to compare the classroom spaces they had experienced in the BUI program, along with several other places and spaces they had experienced on campus.
The primary instructor who was observed during this study has an academic home in the History department. He pursued a career in university teaching after a 32-year career in the United States Federal Government. After earning a Ph.D. in 2007, he began teaching courses in the History department and in the program. The assisting instructor who was also observed during this study completed the program while he was an undergraduate student at the university. He completed a degree in Expressive Therapies and Counseling Psychology through the New College Interdisciplinary Studies department at The University of Alabama. He has served as an assistant instructor in the program since his enrollment two years ago in a graduate program in Counseling Psychology.

During a freshman convocation meeting, a third Blount instructor, who communicated that he had heard that this learning spaces study was taking place, was asked for an interview by the researcher. Although his classroom proceedings were not observed, he taught the same two Blount classes as did the instructor who was observed in this study and has taught in the program for over a decade.

**Participant Consent Process**

On one of the first class meetings, I introduced myself to the students and described the nature of the study with them. They received a copy of an Institutional Research Board (IRB) information sheet (see Appendix G), which they were asked to sign. They were informed in a verbal statement from the researcher (see Appendix F) that their identities would be protected and that all data would be used only for purposes of this project and that all records would be carefully stored during use and destroyed after use. If any student wished not to participate in the assignments affiliated with this project, he or she was informed that course grades and/or standing at the university would in no way affected by opting out of this research project. The
interview (see Appendix A and B), focus group (see Appendix C), and audio-recording (see Appendix G) protocols were approved by the Institutional Research Board.

**Data Collection and Artifacts**

During the Fall of 2014, data was collected in the proposed site from both a 100-level Blount Undergraduate Initiative course and a 400-level BUI capstone course. Student artifacts included reflection journals, a focus group, interviews, and audio-recorded classroom observations. Faculty artifacts included reflection journals and interviews at intermittent points throughout the semester (see Timeline in Table 4.2). Before the first classroom observation, photographs, sketches, and notes on the unoccupied physical space were collected.

**Student Artifacts**

During the first week or two of class, the researcher personally invited students to participate in the study (see Appendix F). They received copies of an information sheet (see Appendix G), which summarized the study, its risks and benefits, and how much time they would be expected to invest. After explaining the purpose of the journal, classroom observations, focus groups, and interviews, students were invited to ask questions before submitting their signed information sheets.

**Faculty Artifacts**

Park and Choi (2014) suggested that future research on learning spaces place more emphasis on instructors’ perspectives, because their comfort level with a classroom design directly impacts the quality of their teaching. Thus, during week two, the instructor was interviewed (see Appendix A) about the nature and context of the course and was asked for a copy of the syllabus. During Week 10, the instructor was interviewed again, and was asked for more descriptions of the classroom atmosphere and how he believed the class was going. He was
then asked questions about how classroom space apparently was influencing group dynamics, learning, and socialization that semester. Together, the instructor and the researcher arranged the dates for classroom observation and audio-recording. Any necessary follow-up and member-checking took place during weeks 15 and 16.

During this study, the instructor was asked to keep a journal in which he reflected on observations about the classroom space and the group dynamics. Both the director of the undergraduate learning initiative and the instructor who teaches both the 100-level and 400-level classes that serve as the sites for this study authorized data collection for this study.

**Journals**

Lee and Tan (2013) suggested that journals from users of a learning environment have gained popularity as means of collecting data about learning spaces. During this study, both students and instructor were asked to keep reflection journals – digital and/or physical – in which they were asked to indicate any observations about teaching practices, student responses, or classroom successes or issues of concern that they believe relate directly to the physical classroom space in which the class occurs. These observations could include, but were not limited to, general observations about classroom climate, how the BUI class compared and/or contrasted with other classes they were taking or teaching, and general reflections on activities and assignments. The instructor and the students were asked to journal at their convenience, but especially when they noticed a specific instance in which communication and student development took place and was possibly attributed to the arrangement of the classroom space. They were asked to submit their journal entries at two or three collection times during the semester.
Classroom Observations

As a means of collecting data about learning spaces, observations by both participants and non-participants provide useful feedback about a learning environment (Lee & Tan, 2013). The first classroom observation took place during week 4 or 5 of the semester and continued until week 11 or 12 (see Timeline in Table 4.2). Audio-recorded footage was collected and later transcribed and analyzed. The audio-recorder was positioned as unobtrusively as possible and students were reminded to be as comfortable and natural as possible, even though they were being audio-recorded.

Interviews

Interviews with both faculty and students were based on the principles of user-experience design (UXD) of learning spaces, along with the student outcomes of dialogue and community building, interactive learning, and socialization. Interviews were conducted at intermittent times throughout the semester (see Timeline in Table 4.2) and were arranged at mutually agreeable times for both the interviewer and the participant.

Interviews with instructors. Three instructors were interviewed in this study: 1) the instructor of BUI 101 and 401 classes that were observed by the researcher, 2) the teaching assistant for the BUI 101 class, and 3) an instructor of BUI 101 and 401 classes that were not observed by the researcher. Interviews with three instructors included questions based on the nine user-experience design principles and the three relevant themes of communication and student development in this study. The interview protocol (see Appendix A) with instructors included questions such as: How would you describe your overall experience in this BUI seminar this semester? What do you think your students learned the most readily? In which course objectives do you feel your students improved or are improving most? How does the layout of
this classroom (e.g., the desks, chairs, board, projector, lab computers, spatial orientation) influence your students’ learning and their ability to work in groups? Does the layout of the room influence your students’ ability to prepare for their future careers?

The instructors were also asked how the use of technology (e.g., laptops, iPads, projector screen) was influencing their students’ learning and ability to work in groups. Instructors were asked about the role of classroom technology in influencing students’ ability to prepare for their future careers. The instructors were also asked to report other benefits or drawbacks that they had taken away from this course and if they believed that classroom atmosphere and spatial arrangement played more of a role in student development than he thought it did before this study. To gather information about how the BUI classroom compared to other classrooms in which the instructors have taught classes on campus, they were asked what aspects of the classroom made it more enjoyable or less enjoyable than other classrooms. The final question asked instructors whether or not anything besides classroom atmosphere played an important role in students’ development during the semester. Any necessary follow-up and member-checking with instructors took place during weeks 15 and 16.

**Interviews with students.** Interviews with the students also included questions based on the nine user-experience design principles and the three relevant themes of communication and student development in this study. The interview protocol (see Appendix B) with students included questions such as: How would you describe your overall experience in this BUI seminar this semester? What did you learn? In which course objectives do you feel you improved or are improving most? How does the layout of this classroom (e.g., the desks, chairs, board, projector, lab computers, spatial orientation) influence your learning and your ability to work in groups? Does the layout of the room influence your ability to prepare for your future careers?
Students were asked how the use of technology (e.g., computers, Blackboard, PowerPoint, blogs, the Internet, their own mobile devices) influenced their learning and ability to work in groups. They were also asked about the role of classroom technology in influencing their ability to prepare for their future careers. Students were asked to report other benefits or drawbacks that they take away from this course and if they believe that classroom atmosphere and spatial arrangement plays more of a role in student development than they thought it did before this study. To gather information about how the BUI classroom compared to other classrooms in which students have taken classes on campus, they were asked what aspects of the BUI classroom made it more enjoyable or less enjoyable than other classrooms.

The final question asked students whether or not anything besides classroom atmosphere played an important a role in their development this semester. Students were asked to report the grades they believe they would receive on upcoming assignments in the course, along with demographic information (e.g., age, gender, college, class status). Any necessary follow-up and member-checking with students took place during weeks 15 and 16.

**Focus Groups**

As a means of collecting data about classroom environments, focus groups engage students, faculty, and staff members in the design and evaluation of learning spaces (Lee & Tan, 2013). During week 11, focus groups were set up for times at which most of the students would be able to attend. During week 13 or 14 of the semester, students were invited to participate in a one-hour focus group that would meet in the classroom space. They met in groups of 5 to 8 students at a time. The freshmen student focus groups were slightly larger than the senior student focus groups, because of the smaller senior seminar class size.
Focus group questions were generated from the communication and student development themes of this study and from the research questions (see Appendix C). During the focus group, students were asked about how the layout of the classroom (e.g., the desks, chairs, board, projector, lab equipment/computers, spatial orientation) influenced their learning, their ability to work in groups, and their ability to prepare for their future careers. They were also asked how the use of technology in the room (e.g., mobile devices, Blackboard, PowerPoint, blogs, the Internet, computers) influenced their learning, ability to work in groups, and their ability to prepare for their future careers. To guide them through the discussion, students were asked follow-up questions to clarify comments made during class, in interviews, and/or during the focus group discussion.

Students were also asked how the BUI classroom space compared with other spaces where they had taken classes on campus. They were asked what aspects of the classroom made it more enjoyable or less enjoyable than other classrooms in which they had taken classes. Specific questions included: How would you describe your overall experience in this seminar so far this semester? What kinds of things do you know now that you didn’t know at the beginning of the class? In which course objectives do you feel you’ve improved most? How so? Are there any other benefits or drawbacks that you’ve taken away from this course? Do you believe that space and classroom atmosphere plays more of a role in your development as a student than you did before this study? Any necessary follow-up to these focus group discussions and/or member-checking took place during weeks 15 and 16.

**Documents**

As a means of collecting data about classroom environments, observable documents (e.g., printed materials, website materials, photographs) promote the active design and evaluation of
learning spaces (Lee & Tan, 2013). Collecting the syllabus from the instructor provided a context for the course, as it described course objectives and expected outcomes. Many documents were available on the Blount website, which was analyzed to assess the nature and culture of the program, its goals, priorities, identity, and recruiting methods. The Blount director also provided a number of printed marketing materials. Scale drawings and photographs provide context and visual reference for the site.

The Blount Undergraduate Initiative also houses archived documents that capture the history of and membership in the program. For example, the Blount Book of Scholars, sponsored by founders Winston Malcolm “Red” and Carolyn Blount, is a commissioned, hand-stitched, leather bound, 11-by-14 inch book that is signed by Blount scholars, Blount junior fellows, and Blount fellows each fall. All of these artifacts were taken in account in assessing the overall culture and context of the program and its 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. Unlike the positivist researcher, the social constructionist does not go into a research study with a specific definition of a problem or with hypotheses to test. Rather, key concepts emerged from the data collected and analyzed during the study (Kvale & Brinkmann, 2009; Stake, 1995). Social constructionist researchers have general ideas about the phenomena they wish to study (e.g., how student perceptions of classrooms change over time), however, much of the theorizing and analysis of the phenomena occurs through an inductive process.
Grounded Theory Approach

Grounded theory refers to this inductive process of uncovering theories and central concepts that are grounded in the information provided by participants (Glaser & Strauss, 1967; Strauss & Corbin, 1998). In particular, researchers analyze field notes and interview data to generalize impressions by asking, “What is the main issue or problem with which these people seem to be grappling? What keeps striking me over and over? What comes through, although it might not be said directly?” (Strauss & Corbin, 1998, p. 148). To move from mere description to conceptualization, researchers identify central concepts or themes to explain the data that was observed or collected. Creswell (2003) described this inductive research process as a process where the researcher gathers information and identifies themes, patterns, and categories before then identifying concepts that link together emergent themes and categories. Finally, the researcher explains relationships between categories as a way of extending theory and knowledge of the observed phenomena.

Bensimon, Polkinghorn, Bauman, and Vallejo’s (2004) Diversity Scorecard Project, for example, illustrated the importance of having participants generate their own construct for assessing the outcomes of a program by identifying indicators of student success. With this inductive, grounded approach, participants socially construct collaborative strategies and actively contribute to future success of an organization or institution. While conducting such a study, the researcher is able to adjust concepts, themes, and categories as the study evolves and further theorize about analysis and findings.

Because this research design employed the use of multiple sources of evidence, it qualified not only as a grounded theory analysis, but also as a case study design approach. Yin (2003) described a case study as an empirical inquiry that investigates a phenomenon within a
real life context. Furthermore, Merriam (2009) defined a case study as, “the process of conducting an inquiry, the bounded system or unit of analysis selected for the study, or the product, the end report of a case investigation” (p. 54). As such, a case study allows the researcher to nourish the belief that knowledge is to constructed, rather than discovered (Stake, 1995). In other words, a case study researcher wishes for readers to develop a vicarious experience and to construct their own feelings about the time and place in which a case study occurred. A case study should provide descriptive details and quotations not only to confirm the experiential data collected during observations, but also to disconfirm them. In doing so, readers are given the opportunity to reconsider their knowledge of a case and perhaps to modify their own existing generalizations about a case.

The complex social units analyzed in this study required the utilization of multiple methods, artifacts, and evidence, thus both grounded theory and the case study design provided helpful parameters for conducting this research. The observations in this dissertation summarize my encounters with this particular set of participants and my analysis represents my own relatively un-interpreted assertions and generalizations about this particular case.

**Field Notes and Clustering**

Following this grounded theoretical approach, and the methodological strategies of Charmaz (2006), 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 the journals, interviews, focus groups, classroom observations, field notes about the space itself, and recordings of classroom proceedings collected during the study. Analysis of these initial codes led to a systematic coding structure. Clustering is a method of coding in which the researcher groups the emergent themes into meaningful categories and systems (Marshall &
Rossman, 2011). Following Emerson, Fretz, and Shaw’s (2011) instructions for writing ethnographic field notes, the researcher in this study developed jottings into detailed notes of analysis, which were then open-coded, clustered, and thematized.

In the development of field notes into categorization and analysis, Goodall (2000) suggested “lessening the initial ambiguity of going into the field by providing something concrete to observe and write down as field notes” (p. 108). For example, he recommended looking for such concrete categories as rich points, turning points, and habits of speech and mannerisms during observations and analysis of notes. First, rich points are words spoken in conversation that carry heavy cultural symbolism and meaning for members of a speech community (Agar, 1994). For example, slang, non-normative language, jargon, or turns of phrase, can communicate what members of an in-group might say to indicate that they are part of a culture or sub-culture. Second, turning points are narratives or accounts that describe individuals’ experience of change, bringing on a critical life decision or interpretation of their membership in a group (Bullis & Bach, 1989). For instance, a participant may describe a critical moment during which she or he felt socialized or assimilated into a workplace or other community. Thirdly, habits of speech and mannerisms that come with conversation should be included in how a social text gets culturally constructed or categorized (Goffman, 1959, 1967, 1974, 1981). For example, accounts, excuses, justification, hand gestures, body posture, and facial expressions can communicate self-identity and impression management in a group.

**Desired student outcomes.** The field notes collected in this study sought to confirm and/or disconfirm categories, such as: 1) dialogue and community building, 2) interactive learning, and 3) socialization for future careers. A data collection form was used for coding purposes during classroom observations (see Table 3). This form allowed the researcher to note
when utterances or behavior fell into one of the categories of desired student learning outcomes. The form also allowed for notes to be recorded regarding nonverbal behavior and amount of space between participants and instructor. Interview and focus group comments that confirmed or disconfirmed the themes were also noted and analyzed.

**User-experience design (UXD).** Field notes also sought to confirm and/or disconfirm categories from McArthur’s (2011) user-experience design (UXD) framework. The nine UXD categories, as described in Chapter I, are: 1) transcendence, 2) engagement, 3) malleability, 4) purpose, 5) ownership, 6) panoramic, 7) responsiveness, 8) inclusiveness, and 9) coherence. *Transcendence*, the ability of a space to facilitate interaction between faculty and students of different disciplines, was coded by looking for evidence of communication across typical departmental (e.g., college major) boundaries. *Engagement*, the ability of the space to spark creativity and innovation, was coded by assessing how often students gather or rearrange for group work and for sharing of necessary resources. *Malleability*, the tendency for a learning space to modify and adapt to a variety of users, was noted when a space was expanded and contracted to invite interaction between students. *Purpose*, the apparent design of a learning space specifically for student learning, was assessed by analyzing the sense of student-centered purpose evidenced in sketches and photographs of the classroom. *Ownership*, users’ perception that they are a part of the design and upkeep of the system, was coded by seeking evidence of students’ accountability and responsibility for the space.

The *panoramic* nature of the classroom was coded by seeking evidence of the coherence and ease with which the learning space fits into the building, the quadrangle, and/or the campus in which it is located. Evidence of built and/or digital wayfinding artifacts was also noted and analyzed. *Responsiveness*, the ability of a learning space to respond efficiently and adequately to
student needs, was coded by seeking evidence of ubiquitous and reliable wireless service and other built artifacts in the classroom that assist in learning. *Inclusiveness*, the ability of the space to invite participation from its users, was assessed by seeking evidence of the relative comfort and silence of the space. The final UXD principle, *coherence*, is a transparent operational process through which students and user councils are empowered to enact necessary changes in a space. To assess coherence, evidence of invited feedback from faculty and staff about the usability of a learning space was noted and analyzed.

**Journals**

Collected at two or three times during the semester, journals were open-coded and clustered through thematic analysis until there was enough support to summarize corroborated findings. Journal entries were coded and reported as they applied to McArthur’s (2011) user-experience design principles and to the relevant themes of communication and student development.

Much like the interviews conducted in this study, the journals gave students a chance to self-reflect and self-report information in the form of stories, examples, and narratives. Recording experiences in journals provides students with more opportunity to elaborate about their experiences, especially the ones that may not occur to them during an interview or about experiences that they may not want to speak aloud. The therapeutic nature of writing (Pennebaker, 1997) may encourage students to disclose experiences in a freer, more expressive form than the spoken word allows. This unique nature of self-report journals to allow for self-disclosure was considered during the analysis of this artifact.
Classroom Observations

In this study, several meetings of each of the two classes were audio-recorded throughout the semester. Senior students, taking the 400-level course, met in a small seminar room at a building that serves as the headquarters for the undergraduate initiative. Freshmen students, taking the 100-level course, met in a larger classroom located in the program’s living-learning center.

Audio-recordings were transcribed and later open-coded through thematic content analysis. Content analysis of the written transcripts searched for themes related to McArthur’s (2011) user-experience design principles and to relevant outcomes of communication and student development. In addition to notes about verbal comments and feedback, field notes about gestures and nonverbal communication were also analyzed.

A data collection form (see Table 3) was used for coding purposes during classroom observations. Items on the data collection form included: 1) physical distance/relationship between students, 2) arrangement/rearrangement of furniture during class, 3) a recording of whom talks, for how long, with what type/substance of utterances, 4) comments indicating group collaboration or unity, 5) comments indicating active learning, and 6) comments indicating socialization. Field notes also recorded how often the class worked in small groups during class, how often the class moved the furniture during class, how often students used a screen (e.g., mobile device, laptop, computer, projector) to assist in learning during class, and how often students utilized wireless access in the class. The unique and dynamic nature of classroom proceedings was considered during the analysis of this artifact.
### Interviews

Conducting interviews allows participants to share their lived experiences in a narrative and conversational way, allowing the interviewer to gather, analyze, and report those experiences as authentically as possible. Kvale and Brinkmann (2009) described the knowledge produced by interviews in this way:

The research interview is a production site of knowledge. Interview knowledge is socially constructed in the interaction of interviewer and interviewee. The knowledge is not merely found, mined, or given, but is actively created through questions and answers, and the product is co-authored by interviewer and interviewee. The production process continues through the transcription, analysis, and reporting of the original interviews, with the reported knowledge tinged by the procedures and techniques applied along the way (p. 54).

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**Table 3**  
*Data Collection Form for Classroom Observations*

<table>
<thead>
<tr>
<th>Data Collection Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance between students</td>
</tr>
<tr>
<td>Distance between students and instructor</td>
</tr>
<tr>
<td>Rearrangement of furniture for group work</td>
</tr>
<tr>
<td>Viewing a screen for individual work</td>
</tr>
<tr>
<td>Viewing a screen for group work</td>
</tr>
<tr>
<td>Use of wireless access</td>
</tr>
<tr>
<td>Type/substance of utterances</td>
</tr>
<tr>
<td>Who speaks and for how long</td>
</tr>
<tr>
<td>Indications of student-student dialogue/community</td>
</tr>
<tr>
<td>Indications of active learning (e.g., student-instructor interaction)</td>
</tr>
<tr>
<td>Indications of socialization (e.g., the real world)</td>
</tr>
</tbody>
</table>
As a production site of knowledge, interviews elicit stories, conversations, and narratives that inform the interviewer and the larger audience about how participants make sense of social reality and of their own lives. Glesne (2011) described a good interviewer as, “anticipatory, a learner (naïve), analytic, therapeutic, patiently probing, nonthreatening, aware of power and hierarchy, and caring and grateful” (p. 121). These attributes lead to an authentic exchange, allowing students to elaborate on the stories and ideas that are most relevant to their experiences in the class.

This unique nature of interviews was considered during the analysis of this artifact. Interviews with students and with the instructor were audio-recorded, as well as recorded through jottings, and later reflected upon through field notes, coding, and analysis. Responses to questions were coded and reported as they applied to McArthur’s (2011) user-experience design principles and to the relevant themes of communication and student development.

Focus Groups

In this study, focus group interactions with students were also audio-recorded, as well as recorded through jottings, and later reflected upon through field notes, coding, and analysis. The focus group incorporated questions based on McArthur’s (2011) nine user-experience design principles, along with the objectives of the course and the objective themes and outcomes guiding this study.

The decision to conduct focus groups emanated from both the qualitative nature of this study, as well as the dynamic, transformational nature of focus groups themselves. Through participatory action, focus group members play a key role in transforming the findings of the study, as well as in transforming other members of the group during the discussion itself (Fals Borda, 1985). For example, Friere (1970/1993) argued that a fundamental possibility of the
human condition is to be able to change the material, economic, and spiritual conditions of life through conscientization and praxis. According to Marx (1978), “life is not determined by consciousness, but consciousness by life” (p. 155). Through focus groups, students can create changes to an immediate situation that inspire a new material reality, which may, in itself, bring with it the possibility of social change.

The dynamic nature of group interaction empowers human voice and provides a new position from which to view the social world. As Madriz (2000) demonstrated, focus groups can act as collective testimonials from a group, helping them to find or produce their own unique and powerful voices, as well as to bring attention to important social issues. She noted, “Using participants’ familiar spaces further diffuses the power of the researcher, decreasing the possibilities of ‘otherization’” (p. 841). Focus groups allow group members to negotiate and co-create meaning in specific social constructs (Wilkinson, 1998). In this way, focus groups serve the dual purpose of consciousness-raising and of empowering a collective group voice through group-determined locations of space and place. The unique nature of focus group proceedings was considered during the analysis of this artifact.

Documents

The course description, objectives, and expected outcomes described in the syllabi were analyzed in order to describe the unique nature of the Blount Undergraduate Initiative (BUI). Documents retrieved from the BUI website and from the program director were also analyzed in order to describe the nature and culture of the program: its goals, priorities, identity, and recruiting methods.
Validity and Design Controls

This study was designed to mitigate its potential limitations. To validate the findings in this study, a thorough comparison of multiple classroom observations in each of the two different classrooms was conducted to check for fit between data and coding categories. As validation of the previously identified themes arose, other patterns also emerged, introducing new categories of analysis. All themes that emerged from the classroom observation notes and transcripts were continually cross-referenced with other data sources, such as journals, interviews, documents, and focus groups.

Some limitations of generalizability and reliability may have existed in this study. One of these limitations included its limited generalizability. For example, the students who consented to participate in this study may not be representative of students in other learning contexts. This study included many traditional students, who were enrolled full-time, lived on campus, and participated in multiple face-to-face classes and activities. These demographics do not necessarily represent college students in 2014, in the College of 2020 (Chronicle Research Services, 2010), or in decades to come. This study focused on one undergraduate learning initiative, a purposive, convenience rather than random sample, limiting access to a wider array of undergraduate student participants. This study also assumed that participants would provide not only accurate and thoughtful reflections, but also their best effort during the study. Through rigorous engagement with and coding of artifacts and data, the researcher attempted to provide authentic representations of participants’ articulated responses, so that findings would be as generalizable as possible.
Another potential limitation in this study was the limited amount of time for data collection. Data collection was taken during only one semester, with one instructor and two sets of students. The same study conducted at a different time of year, at a different hour during the same semester, or at a different institution, may have reinforced and/or contradicted some of the patterns that were identified in this study. Longitudinal analysis of the space may have yielded richer data. In order to mitigate these limitations, the researcher collected multiple sets of data from two separate classrooms, in particular audio-recorded data, to attempt to validate how the passage of time was affecting participant dialogue, learning, and socialization. Some students, freshmen in particular, may have begun to participate in discussion more, after they saw other classroom discussions take place. They may also have had more time to read the material and feel more confident in expressing their ideas after more time has passed. Close reading of all artifacts reinforced some of the previously identified themes and outcomes that emerged as the semester evolved.

A third potential threat to the validity of this study was the lack of quantitative data. The qualitative nature of this study minimized the power of aggregate data, best measured quantitatively, to produce findings across a larger sample of students and faculty. This study collected no survey data, nor did it use quantitative methods to report these data. Past studies (Brooks, 2012) have utilized statistical models to compare traditional classrooms with experimental classrooms, finding useful results. This potential threat to validity was mitigated by attempting to describe participants’ experiences with as much depth as possible, setting up a possible future quantitative study of classroom design.

Although a number of measures were taken to validate the findings in this study, through close reading and analysis of collected artifacts, other elements – such as the passage of time –
may account for some of the improvements in dialogue and community building, interactive learning, and socialization that are being examined in this study. For example, personal student characteristics (e.g., motivation, maturity level) may have strongly influenced students’ perceptions of their own development, despite the space in which their learning takes place. Students enrolled in the living-learning community may have arrived at the university with already engaged, interactive, and communicative characteristics.

Finally, although several artifacts were collected from both students and faculty to check for fit between data and coding categories, the three themes of community building, interactive learning, and socialization may not have been the most effective categories to use in investigating the student development and communication that occurred in this undergraduate community. New themes of student development could have possibly emerged during this study, spawning a revision of the typology previously identified during the pilot study. The researcher took special care to identify any newly emerging themes that may have reinforced and/or contradicted previous findings.

Rigorous cross-referencing of the fit between data and previously identified themes was also used in this study to help isolate the most reliable findings and results. Although every effort was made to attribute student development and communication to the physical and/or virtual spaces, some results could likely be attributed to development that happens over time. High quality instruction could also have accounted for much of students’ development. Being an upper-classman may have been a mitigating factor in the outcome of more fully evolved student development, particularly with regards to socialization. This study sought to link as much self-report data and feedback to the physical and virtual space as possible.
Researcher Positionality

My background as an instructor of communication studies gave me a strong bias toward incorporating dialogue, community building, interactive learning, and socialization into this study. I believe that improving the space in which students learn improves student development in a modern university setting. As the center for learning activity, space has the potential to connect students with the environment and with each other in a transformative and educational way. So, I have come to view learning spaces differently from others, because I see them from a communicative and educational standpoint. As Denzin (1986) wrote, “Interpretive research begins and ends with the biography and self of the researcher” (p. 12). Because of the particular way in which I have experienced life, my theoretical assumptions, methodologies, and research questions are based on prior knowledge and subjective experiences. My subjectivity may have biased the way that I collected, interpreted, and analyzed the data in this study. I intended to remain acutely aware of what Creswell (1998) described as, “Qualitative researchers [who] approach their studies with a certain world view that guides their inquiries” (p. 74). My goal was to add to the body of knowledge in student development and communication as it relates to learning spaces.

Trustworthiness

Building trust between participants and the researcher was essential to the valid collection of the data necessary for this study. Because participants were generously giving their valuable time by consenting to keep a journal, to be observed, and to participate in a focus group and/or interview, the researcher intended to keep them informed about the use of deliberate pseudonyms in efforts to exclude all personally identifying information during the reporting and summarizing of their responses. Finally, the researcher concluded the introduction meeting and closing focus
group with an invitation for each student to contact the researcher or the chair of this dissertation committee directly if they had any questions or concerns.

Because rapport with participants is so important for effective focus groups and interviews, the researcher intended to manage what Lerum (2001) called the academic armor. While the researcher needed the protection of the academic armor to establish a professional distance, dropping this armor often resulted in rich, new, and deeper meanings through authentic, give-and-take engagement. For example, hiding behind esoteric or academic language, clothing or affectations that connote distance from the participant, or assumptions of theoretical privilege could have easily detached the researcher from actively engaging participants in the study. The researcher attempted to limit these distancing behaviors by encouraging authentic dialogue with, among, and between participants. Through self-reflexivity, the researcher routinely attempted to check her processes and biases, to ensure that they were not shading the ability of participants to respond honestly and openly.

**Timeline**

Beginning in August 2014, data was collected for five months, data analysis conducted for five months, and results and discussion written for five months. The monthly work plan was organized as follows:
Table 4.1

*Monthly Timeline for Learning Spaces Data Collection, Analysis, and Writing*

<table>
<thead>
<tr>
<th>Activity</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect data.</td>
<td></td>
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<tr>
<td>Analyze data; member-check.</td>
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<tr>
<td>Write results and dissertation.</td>
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</tbody>
</table>

Beginning in August 2014, the researcher collected data from students and instructors in two classes for five months. The researcher conducted an interview with the instructor for BUI 101 and BUI 401 during week two and week 10; the teaching assistant for BUI 101 was interviewed during week 10. A third BUI 101 and BUI 401 instructor was interviewed during week 15. Audio-recorded classroom observations took place from week four to week 11. Students and the instructor kept a journal during the semester, which was collected at three points during the semester. Interviews with students took place intermittently throughout the semester, at mutually convenient times. Near the end of the semester, students participated in a focus group, also at mutually convenient times. The weekly work plan was arranged as follows:
Table 4.2

*Weekly Timeline for Fall 2014 Learning Spaces Classroom Data Collection*

<table>
<thead>
<tr>
<th>Activity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
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<tbody>
<tr>
<td>Take notes on the space.</td>
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<tr>
<td>Interview instructors.</td>
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<td>Introduce self; collect IRB.</td>
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<tr>
<td>Observe class.</td>
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<tr>
<td>Set up student interviews.</td>
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<tr>
<td>Interview students.</td>
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<tr>
<td>Collect journals.</td>
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<tr>
<td>Set up focus groups.</td>
<td></td>
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<tr>
<td>Conduct focus groups.</td>
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</table>

**Conclusion**

In order to explore ways to integrate more flexible and adaptable learning spaces in institutions of higher education in the future, this research investigated the role of space in student development and communication. Emphasizing themes of dialogue and community building, interactive learning, and socialization into future professions, this study investigated the role that flexibility and adaptability of floor plans, building materials, furniture, and technology plays in student development and communication. Formal and informal spaces, and face-to-face and virtual spaces alike, have the power to unite inhabitants. Spaces can foster dialogue, collaboration, exploration, and discovery. Spaces can also communicate isolation and silence. Lack of space – both public and private – can communicate lack of regard for student needs. This study sought to explain these relationships, perceptions, and behaviors.
Rogers’ (2003) theory of the diffusion of innovations, applied to educational contexts, provides a foundation for discussing acceptance of and resistance to change in the design and implementation of modern learning spaces. Alleman, Holly, and Costello (2013) argued that, “[embracing] new technology and pedagogy can generally be represented on a normal curve, with a small number of enthusiastic early adopters at one end and a small number of Luddite change resisters at the other. The largest segments are constituted from those who are mildly inclined or disinclined, but for whom adoption of innovation is occasionally or often displaced by other priorities, pressures, and commitments” (p. 1). Some of the ideas presented in this research challenge previous notions about the role of built space – both physical and virtual – as a priority in higher education. The substantial cost and risk of some of these changes makes it even more important to identify which types of redesigned and improved learning spaces are likely to add the most value and effectiveness.

In Oblinger’s (2006) call for more active, participatory, and experiential learning spaces, she emphasized that space can be an agent of change: “Learning space is a means to an end. Perhaps the focus on learning space will help us know how to see learners and learning more clearly. If we look carefully, active, social, and experiential learning happens continuously on our campuses and in the virtual spaces surrounding us. Ultimately, the goal is to improve learner success” (p. 14.9). To echo the words of Buckminster Fuller, if we reform the environment, we increase the likelihood for students to think, reflect, and learn.

This methodology section included a description of: 1) the pilot study, 2) research questions, 3) the site and participants, 4) data collection and artifacts, 5) analysis and coding, 6) validity and design controls, 7) researcher positionality, 8) trustworthiness, and 9) timeline for data collection. After summarizing the literature in order to create appropriate research questions
and a research design, the next phase of this dissertation will report and discuss results from the study. After an analysis of the findings, suggestions for future research, along with practical recommendations for higher education administrators, will be discussed.
CHAPTER IV: RESULTS OF THE STUDY

Introduction

The purpose of this study was to investigate the role of learning spaces on student development and communication in a modern university setting. By exploring the experiences of students and faculty, the researcher sought to explain how classroom design influenced dialogue and community building, interactive learning, and socialization into future professions. McArthur’s (2011) paradigm of user-experience of instructional space was utilized and adapted to assess the influence of physical and virtual space on student development and communication. The researcher conducted interviews and focus groups, collected journals, and observed classroom proceedings in two Blount Undergraduate Initiative (BUI) classes during the Fall semester of 2014. This chapter presents the themes and findings from the interviews, focus groups, reflection journals, classroom observations, and other relevant artifacts.

Most interviews took place in a classroom in Oliver-Barnard Hall. This seminar room was offered as a possible interview site for all participants; however, each participant was also encouraged to suggest an alternate location that was more comfortable or convenient for him/her. One of the participants opted to meet at his workplace. Focus groups took place in students’ respective classrooms: BUI 101 focus groups took place in the Blount Undergraduate Initiative Residence Hall classroom; the BUI 401 focus group took place in the Oliver-Barnard classroom.

After analyzing the classroom observations, interviews with the instructor, interviews and focus groups with students, course documents, and notes about the spaces, several themes emerged. This dissertation will report the analysis and findings about learning spaces in this
undergraduate liberal arts community, after providing some background and context about the participants. This chapter includes a description of: 1) student demographics, 2) background characteristics of participants, 3) validity and reliability checking, 4) emergent themes from analysis, and 5) a summary of findings and themes.

**Student Interviewee Demographics**

At the time this study was conducted, a total of 250 students were enrolled in the Blount Undergraduate Initiative. The 18 students interviewed for this study ranged in age from 18 to 22 years of age. Each student was currently enrolled as an undergraduate student in either the BUI 101 Origins or BUI 401 Worldviews class. A section of both of these courses, taught by the same professor, was observed as part of this study. Ten students were enrolled in the BUI 101 class. All of the students enrolled in BUI 101 were freshmen; seven of them were female and three of them were male. Of the eight students enrolled in the BUI 401 class, all of them were seniors; four of them were female and four were male.

Overall, 11 of the 18 students interviewed in this study were female (61%), and seven students were male (39%). The number of males and females in this study is representative of the population of students enrolled in Blount Undergraduate Initiative. Approximately 58% of all currently enrolled Blount Undergraduate Initiative students are female. Demographic information provided to the researcher by the Blount Undergraduate Initiative administration indicated that all students identified themselves as either male or female. While the number of males and females in this study is representative of the population of students enrolled in the Blount program, this study contains more females than the overall university demographics suggest. As stated in Chapter III, the student population at the university is comprised of approximately 54% female students and 46% male students.
One student in this study was African American (6%). This number, too, is consistent with the population of African American students enrolled in Blount Undergraduate Initiative. However, the Blount program is fairly racially homogenous, when compared to the overall population of the university. As stated in Chapter III, the African American student population at the university comprises approximately 12% of the total, or about 4,000 students.

The students in this study represent an interesting mix of majors. Three of them have a double major; one of them includes a major in two different colleges on the university campus. Among the 18 participants in the study, 21 majors are represented. Ten students are majoring in the College of Arts and Sciences. Six students are majoring in the College of Science and Engineering. One student is majoring in the College of Social Work. One student is majoring in the College of Human Environmental Sciences. Most of the students are also taking classes through the Honors College. All of them are currently minoring in the Blount Undergraduate Initiative.

The Office of the Registrar at the university supplied the age, gender, and major program of study information. Each student’s class standing was determined by the number of years spent as an undergraduate student, rather than by credit hours earned. The following table provides an overview of demographic information for the students interviewed in this study. Interviewee names are pseudonyms.
Table 5

*Self-reported Demographics of Student Participants*

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Class Standing</th>
<th>Major</th>
<th>Age</th>
<th>Race</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alley</td>
<td>Freshman</td>
<td>Chemical Engineering</td>
<td>18</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Arielle</td>
<td>Freshman</td>
<td>Political Science</td>
<td>18</td>
<td>Black</td>
<td>Female</td>
</tr>
<tr>
<td>Megan</td>
<td>Freshman</td>
<td>International Relations</td>
<td>18</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Kasey</td>
<td>Freshman</td>
<td>Theater and Dance</td>
<td>18</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Mark</td>
<td>Freshman</td>
<td>Political Science</td>
<td>18</td>
<td>White</td>
<td>Male</td>
</tr>
<tr>
<td>Clair</td>
<td>Freshman</td>
<td>Marine Biology</td>
<td>18</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Kassie</td>
<td>Freshman</td>
<td>Social Work</td>
<td>18</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Terry</td>
<td>Freshman</td>
<td>Biology</td>
<td>18</td>
<td>White</td>
<td>Male</td>
</tr>
<tr>
<td>Nathan</td>
<td>Freshman</td>
<td>Undecided</td>
<td>18</td>
<td>White</td>
<td>Male</td>
</tr>
<tr>
<td>Cameron</td>
<td>Freshman</td>
<td>Biology</td>
<td>18</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Mary</td>
<td>Senior</td>
<td>Psychology</td>
<td>22</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Ashley</td>
<td>Senior</td>
<td>Medical Ethics (Interdisciplinary)</td>
<td>22</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Tyson</td>
<td>Senior</td>
<td>Biology and French</td>
<td>22</td>
<td>White</td>
<td>Male</td>
</tr>
<tr>
<td>Melody</td>
<td>Senior</td>
<td>Communication Disorders</td>
<td>22</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Taylor</td>
<td>Senior</td>
<td>Art History</td>
<td>21</td>
<td>White</td>
<td>Female</td>
</tr>
<tr>
<td>Carson</td>
<td>Senior</td>
<td>Computer Science</td>
<td>22</td>
<td>White</td>
<td>Male</td>
</tr>
<tr>
<td>Kyle</td>
<td>Senior</td>
<td>Management and Marketing</td>
<td>21</td>
<td>White</td>
<td>Male</td>
</tr>
<tr>
<td>Hunter</td>
<td>Senior</td>
<td>English and History</td>
<td>22</td>
<td>White</td>
<td>Male</td>
</tr>
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**Background Characteristics: Student Interviewee Profiles**

The following section summarizes some of the background of each interviewee: reasons they enrolled in the program, career aspirations, and how they feel that the program has helped them to improve as a student. This biographical information helps to place the individual testimonials and articulations of each student in context. Similar to Hutt’s (2012) findings, 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. Many of the students in this study also reported growing up in Protestant Christian families and communities.
Eighteen students were interviewed in this study. Each of the 10 freshman students and the eight senior students interviewed for this study were asked to report in which of the learning outcomes of the program they had most improved. All reference to student learning outcomes refers to the five outcomes promoted by the Blount Undergraduate Initiative: 1) develop intellectual breadth and dexterity through study of the liberal arts, 2) develop and improve critical reading and writing skills, 3) acquire problem solving skills, the ability to analyze and do research using data across the disciplines of the College of Arts and Sciences, 4) become effective at debate and discussion in BUI classes and outside them, and 5) to live together and develop a sense of community from a shared academic experience in the program (Blount website, 2014). Themes that emerged from the interviews will be addressed after this background summary.

Freshmen Interviewees

Alley, a Chemical Engineering freshman from Ohio, is currently on the pre-medicine track and plans to apply for the Science, Technology, and Engineering (STEM) Master of Business Administration (MBA) program after undergraduate school. One day, she hopes to own and operate an orthopedic clinic. She is also interested in writing and journalism and was very active with her high school newspaper. About her desire to balance her engineering major with her appreciation for the humanities, she stated, “my major is going to be so focused on such a different path, that I want to maintain, I guess, a breadth of knowledge…because a lot of times, I think when people go into hard sciences, they get so focused on the hard sciences and they completely lose the humanities, which I think are so important.” Alley is the only Blount student in this study who is both a student-athlete and also affiliates with a sorority on campus. She is a member of the rowing team, and aspires to play soccer as soon as her past injuries heal. Being so
far away from home, Alley joined a sorority so that she would have a community on which she could depend if she needed help with anything.

Arielle is a Political Science major from Atlanta, who described herself as talkative and as a Christian. As to why Arielle opted not to live in the Blount residence hall, she said, “I’m my own person and I’m just not a big people person, so living with someone 24/7 is not my favorite thing in the world.” As for the Blount learning outcome in which she has become most proficient, Arielle stated, “the developing and improving of critical reading and writing skills. One of the items that our professor stresses is if you don’t get it once, read it again; if you don’t get it that time, read it again. So, whenever I read, I definitely read with the purpose now.” The second learning outcome in which Arielle said she has improved is debate and discussion: “Even though I don’t live with the other students, I have been able to draw closer to them, and [have become] effective at debate and discussion in BUI classes and outside of them.” Arielle stated that meeting and writing with other students has definitely made her familiar with their personalities and their viewpoints, which makes debating her classmates more interesting.

Megan is a freshman from Mobile, Alabama. Formerly a Computer Science major, she changed her major to International Relations. Megan enjoys studying current events and hopes to travel across the world in her job, perhaps with the foreign embassy. She is also interested in digital animation, computer graphics, and art, often doodling in her high school classes to keep herself awake and alert. Like some of her classmates, Megan leans toward introversion during classroom discussion. She stated:

Sometimes you just gotta like, have time to formulate your thoughts…like I am not a fast thinker, like you have to give me ideas and I have to sit down with it for a while so I understand…I’m definitely getting more courageous because of Blount, like if you are like shy, like they’re just gonna keep on talking. They’re not gonna ask you so…I’m kind of getting a little more like comfortable expressing my opinion because of the class. Yeah, it's good. It’s a good thing.
Megan also lamented that her ability to manage time could not always keep pace with the looming, urgent deadlines that are part of the nature of the program. She described how difficult it was for her to learn to manage her time, without someone around to remind her about upcoming deadlines and appointments. She stated that she sometimes works so hard on a project that she forgets to take regular breaks to eat meals. In her words, “I’m like, ‘[Megan], you’re not gonna be able to function like if you don’t have food’…so definitely balance. Having to learn balance. Because of this challenge to learn time management and balance, Megan described how the program has helped her to learn problem-solving skills. She also described how the program has helped her to improve as a writer and has helped her to make new friends in the residence hall.

Kasey is a Theater and Dance major from Tuscaloosa, who aspires to be a theater stage manager. Kasey has made an impression on her classmates, so much so that her name came up in two other interviews. One classmate described her as being “strong” with her ideas. Another classmate simply called her “bathrobe girl,” because Kasey occasionally comes to class in her bathrobe if the classroom is cold that day. Encouraged to apply for the program by her mother, Kasey’s “artsy” nature is what attracted her to the program. The wealth of readings intimidated her at first. She stated, “the very idea of this broad reading and so much work…was just very much not probably the smartest idea for a freshmen. And especially like with my major like there are so much out-of-class practices, that is just kind of like, it is kind of hard to get everything done…it was a big reality check.” Although Kasey is challenged to manage her demanding major with her minor classes in Blount, she typically contributes substantial ideas during discussions. She claimed, however, that she is not used to sitting in a roundtable classroom format. She stated, “I don't like making eye contact with the teacher a lot. I do check out a lot in
classes not necessarily because of anything that they are teaching, but I'll get on a thought
process that doesn't have to do with our class and then, or it does have to do with our class but
like it's on a different wavelength than where they are going. And so it's like, if I feel like that the
teacher is staring me down the entire time I'm like, ‘no, don't look at me.’” Kelsey’s comment
about “checking out” of class was echoed by some of her classmates. In the roundtable
classroom, because the readings are dense and discussions lively, some students wish they could
hide or “check out.”

Mark is a Political Science major from Huntsville, Alabama. He would one day like to be
elected to Senate or Congress. As a self-described conservative Christian, Mark had not
thoroughly discussed such controversies as abortion or gay marriage until he arrived at college.
He stated, “I went to a small private Christian school with the same twelve people in my class
pretty much since second grade and we all kind of shared the same belief. So, it’s kind of nice to
be in an environment where really my belief is more of a minority. There’s a lot of discussion
and debate and you get to hear other views.” He cites debate and discussion, especially the
debates taking place in the residence hall, as some of the most valuable learning that he is taking
away from the program.

Clair is a Biological Science and Marine Biology major from Kentucky. She would like
to pursue a career in deep sea life, either on a research or policy track. Of the student learning
outcomes of the Blount program, Clair believes she is improving most in outcome of intellectual
breadth and dexterity. She stated, “What initially attracted me to the program is the fact that you
have to look at different pieces of literature from all spectrums of...I mean, from science
literature, you know...philosophy...different world views.” Clair reported that she prefers to
converse with people who can discuss any topic, rather than simply being “one-hit wonders”
who are specialized in only one academic area. Clair described Blount as her “arts escape,” because most of the classes that she’ll be taking for the next four years are going to be math and science classes. She stated, “I need the balance, because it’s exhausting to be analytical all the time…but then I don’t want to go too philosophical and then not have any foot in reality.” Like some of her classmates, Clair emphasized how important it was for her to have a balance between science and the humanities during her time at the university.

Kassie is a Social Work and Counseling freshman from Mountain Brook, Alabama, who aspires to be a counselor. She said that the program has taught her the most about debate and discussion. Much like many of her classmates, Kassie is an independent thinker. She stated, “I’ve never been that good at articulating myself because, being an introvert, I like to process things in my mind before I spurt them out. And in a discussion-based class, the conversation often moves on before I can throw in my two cents, so I’m trying to get better at that.” Like some other Blount students, Kassie likes to draw. Although she describes herself as “math-brained,” she also has a creative side. Sometimes, she doodles during class. She stated, “I do love drawing. I got sort of burned out [during high school] for about a year…I didn’t like drawing anything. But I slowly got into doodling more in class…and also listening of course…” Although she has opinions on issues that matter to her, Kassie enjoys listening to others in the class before she forms, or vocalizes, an opinion during class discussion.

Terry, a Biology major from Atlanta, Georgia, would like to be a forensic medical examiner. He attends pre-health events on campus and hopes to take a medical ethics course in Blount next semester. In high school, Terry played percussion, keyboard, and piano and studied music theory. He considers Blount his home on campus, stating that, “no other dorm has the same feel as Blount does.” Terry is active with sword fighting other Blount residents in the front
of the residence hall and also enjoys socializing in the downstairs lounge of the residence. The areas in which Terry has learned the most so far are critical thinking, debate and discussion. He stated, “I'd say that, for the most part, I have different views from the other people in the class. I mean, I can see it from their perspective and I can't say that they are wrong, but it's not the way that I would put it.” Terry stated that the Blount discussion and roundtable classroom format is very different from the science laboratory classes that he takes for his Biology major.

Nathan is an Arts and Sciences Pre-Major or Undeclared student from Atlanta, Georgia. He has considered applying for the Peace Corps, a national governmental organization, or entering a profession that helps people in some way. Nathan described critical thinking and reading as the learning areas in which he has improved the most, stating, “it’s definitely taught me a lot about reading critically with everything I come across.” Nathan enrolled in the program at “the last possible second,” after speaking with a senior who is a Residence Hall Assistant in the program. Summarizing the testimonial from this student, Nathan stated, “he’s an RA and he was like, it was, you know, one of the greatest decisions I’ve ever made in my life…the program is for anybody who wants to learn more about learning.” What attracted Nathan further was having the opportunity to discuss some of his favorite subjects: philosophy and psychology.

Cameron is a Biology major from Gulfport, Mississippi. She would like to apply to medical school. Cameron is also interested in drawing and studio art and is involved with a social sorority on campus. Cameron was attracted to Blount because it “links together” her science classes with the humanities. She stated:

My grandpa went to a small school; he went to Georgetown medical school and he went through all the Blount programs just like this and he heard about the program he was obsessed with it. He’s told me so many times it’s definitely something that they’ll look at going to medical school because you are not just a plain Jane. You’ve had other experiences and that’s really important, because you have a worldly view, you know about different perspectives and not just science, science, science. It definitely helps you.
Cameron described how she wants to have conversations with people on a variety of topics, where “it won’t be like, ‘I can only talk about science.’” She also looks forward to taking Blount classes where she can debate a variety of topics. In science classes, she stated, “I don’t think you can really argue in science. It is just kind of like, ‘Okay, this is how it goes.’”

**Senior Interviewees**

Mary is a senior Psychology major from Birmingham, Alabama. She is currently applying for doctorate programs in Psychology and aspires to be a school psychologist. She described how her four years in the program have helped her to become effective at debate and discussion both in her BUI classes and outside of them. She stated:

> That freshman year experience really emphasizes discussion. I mean it does emphasize writing a lot but what was different about this was that it was the first class that I was placed in where I was expected to contribute verbally and not only just like contributing verbally, but like thoughtfully contributing…and that was really intimidating to be honest the first few months. But once I kind of understood how to interject and to listen and to add on to what other people were saying, it became a lot easier.

After that freshman year, Mary described how much better equipped she was during conversations in all of her other classes at the university. She stated, “I was actually one of the people that didn’t necessarily dominate the conversation, but I would have input and it wasn’t hard for me to kind of interject.” Mary admitted that she is an introvert who processes ideas internally and intellectually, so she felt “incredibly out of my element” during the freshman course.

Ashley, a Medical Ethics major through the New College Interdisciplinary Studies program, would like to work in community health and rural medicine. She is from Tuscaloosa, Alabama. Ashley is one of the most vocal students in the class. Classmates have said of her, “There are so many people that I’ve learned things from just because of their opinions that I haven’t thought of it that way until they said something. [Ashley] specifically is phenomenal at
that, I don’t know how she comes up with some of the stuff she does but its brilliant and I wish I thought like that half the time.” Ashley had taken the BUI 401 professor for other classes before this semester. She had also taken other classes with some of her classmates prior to the time of this study.

Ashley spoke as if her classmates were her community, almost as if she was an assistant instructor in the class. Without prompting, she was able to report on which students were assigned to facilitate which classroom discussions from week to week. She was always one of the first to facilitate and respond to discussion. She was the first to volunteer to present her final project. Ashley described how she has benefitted from the Blount program in several ways. Citing the thoughtful and clear organization and development of the curriculum, Ashley described how the program has challenged her to organize critical arguments that don’t just “skim the surface, but get down deep,” as she said. She described how she has learned not only to “challenge a professor, [but also to] engage the text.” In her other classes, Ashley stated that she was not necessarily challenged to read about, speak about, and write about such thoughtful readings in a meaningful way.

Ashley described how helpful it was for her to realize that she is more engaged in discussions where her ideas were valued and heard. From her Blount classes, she learned how to participate. She became more comfortable with not raising her hand waiting to be called on by the instructor. She did not sit and wait for knowledge to be delivered to her. She attributed this growing confidence to the rigor of the BUI 101 freshman course. She stated:

Having that really intense first year kind of gets you prepared for class discussion. I mean they would even give, in my class, they gave me a kind of a participation, grade on your class discussion that they would update throughout the semester. So I actually started off with a really low participation grade and then [they were] kind of forcing you into that situation of “yes, it’s okay to talk to the teacher,” “yes, it’s okay to talk more than the teacher in the class,” if you’re kind of contributing to the discussion in that way.
Ashley also points to the freshman year experience as the catalyst for developing a sense of community. For example, all of the Blount students know one another and are aware that they are going through the same difficult course load for the first year. She admits that, as new freshman classes enroll in the program, some of that sense of community gets lost from year to year. However, freshmen who begin the program together form a bond that is maintained throughout all four years of the program.

Tyson is a double major in Biology and French from Montgomery, Alabama. He would one day like to work for the Center for Disease Control in the area of genetics, viruses, and vaccines. Tyson was originally on the pre-med track, planning to pursue a medical career like his mother, who is a surgeon. During his sophomore year, however, he decided to simply major in Biology and declare a second major in French. Although Tyson is involved with a fraternity on campus, he spends more time with people in the Blount program, because “the conversations are more interesting and less shallow.” He credits the program and his classmates with teaching him about different perspectives and keeping him from being closed-minded.

Melody, a Communication Disorders senior from Louisiana, wants to work with children who have speech disorders. Melody claimed that the learning outcome in which she has excelled the most during her time in the program is becoming effective in debate and discussion. Like many others, Melody attested to the rigorous discussion observed during her first freshman class in Blount. She stated, “It was the first class that I was placed in where I was expected to contribute verbally and not only just like contributing verbally, but like thoughtfully contributing and it was really intimidating to be honest the first few months; but once I kind of understood how to interject and to listen and to add on to what other people were saying, it became a lot easier.” Emphasizing her fortune to have had the preparation for discussion that a lot of students
don’t get, Melody said that she has been able to interject her input in a wide variety of classes because of her participation in the Blount program.

Taylor, an Art History senior from Franklin, Tennessee, has applied to work on an organic farm and later wants to work in the arts or in environmental justice and activism. Taylor described the area in which she has improved the most in the program as developing intellectual breadth and dexterity through study of liberal arts. She stated, “There's a lot of things that I probably wouldn't have read or really like thought about as much as if I wasn't in Blount.” As for learning to be a problem-solver, Taylor stated, “I haven't really had to solve a lot of problems [in Blount], although I've had some art projects through Blount that I definitely found more interesting and challenging than my actual art classes.” Taylor described a strong preference for classes that provide her with some outlet for a directed creative visual project, rather than writing papers or solely having open discussions.

Although Taylor has a preference for independent and creative projects, she also described how she prefers to be provided with some parameters. She stated that, “sometimes in my art classes, you're being told what to do so exactly…that’s the kind of stuff I like…you're more directed.” However, within these directed parameters, Taylor also expressed a desire to have the freedom to complete projects in a format that she desires. For example, she described how the Blount program afforded her this freedom and that, “in a couple Blount classes that I've had, we've had projects that I could do...it didn't have to be a paper. It could be whatever I wanted.” Although the occasional lack of parameters left her feeling uninterested or uninspired, she appreciated being given the opportunity to pursue independent, creative projects. Taylor commented that the exciting combination of both parameters and freedom fueled her ability to express her creativity in a way that she saw fit.
Carson is a Computer Science senior from Tuscaloosa, who wants to pursue a career in computer programming and coding. He learned about the Blount program from a friend he met in high school, who graduated high school a year before him and enrolled in Blount. Carson attended a Catholic high school in Birmingham, Alabama. About his experiences there, he stated:

Catholic schools are very stifling, very repressive, very oppressive. I don’t like them. You could definitely argue that you’ll probably get a little bit better education than other public schools. I’m sure that’s completely true. I think I got a great education there. I went to John Carroll in Birmingham…It was alright, but that created a lot of anger for me…In Catholic schools, it's kind of like people tell you what to think. You don’t think about what to think about things.

Carson described his enrollment in the Blount program as a relief, in that he was immediately able to talk openly about his ideas and not have to worry about getting in trouble. While he considers his major in Computer Science very difficult, he is eager to have options for a lucrative future career.

Kyle, a double major in Management and Marketing senior from Sylacauga, Alabama, wants to pursue a career in golf course management. He described himself as a Southern Baptist. Kyle has had his BUI 401 professor for three other Blount classes throughout his time in the program. He also took a screenwriting class from another Blount professor. His screenwriting professor is from the same hometown as Kyle and also encouraged Kyle to apply to the program. Kyle stated, “I didn’t know anything about Blount, I had no idea, and then [the professor who is also from his hometown] talked to my dad and wanted me to… he said his son was in it and he thought it was a good program so he wanted me to do it.” During the summer before his freshman year, the plan to enroll in Blount classes and move into the Blount residence hall came together. Now, as a senior, Kyle lives in a house with his Blount roommate from freshman year.

Hunter is a double major in English and History major from Birmingham, Alabama. He would like to be a reporter. Hunter’s name came up in four interviews with other students as
well. He makes an impression on his classmates as a class leader, a discussion facilitator, and one of the most engaging and intellectual members of the class. Hunter cited the student learning outcome of critical reading and writing skills as the area in which he has improved the most, through the program: “It's really been my operating principle throughout college to focus on things that I can use to improve the way I think and improve my writing…make sure that my arguments and my thought processes are as clear as they can possibly be, so that I avoid you know, incorrect lines of thinking.” When explaining the Blount program to others, he said he usually describes it as a program that teaches students where their thinking comes from and where it could possibly go.

**Emergent Themes from Analysis**

Throughout the semester, the unique design of this roundtable classroom provided several opportunities for students to speak openly, to develop their own voices, to interact with each other and with the instructor, and to develop the skills necessary to be successful in their future careers. Researcher analysis of interviews and focus groups revealed that the physical layout of the roundtable learning space influenced students’ ability not only to achieve the desired student outcomes proposed in this study, but also to achieve the desired outcomes of this liberal arts academic program. Students described how they, along with their peers, were developing the skills necessary to develop as students and as communicators. The physical layout of the classroom in this study employed all nine of the goals outlined in the user-design experience (UXD) principles, and both students and faculty agreed that this roundtable classroom achieved the student learning outcomes that are integral to the program.

Although instructors tend not to utilize technology in the Blount program, the virtual learning spaces in this study also employed user-design experience principles, and both students
and faculty agreed that the virtual learning spaces in this program helped them to achieve the student learning outcomes of the program. Because face-to-face communication is valued more than virtual communication in this program, students and instructors did not reflect much on instructional or classroom technology in their interviews or focus groups. For instance, the senior class used technology once to watch the movie *King Lear* and the Holocaust documentary entitled *Weapons of the Spirit*; a student in the freshman class opened her laptop once to show a BBC video and once to play a song by Louis Armstrong. Technology was, however, utilized in the bi-monthly guest lectures presented during freshman convocation. Students reported that the lack of virtual learning spaces in the program did not impede their ability to achieve the student outcomes of the program or the student outcomes proposed in this study. In contrast, many students felt relieved not to be required to utilize technology in the class. Instructors echoed these same sentiments about how the minimal use of technology in the program not only did not prevent the achievement of desired outcomes but also may have contributed more to the attainment of those outcomes.

The unique nature of the roundtable classroom also promoted a culture of student-centered dialogue and discussion throughout the semester. As an indicator of student development, this student-centered classroom discourse was lively, relevant, sometimes entertaining, and always seemingly beneficial. The classroom observations, particularly the observations noted in the data collection form, were vital to understanding how discourse unfolded. Reflections on audio-recorded classroom discourse yielded important information about who speaks, to whom, for how long, about what, and toward what end. Classroom discourse revealed that the isolated instances of instructional technology use was organic to course proceedings and provided an opportunity for creative communication between students.
and instructor. The student-centered classroom discourse in this study provided valuable grounding and context for later describing the influence of classroom design on student development and communication.

Both of the classrooms utilized in this study were designed and arranged in a roundtable format (See Figures 12 and 13, in Chapter III). The freshman BUI 101 class consisted of 10 students, and met on Tuesdays and Thursdays from 9:30 to 10:45 a.m. in the BUI Living Learning Center. The BUI 101 classroom consisted of multiple, semi-round tables connected into a full-circle in the middle of the room, surrounded by 15 to 20 standard chairs, with no projector on the ceiling, a dry-erase board on the wall, fluorescent lighting on the ceiling, and large windows on one side of the room. The senior BUI 401 class consisted of eight students, and met on Tuesdays from 2:00 to 4:30 p.m. in Oliver-Barnard (OB) Hall. The BUI 401 classroom consisted of a large conference table in the middle of the room, surrounded by 10 to 15 standard chairs, with a projector on the ceiling, a dry-erase board on the wall, fluorescent lighting on the ceiling, and large windows around the perimeter of the room. Both classrooms provided wireless access; the OB classroom was equipped with a projector.

During classroom proceedings, students rarely took notes, although they would occasionally read passages from the printed course reader aloud. The roundtable format prevented anyone from being at the “head” of the table, although students would typically leave one seat between themselves and the instructor.

During interviews students in the program, some of them described their classroom experiences from freshman, sophomore, and/or junior year. Thus, occasional reference to students’ experiences in other typical, Blount classrooms from previous semesters is included in this analysis.
Theme 1: The design of learning spaces influences students’ development of dialogue and community building.

The co-creation of meaning between individuals in a community or group, leading to authentic interpersonal communication and community building (Gergen, 2009).

In this study, students reported that the roundtable classroom provided them with the opportunity to speak openly, to develop their own voices, and to engage in debate and dialogue about the readings or current events. Interview and focus group responses from both students and faculty, along with analysis of classroom proceedings, provided evidence that the roundtable classroom achieved the goals of the user-experience design principles, along with the student learning outcome of dialogue and community building. Both faculty and students agreed that students engage in debate and dialogue in a meaningful way in the roundtable classroom.

Student Perceptions of Built Space. Students reported that the roundtable classroom encouraged them to engage with each other during discussion. One freshman stated, “you can’t hide behind someone…you have to talk.” The sense of community created by the roundtable classroom allowed students to feel comfortable enough with each other to discuss the readings in light of current issues and events. Students reported that the roundtable classroom provided a useful forum in which to discuss controversial topics. During a focus group, one freshman student stated,

I actually want to have a conversation here, like hot topics or controversial topics, in this classroom, because I think this would be the ideal setting to have it in…we all are in a roundtable, and I feel like if you’re going to debate, you want to be able to look at who’s debating you, instead of just speaking to a group of people.

Another student also described how being able to see everyone else in the roundtable format facilitated discussion. A freshman stated that, “you’re supposed to be talking about what you've been learning…so it really helps when you can see other people.” She added that, “a lot of communication is nonverbal, so it's easier to focus and get more out of the discussion.” Other
students echoed this same sentiment about being able to see other students in the classroom, especially during debate, dialogue, and discussions. One freshman described how being able to see her classmates made discussion and debate more interesting. She stated that, “it is important to be facing the person…and it is a lot easier to communicate that way” and “trying to debate someone who you’re sitting behind isn’t going to work very well.”

Although she perceived the roundtable classroom setting to be useful, another freshman contended that she had to keep her emotions in check, because her facial expressions typically demonstrated that she disagreed with some of her classmates. She described how the roundtable classroom challenged her to keep some of her ideas to herself when she felt that they were not necessarily popular. For example, she reported that she did not want to have to face her peers every day and that she also wished she did not have to face the instructor, because she occasionally disagreed with him as well. She stated, “it’s kind of hard to get used to having all eyes on you. You kind of have to develop a poker face.” Clearly, this “poker face” was necessary because the roundtable classroom design does not allow students to avert their eyes from each other. Typically, students were looking at someone in the room at all times when they were having a discussion.

Students also described how this “in your face” style of discussion around a table sometimes led to spirited discussions. As a result, students reported that heated dialogue occasionally caused alliances to form among classmates. A freshman described one such class discussion in this way,

[In one discussion], the whole class offered arguments and the entire class got involved…I know that all the girls got really mad because both [Nathan and Terry] were like, “we don't think there's altruism,” like, “we don't think that someone can be truly altruistic.” I don't know, I just remember me and [Clair] and I think someone who was sitting across from me…we all looked at each other and then turned. And we're like, “so
you don't think”…and listed off a bunch of reasons that that is not altruism and they were like, "no, that's not true altruism," and I was like, "don't mess with the girls in this class."

Although several students reported enjoying the usual and sometimes controversial debates and discussion in Blount classes, some freshmen were intimidated by the discussion at first, especially if they had not debated controversial topics in a public roundtable setting before. About feeling nervous when controversial topics came up in class, one freshman female student stated, “[The instructor] loves argument…Someone would say something, and he would stop talking and be like, ‘Never mind.’ He would be like, ‘No, go ahead. You want to argue?’ I’m like, ‘Oh my God.’” In support of this student’s account, a senior corroborated that the instructor “loves arguments” and described a “typical Blount discussion,” in this way: “[the instructor] throws a question out there, and somebody takes off with it. Then, somebody else doesn’t agree with it, and they take off in the other direction. So, they talk, and he sits back and watches the show.” In these “typical” Blount discussions, students described how the instructor sparked discussion and then did not speak for several minutes, allowing others to voice their opinions.

In addition to sometimes challenging students to a debate, or perhaps turning over the floor to them so that they could voice their arguments, the instructor was described by students as sometimes playing devil’s advocate as well. One senior described how Blount professors often play the role of devil's advocate in discussions. She stated, “If we're picking on one side, [they’ll] say, ‘Okay, but let's look at the other side’…like, ‘What about this?’ And a lot of times, they don't really ask, because we have so many different people that discuss different view points.” This devil’s advocate method was intimidating to some freshmen, however, and they described how important it was for them to learn to articulate the reasoning behind their arguments and not to apologize for those opinions. One freshman remarked, “It is an interesting dynamic. Because it's like you want to be respectful because he is your teacher, but he'll also add at times, ‘Don't
ever apologize for your opinion.’” Being encouraged to express ideas openly, and not to have to apologize for them, resulted in a great deal of dialogue.

Some students reported that what they enjoyed most about the discussions was not that they were able to express their own opinions, but that they were able to listen to the perspectives and viewpoints of their classmates. One senior described how his classmates’ ideas had made an indelible impression on him through the years. For example, he stated, “I don’t know how [Ashley] comes up with some of the stuff she does, but it’s brilliant and I wish I thought like that half the time.” He further described how, in the Blount program, “you can come in and you can have a different opinion and it is fine. You can even teach someone something, or you can look at something from a different perspective.” Another senior agreed, describing how many students in Blount are opinionated, but that they desire to listen to others’ points of view for the simple reason that they want to understand why they think that way. She stated that, “We've gotten into very huge arguments, but I don't think I remember getting upset about it… we all understand that people have different viewpoints.” The same student also reported that, especially when she disagrees with classmates, she wants to understand their ideas. She stated,

'It's really not a judgmental atmosphere. And I’m…very strong in my beliefs, you know, be it in politics, whatever. But I love hearing the different sides and I love arguing on different sides and saying like, "Okay, I may not believe in that, but I want to hear why you believe in that."'

Clearly, although several Blount students reported that they have decided viewpoints about social, economic, and political issues, they described how important it was for them to understand other points of view as well.

Many students described how the roundtable format in Blount facilitated the type of discussion that has earned the program its identity as a dialogic presence on campus. They
described fellow students in the Blount program as vocal and opinionated, with “strong convictions.” A senior female student described Blount discussions in this way,

There's never really that moment you see in other classes, like English classrooms, where the teachers are like, “Okay, there's no one talking, I need to force this out of you.” That rarely happens. Really, it's more like we're talking so much that the [Blount] professors are like, "We got to...I got to stop you for a second, because we have to bring in this other point too." It's more like stopping us, than forcing us to talk.

A senior Business and Management senior described “the typical Blount class,” when he cited the value of a Screenwriting and Film class that he took. He stated, “[the instructor] would give an intro, and then we’d watch the movie, and then after that it was just like a typical Blount class. Everybody can talk about what you felt this meant and how you felt about it.” Clearly, Blount classes revolve around each voice being heard and each student feeling invited into the discussion. Students actively regulate the flow of classroom discourse, and often redirect discussions if they wish to take them in a different direction.

In a classroom full of opinionated students with “strong convictions,” as some students described their classmates, one might surmise that introverts would fade into the background and rarely speak. However, while many Blount students reported that they are introverts, they said that it does not stop them from engaging in discourse. Introverted students reported that it may take a while for them to get warmed up, but once they were ready to vocalize their thoughts, they would take an active role in the discussion. And while many Blount students are interested in vocalizing their ideas, they also value the art of listening. When asked if the roundtable classroom challenged them to be more of a listener or a talker during classroom dialogue, students in a senior focus group stated,

Student 1: I’ve become more of a talker. I was less in freshman year. But that also went with the insecurity of not sounding stupid.

Student 2: I think I need to listen more.
Student 3: I think I still appreciate listening, but talking has become more comfortable for me.

Student 4: Yeah, talking is where it’s at…a lot of times, you realize more as you’re talking.

While some students described how they valued the balance between talking and listening, other students reported that it took them a while to speak aloud due to the “in your face” nature of the roundtable classroom setting. One senior Speech Pathology major described how a Memoir Writing class in Blount challenged her to be more open with her ideas, when she was assigned to share her personal story with her classmates. She stated,

At first, [telling my story] was extremely unnatural to me…I'm not very open emotionally. I think I kind of hide. That class kind of forced me to…write out my thoughts and my feelings…It was very nerve-wracking, but afterwards it's very refreshing. I really thought I could put my thoughts out there.

The student described how this classroom experience helped her to develop her voice and gave her a sense of herself and her identity. She reported she felt no one in that class would repeat her story or violate the unspoken pact of confidentiality and discretion that is characteristic of Blount classes.

While several students reported that they enjoyed hearing others’ ideas and opinions, and helping them to cultivate them even more, other students preferred to focus more on the text and on the specific topic matter for the day. Some students described being frustrated by the focus on sharing opinions, and not necessarily staying on any one topic in a structural sense. When asked about how classroom discourse unfolded in general during Blount classes, students in a senior focus group stated,

Student 1: In Blount, I felt like it was pretty impossible to stay on topic…It’s like this pitfall of having a bunch of kids having a discussion in a room…It’s the primary downside of…having a professor and students on the same level in a discussion…
Student 2: But…when we go off on those random tangents, we’ll hit some of the most interesting arguments and debates that we ever talk about…

Student 3: I had [a Blount professor] the first semester and…it was so structured that…no one really felt free to discuss at all, and we really didn’t talk about that much in that class. It was really just more like, “let’s answer the question”…

Student 4: [One of my Blount professors] was a prime example of...she let us go free. I mean...she let me go free, and I could fly out the window and across the street…

Student 5: There was one day where, [one of my Blount professors] said, “Well, you guys clearly aren’t interested in this, so see you next week.”…I sure as hell read it that time.

Student 4: …I was in a class once where [the Blount professor] goes, “Wait. Now I want you to be honest. Raise your hand if you finished the book.”

Student 3: That happened a few times at Blount and I never raised my hand.

This excerpt of Blount students describing how Blount discussions unfolded is, in itself, an accurate depiction of how many Blount discussions indeed unfolded. Students reported that they were typically aware of how discussions were unfolding and were aware of what role they played in those classroom proceedings even if the discussion had gone “off the rails,” in their words, or gotten off track.

Almost all students agreed that their level of involvement and participation determined the direction of dialogue and discussion in class. They agreed that the professor was a “shepherd” or “mediator,” but that students were responsible for much of the discussion. According to the syllabus, 15% of the course grade was derived from participation. One student compared the discussions in Blount classrooms to a motor that runs smoothly once it gets started. One senior student stated,

Conversations in Blount always seemed to me almost like getting a really old motor started. It can kick up and ramble on for a little while, but sometimes it will stall out and
you'll need to work on a little bit and get things going again. But you know, once it's sort of been going for a while it's easy to keep it going and it can be very productive.

This “stall[ing] out” was typically remedied by another student or the instructor guiding the discussion in a different, perhaps more fruitful, direction. Not only did many students attribute their positive experiences with dialogue specifically to the roundtable classroom setting, their classroom behaviors and their descriptions of experiences in developing a more confident voice served as useful evidence that healthy dialogue happens daily in such a space.

**Student Perceptions of Virtual Space.** Because Blount courses emphasize being able to discuss and engage in dialogue, the role of technology is minimal, and sometimes absent. Although course syllabi make no reference to allowing or disallowing the use of mobile devices, laptops, or any other technology in class, it is clear to students from the freshman year that the use of technology is unnecessary, if not discouraged. The syllabi make no reference to words such as, “Blackboard,” “turnitin,” “PowerPoint,” or “online.” Professors do, however, provide their email addresses and students described how their professors responded to emails fairly promptly.

Class participation determined about 20% of the course grade, and one student reported that, “90% of what we do is to show up and discuss.” A senior Speech Pathology major reported that, if someone is late or absent, everyone notices, primarily because students’ eyes are on each other and not on screens or devices before and during class. She stated, “You can’t just look at a PowerPoint and know what we discussed. You need to be there. You need to be a part of the discussion to know what to do on our projects and papers.” This student clearly equated “being there” with being present in the built space, as opposed to being present in the virtual space.

Because virtual technology is such an unremarkable part of the Blount program, very few observations about the use of technology were made during data collection. On the rare occasion
that a laptop was visible during class, it was used for group viewing on a projector. During one class discussion of a Louis Armstrong song, a student asked if everyone would like to hear the song. She retrieved her laptop from her backpack and commenced to play the song. Then, a discussion about the song continued.

While students did not necessarily attribute their positive experience with dialogue specifically to the use (or lack of use) of virtual space around them, their descriptions of classroom experiences along with their observed classroom behaviors are a helpful testament to the healthy dialogue that clearly happens in a learning space that employs minimal technology. Further, students’ descriptions of the distracting nature of technology speaks to a certain perception that students do not believe that technology is necessary for them to develop dialogue and voice.

Neither faculty nor students reported being averse to technology. They both agreed that, if used effectively, technology does not necessarily diminish the value of small group discussion. However, they agreed that using technology changes the level of dialogue in the learning space. This suggestion was corroborated during classroom observations. For example, when a student instigated the viewing of a short video or the playing of a short song (on two separate occasions), students subsequently engaged in dialogue. However, when the instructor instigated the viewing of a long video (on two separate occasions), students subsequently disengaged in dialogue. These observations support student reports that technology influences dialogue, for better or worse.

**Instructor Perceptions of Built Space.** The teaching assistant for the freshman class described how “the secret to getting discussions to happen” is to challenge students to think before speaking, as well as while they are speaking. He described the value of follow-up statements in encouraging dialogue during discussions. He stated,
If a student answers a question, I ask them a couple of follow-up questions and try and...get them to stop answering things in kind of a formulated way and answer things more as if they're having a discussion with somebody...Like when we ask a question, and then are silent for a few seconds, and then someone answers.

The teaching assistant went on to describe how the best discussions happen when students are clearly summarizing their unique thoughts and ideas, rather than simply trying to answer a question with a supposedly “correct” answer.

Both the teaching assistant and the instructor observed during this study actively demonstrated the value of discussion and dialogue. Their skilled guidance and nimble adaptation to students’ thoughts and ideas showcased well cultivated professionalism and quality instruction. Both instructors are a testament to the importance of listening and questioning. Although they did not necessarily attribute this success in the classroom to the spaces in which they took place, the quality of their classroom discussions and reflections about those discussion served as very useful evidence that dialogue and community building clearly occurs in the roundtable learning space.

During a freshman convocation meeting, a third Blount instructor, who communicated that he had heard that this learning spaces study was taking place, was asked for an interview by the researcher. Although his classroom proceedings were not observed, he taught the same classes as did the instructor who was observed in this study. A long-time veteran instructor in the program, this instructor described his experience in the Blount roundtable classroom as one in which he has been able to engage students in a Socratic dialogue during every class meeting. He stated that he enjoyed the egalitarian style of classroom discussion that the roundtable arrangement affords. In the roundtable setting, he described how students are able to develop their worldviews and to achieve the outcomes of the program successfully.
In this study, students and faculty reported that the roundtable classroom provided them with more opportunity to engage in dialogue than most of the traditional classrooms in which they have taught or taken classes. While they reported that many traditional classrooms were adaptable and did not necessarily impede their ability to speak in class, some students described at least one traditional classroom in which they felt that their ability to participate in dialogue and group work was hindered by the lack of adequate lighting, lack of natural light, lack of ventilation, lack of temperature control, lack of adaptable furniture, or lack of comfortable seating. Overall, both students and faculty provided evidence that the roundtable classroom more effectively achieved the goals of the user-experience design principles, along with the outcome of dialogue and community building than do most traditional classrooms. The following table (see Table 6) displays a comparison between student and faculty descriptions of the traditional classrooms and active learning classrooms they have experienced.

Table 6

Student and Faculty Comparisons of the Traditional Classroom and Active Learning Classroom

<table>
<thead>
<tr>
<th></th>
<th>Traditional Classroom (Desks in Rows)</th>
<th>Active Learning Classroom (Roundtable or Other Non-Traditional)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students</strong></td>
<td>Instructor-centered</td>
<td>Student-centered</td>
</tr>
<tr>
<td></td>
<td>Boring</td>
<td>Interactive</td>
</tr>
<tr>
<td></td>
<td>Isolating</td>
<td>Engaging</td>
</tr>
<tr>
<td></td>
<td>Oppressive</td>
<td>Comfortable</td>
</tr>
<tr>
<td></td>
<td>Restrictive</td>
<td>Open</td>
</tr>
<tr>
<td></td>
<td>Intimidating</td>
<td>Relaxing</td>
</tr>
<tr>
<td><strong>Faculty</strong></td>
<td>Instructor-centered</td>
<td>Student-centered</td>
</tr>
<tr>
<td></td>
<td>Efficient, if arranged properly</td>
<td>Interactive</td>
</tr>
<tr>
<td></td>
<td>“Tombstones in a Row”</td>
<td>Engage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conducive to learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Useful for small group discussion</td>
</tr>
</tbody>
</table>

**Instructor Perceptions of Virtual Space.** Each the three Blount instructors interviewed for this study described how technology in the Blount classrooms was useful at times, but was
not otherwise necessary for classroom proceedings. With very little description about the value of technology in the classroom, instructors tended to talk more about the relationships that they had built with students, and the substantial discussions in which they had engaged over the years. Because few remarks about the role of technology were shared during the interviews with instructors, few remarks about technology are being shared in this results section of this dissertation. As the teaching assistant for the freshman class stated,

An education [isn’t about being] able to just read off a PowerPoint or being able to sit on your laptop… you can't hide behind a laptop or in a live text chat room…we don’t present slides…it's a lot more about me interacting with you, and trying to understand what we're talking about…

He also described how using mobile devices or laptops in the Blount classroom interrupted the continuity of classroom discourse, particularly when one or two students were using tablets or kindles to view the readings during class. He stated that, students using mobile devices caused some level of concern, because they were not paying attention to other students in the class.

Virtual learning spaces, as defined in Chapter I, utilize technology (e.g., online virtual collaboration, learning management systems) in a learning space. However, participants reported no use of online virtual environments and minimal use of learning management systems in the classrooms they experienced on campus. Therefore, the findings in this study focus primarily on the use of in-class technology (e.g., PowerPoint slides, projector) and learning management systems (e.g., Blackboard). Findings in this study categorize the use of technology in the classroom as: 1) technology-light - classrooms that utilize little to no technology, and 2) technology-rich - classrooms that utilize in-class technology and/or learning management systems. The lack of data collected about the use of online virtual environments in this study will be addressed in the Chapter V discussion of the second research question.
Each instructor in this study had taught or taken classes in both a technology-light classroom, such as the Blount classroom, as well as a technology-rich classroom, in which virtual media platforms (e.g., Blackboard, PowerPoint, Skype, general viewing on a projector screen) were utilized. Instructors described how technology-rich classrooms are effective for larger class lectures and useful for showing films. Although they described how technology-rich classrooms afforded the use of PowerPoint slides, no faculty member described how PowerPoint was effectively utilized in the classroom. In contrast, the faculty members described how the smaller, technology-light classroom in Blount was effective for small group discussion and dialogue, due to the removal of the potential distractions of technology.

**Classroom Discourse.** Classroom observations, particularly instances of extended conversation between students and instructor, aided in understanding how meaningful dialogue, debate, and discourse unfolded in the Blount roundtable classroom throughout the semester. For example, when discussing Freud’s writings about personal conduct and what society regards as normal, the BUI 101 teaching assistant asked the freshmen whether contemporary laws and regulations are meant to include or to exclude citizens. The students attempted to define how laws are determined for several minutes during the discussion. The primary instructor of the course aided in students’ dialogue about whether or not laws are designed to promote equality or discrimination. The discussion occurred in this way,

Instructor: So do you think that people who are homosexual should have the same rights, in terms of being able to be married, because of domestic partnerships and that sort of thing?
(Assistant) [Several turns in which students asked for clarification of the definition of domestic partnerships are omitted, and then the assistant instructor rephrased the question].

Instructor: Oh that’s what I’m saying. I guess it’s a civil union, as in they give them the same right as marriage, but you called it marriage.
Student 1: Yeah…like they should just still have a civil union, which has all the same benefits as marriage…we should be treating them as if they are human beings, and we’re not doing that right now.

Student 2: Well, to some extent…but denying them the right to be married doesn’t necessarily mean we’re not treating them as human beings.

Student 3: That’s discrimination against like…

Student 4: I mean…there’s always going to be discrimination…

Instructor: Isn’t discrimination a reflection of our aggressive nature, according to Freud?

Instructor: Yeah.

(Assistant)

Instructor: Discrimination is a reflection of our aggressive nature, it’s part of our aggressive nature…all laws are discriminatory.

“Equality and Discrimination,” p. 1

In this discussion, both the instructor and teaching assistant worked together to challenge students to substantiate their opinions with reasoning. This discussion took place around the middle of the semester, after the students had gotten to know each other for several weeks.

The instructor’s facilitation of classroom discussion challenged students to voice their thoughts in a clear and cogent way. For example, during a discussion about the Holocaust documentary entitled Weapons of the Spirit, students in the senior class responded to the instructor’s question about whether or not the individuals who were harboring refugees were afraid that they would get caught. An excerpt of the transcript:

Instructor: Um, do you think they were afraid?

[Several turns in which students discussed the question are omitted, and then the instructor rephrased the question].

Instructor: Without a minister or spiritual leader, would they have done the same thing? Was he the catalyst that helped them to act as a community?
In this discussion, the instructor provided some contextualization for the protective harboring of refugees in this small French village, by pointing to the example of Anne Frank. The instructor’s facilitation of classroom discussion challenged students to come to conclusions based not only on what they read, but how they felt about what they read. This discussion demonstrates how the instructor, without aggressively leading the student, guided his thinking toward one of the main themes of the parable. This dialogue represents typical, meaningful conversation overheard during all Blount classroom observations and serves as useful evidence of the rich dialogue that can occur in the roundtable learning space.

**Theme 2: The design of learning spaces influences students’ interactive learning.**

The positive cognitive consequences resulting from students participating in an engaged classroom, predicated on the idea that learning is a transaction between a person and the
social environment and that learning is not complete without social interaction (Vygotsky, 1962, 1978).

In this study, students reported that the roundtable classroom provided them with the opportunity to interact with and to learn from each other and the instructor. Interview and focus group responses from both students and faculty, along with analysis of classroom proceedings, provided evidence that the roundtable classroom achieved the goals of the user-experience design principles, along with the desired outcome of interactive learning. Both faculty and students agreed that students learn and interact with each other in a meaningful way in the roundtable classroom.

Student Perceptions of Built Space. Students reported that the roundtable classroom promoted active learning, because being in a circle created a system of accountability, particularly with regard to alertness and having devoted time to reading the material for the day. When asked how the roundtable classroom format compares to other classrooms, students in a freshman focus group reported that the roundtable classroom helped them to stay “more awake, because when you fall asleep, it’s really embarrassing.” Another freshman in a focus group described how important it is to be engaged in discussion. She stated,

It’s like you can’t fade in the background here, because you’re not given the opportunity to fade into the background. If you’re not being engaged, like everyone else is looking at you and they’ll be like, “You’re not engaged right now.”

This system of accountability in the roundtable forum resulted in occasional student-to-student policing of classroom behavior. One student commented that the roundtable classroom allowed her to detect when her classmates had not read the material, because they were not prepared to answer if the instructor asked a question. She observed, “[Kassie] does that too. Whenever [the instructor] points her out, she is like, ‘I’m trying to formulate my thoughts.’ And I’m like, ‘You
didn't read that.’” Students described how they made assumptions about their classmates’ familiarity with the material based on their dialogue and responses during class.

Particularly during the freshman year, students described how important it was to have read the material and to be alert and willing to answer or ask questions during class. When asked if the roundtable format was the best way to engage in learning, students in a freshman focus group reported that the roundtable classroom is designed for bright, motivated students who want to invest themselves in learning. One freshman stated that, “I feel like if you choose to do a Blount program, you’re either going to want to have a classroom like this, or you’re going to drop out.” She further described how “a lot of students that aren’t in [the Blount program]” would probably rather “just sit there, and then cram the night before [a test] and not really learn anything.” She described how Blount classrooms emphasize writing and discussion more than they emphasize test-taking ability. Another testament to the importance of investing oneself in the learning process, a freshman described how she wished more classes across campus were offered in the roundtable classroom. She stated,

I mean this [roundtable classroom] is a lot more beneficial…you may want to fade away into the background, but then you think about how much you’re paying to go to college and how much of a waste it is to…not be engaged.

Clearly, Blount students may police themselves and their classmates in the roundtable classroom, taking visual notice of students who are investing themselves in the learning process and those who are not. Students even practice a certain degree of public shaming of classmates who are not personally committed to their own academic success and to constantly developing as students. This peer-to-peer accountability forms a unique bond, and sometimes an alliance. After four years in the program, the students who have persisted unite themselves as a community of scholars who wish to see each other succeed.
When asked if they had learned more from their professors or from their peers, students reported that they valued the input of their professors, and saw the role of the professor as a “shepherd” or “mediator” during classroom discussion. However, students in a senior focus group described how, “We get these profound lessons from our professors but as a whole, I think…our peers’ points of view and their experiences…and usually more relevant.” Another student further described how the readings assisted learning more than the remarks from a professor or from classmates. He stated, “The text is…where everything comes from…you’re going to learn from each other, and you’re going to learn from the professor, but…you’re just conduits for the discussion and the text is what is really relevant.” Clearly, although the professor plays an important role in regulating classroom discourse, the readings and students’ reactions to the readings also guide classroom proceedings.

Other students echoed this sentiment about the sharing of “the floor” and actively regulating the flow of classroom discussions. A senior Medical Ethics major agreed that students and instructor shared classroom discussion and described how the roundtable classroom format facilitated an egalitarian exchange of information during classroom discourse. She stated, “Having a round table is a really good way to do a discussion that's not awkward, like, ‘teacher-student-teacher-student.” It is more like, “teacher-students-students-students-teacher.”’ This concept of turn-taking during classroom discourse proved useful in later drawing some conclusions about how classroom discourse unfolded in this roundtable classroom setting. Students’ awareness of the turn-taking that occurs in the classroom served as an indicator that successful dialogue and interactive learning was indeed occurring, and more importantly, that students perceived that they were making important contributions to classroom discussions. A freshman Chemical Engineering major described how classroom discourse was regulated in this
way, “The way we discuss with each other is…like, after ‘the big question,’ and then a story, then we all start talking to each other.” She further described how, “we start interacting more with our other classmates and learning more from them” after “we get to the point where we’re more addressing each other than just answering [the instructor’s] question.” She described how the real discussion got started after students decided in which direction they would like to go with the original question or idea.

While several students reported that they enjoyed “carrying” some of the discussion, others sometimes wanted to stay in the background, or “fade away” as some students put it. However, as indicated earlier, the accountability afforded by the roundtable classroom caused some classmates to notice immediately when a classmate was distracted in the roundtable classroom. One senior Biology and French major laments that he was unable to “melt away,” at least sometimes, in Blount classes. In comparing his large lecture classes to small group discussions in Blount classes, he described how he enjoyed feeling “super important” as a “very critical part of that conversation.” However, he also described how “there were times where it was just nice to be able to go and sit in the lecture halls and just melt away and not have to worry about anything…Just let the professor do their thing.” Although this student may been an outlier, he draws attention to the idea that students occasionally wish to disconnect from dialogue. The constant invitation to dialogue afforded by the roundtable classroom format challenges students to stay in the present moment, an invitation that, every now and then, a student may wish to decline.

Along with creating a sense of accountability, students reported that the roundtable classroom also created a sense of community, in which they got to know their classmates and others in the program. A freshmen in one of the focus groups described how easy it was to
“blend in with everybody else” in her large lecture classes. She stated, “it’s so easy to just like show up to class in your lecture classes…show up, listen, then leave, and not ever have any interaction with the people around you.” However, in her Blount classes, she described how she regularly talks with her classmates before and after class meetings. Another freshman in a focus group described how she has gotten to know her Blount classmates fairly well after spending a semester with them. She stated, “You get to know them better as a person in this classroom. We know each others’ personalities now. We went through a semester together.” As compared to her chemistry and biology classes, she stated, “I only know the people that sit in my area. Other than that, I don’t know anyone.” Clearly, the sense of community created by the roundtable classroom environment helped students to become acquainted with their classmates and with others in the program.

Almost unanimously, students reported that both the Blount classrooms and academic buildings provided a sense of home or community. A senior described the Blount classrooms and academic buildings as his home. Because he had so many classes in Blount and spent so much time meeting in the social spaces with friends, he described how he definitely felt that he was part of a community. He stated, “It’s really great to have three different locations that we can go to that are specifically designed for Blount.” Especially because they were open and accessible at all times, Blount classrooms in the residence hall provided a gathering place to engage in collaborative group problem-solving. A freshman in one of the focus groups described how the open access to the classrooms made it easy for her to collaborate with her Chemistry classmates, as they were attempting to solve a problem. She stated, “There’s a bunch of people that were in this class, and so we all just came down [to the classroom] and were writing out MP’s and all this other god awful chemistry stuff on the boards.” Another student in one of the freshman focus
groups described how “relaxed” Oliver-Barnard Hall and Tuomey Hall were and that, “I feel like if I wanted to go over there and have tea and talk about a piece of literature with somebody, I could.” Students described the common areas of the academic buildings as an extension of their homes. Students consistently described how the academic buildings also offered quiet study spaces for individual or small group work. A senior Art History major described several vacant and quiet study and meeting spaces in Oliver-Barnard Hall (OB) and Tuomey Hall. For example, while sitting in OB Hall, she stated, “There is a big room over there, which is great if you're just having a casual conversation with people, or casually studying.” She further described how the seminar rooms are open at all times. She stated, “You can also go to these rooms if you need to use a board, or you have a meeting or something that’s like a little bit more exclusive.” The academic buildings clearly provided learning spaces that facilitated a sense of home or community.

The accessibility and availability of Blount classrooms afford students ample opportunity to meet with professors as well. A senior Speech Pathology major, for example, described how she has never been an “office-hour goer,” but that she typically meets with professors informally after class. For example, she stated, “The good thing about this building is it's not class-after-class-after-class. So, usually there's no one coming right afterwards. If you need to stay a little while, you know, you have the classroom to yourself.” Because of this sense of community, students described a certain degree of ownership of the Blount academic buildings and residence hall. For instance, even though they may not use all of the facilities, they know they have access to them any time they wish to use them. One senior remarked, “I haven't really been in Tuomey much…I went in there [once] just to be like, ‘I have access to this building, I should use it.’”
Because more classes are held in Oliver-Barnard Hall and the residence hall, students described how those buildings were the unofficial social gathering locations for students.

Some students described how the sense of community and ownership of the academic buildings and residence hall could result in a certain degree of academic hazing and rites of passage, especially for incoming freshmen. One senior male student commented that, “There is this unsaid rule that Tuomey and OB are kind of like for the ‘big dogs’.” He further described how he will attempt to recognize freshman students verbally when they enter one of the academic buildings for the first time. He stated, “Every time I see a freshman walk in here that I’ve never seen before, I literally will look at them and even if I have to scream it across the room, I’m like, ‘Welcome to the Big Leagues.’” Students also commented on noticing a change in the atmosphere in each of the buildings, which seemed to change from year to year, based on each new incoming class of freshmen. Students in a senior stated,

Student 1: I have noticed that the vibe in the building changes every year…it depends on your class, and this year’s class is so freaking weird and I just...have no interest in connecting with them...they’re sword fighting in the lobby…

Student 2: Or running around with your face painted like a comic book character.

Student 3: I think Blount is a nice, little, magical place where you get to see a little bit of everything…

Student 4: We played life-sized Jenga…made by people who sword fight.

Student 5: Oh, we did parkour.

Clearly, students intertwine with the spaces, not only academically but socially as well. One senior remarked that, in the academic buildings, “you might be sitting in a lobby trying to do your homework, but what you’re really doing is trying to wait for a group of people, so you can just hang out with them.” Most students of Blount report that they recognize, if not know, one
another. It is not uncommon for a Blount senior to introduce herself to a Blount freshman if they run into each other in one of the academic buildings.

Students attributed much of their success and development to the sense of community that naturally emerges in spaces that are intentionally designed, adequate, and accessible. Not only did many students attribute their positive experiences with interactive learning specifically to the roundtable classroom setting, their classroom behaviors and their descriptions of their own learning served as useful evidence that interactive happens in the roundtable learning space.

**Student Perceptions of Virtual Space.** Although most of their other classrooms on campus utilize instructional technology and/or course management technology (e.g., Blackboard), students reported that they easily adapted to the absent or minimal role of technology in Blount classrooms. Citing the use of mobile devices for entertainment purposes in other classrooms on campus as a source of distraction, students reported the refreshing lack of technology use in Blount classes. A freshman in one of the focus groups stated, “Here, if you check your phone, everyone’s like [lengthy sigh]…that, for me, is probably the most important part about this… your mind is here. Your mind is not preoccupied with, ‘Oh, look at what Kim Kardashian posted.’” Students in a senior focus group echoed their support for the lack of technology in Blount classrooms. In response to a question about whether they believed that the “low-tech” nature of Blount was a necessary component of the curriculum, they stated,

Student 1: For freshmen year, what we’re reading is ancient…we’re reading a lot of old, intellectual authors…so we don’t need [technology] then. Maybe towards the end we will, but definitely not the first year.

Student 2: There’s no reason...

Student 3: We use our mind more than technology.
Student 1: Sometimes I think [mobile devices] might...almost hinder the discussion if you’re like, “Let me check this quote. I’m going to...let me show you that.”

Student 2: In Blount, I don’t think technology is that helpful.

The roundtable classroom clearly emphasizes face-to-face communication over the use of technology. Accordingly, classroom proceedings were comprised primarily of verbal discussions about the readings. However, in one freshman discussion about E. O. Wilson’s *Bird of Paradise*, the instructor described a video about the mating ritual of a particular bird that had aired recently on the British Broadcasting Network. One of the students, Cameron, asked if she could use her iPad to locate the video and play it in class. As she located the video, the class gathered around her and then viewed it together as a class. Because this instance was one of only two instances of the use of technology in the freshman class, several students cited this instance when they were asked about the use of technology in the Blount classroom.

For example, a freshman major in Chemical Engineering, who does not necessarily value the merit of having technology in the Blount classroom, described her memory of the day that Cameron played the *Bird of Paradise* video. The Chemical Engineering student stated that, “there are benefits, like that one time [Cameron] pulled out her iPad and we all watched the video...but that's the only time where it was really necessary.” She further described how several students bring laptops, iPads, and tablets to engineering or math classes, but added that, “only part of the time it's for following along...often people are getting distracted with it.” A senior student, too, described how using PowerPoint slides and Blackboard is necessary in his Business classes, but that he prefers to take notes by hand, as is customary in Blount classes. He stated, I think projectors and stuff are kind of necessary in my business and management classes...It may be convenient to pull up a PowerPoint in front of you, but [I’d rather have] something smaller than taking my laptop around, or having to plug it in and fire it up...it’s slow...I remember stuff better when I write it down instead of typing it out.
One student, however, wished that virtual technology (e.g., Blackboard) had been utilized to post
the syllabus, readings, and grades for Blount classes. Although he described how PowerPoint
slides had never been used in any of his Blount classes, this senior described how some of his
Blount professors had effectively utilized technology to show films or photos in class and to
store records and files for student use inside or outside of class. He described the convenience
that technology affords in this way,

[One Blount professor] was very good about putting grades and resources on Blackboard. [Other professors]...don’t even know what Blackboard is. [Another Blount professor] uses Blackboard, not frequently, but it was there and we had access to it if we needed any information on the syllabus or whatever we were doing.

The student further described how he prefers to check Blackboard to consult the course syllabus,
because he does not typically have a copy of it with him. This same student also acknowledged
that Blount has a good reason to use such little technology, because it “keeps us focused on the
professor and the discussion itself.” Although this student may be an outlier, his desire to see
more technology utilized in the program is useful in understanding how a millennial student may
view the low-technology classroom as an aberration compared to the technology-rich classrooms
they typically experience on a modern college campus.

While Blount classrooms do not utilize much technology, the Blount academic buildings
offer a computer and printing lab that students find very useful. The 24-hour access to the
computer lab in Oliver-Barnard Hall (OB) essentially converts it into a fluid, accessible,
information-technology laboratory facility, in which students are empowered to take ownership
not only of their own learning, but also of the building itself. For example, one senior described
how she visits OB Hall between classes, to use the computers and to print out assignments and
papers. She also described the 24-hour access to technology in OB in this way,
[During] freshman year, I definitely spent a whole night in here. I did not go to sleep. I was writing a paper for my Blount 104 English class. My friend and I were both here, and we stayed up all night writing that paper.

As an academic extension of the Blount classroom, OB serves many student needs, particularly ones that require the use of technology. While technology may not be as integral to the classroom experience, technology is certainly accessible and easy to find in the learning spaces provided by the program.

While students did not necessarily attribute their interactive learning experiences specifically to the use (or lack of use) of virtual learning spaces, their reflections on classroom experiences and the observed classroom behaviors testify to the interactive learning that clearly occurs in a learning space that employs minimal technology. Students’ descriptions of the distracting nature of technology supports the idea that students do not necessarily believe that technology is required in order for them to interactively engage in learning.

**Instructor Perceptions of Built Space.** The BUI 101 teaching assistant described how Blount classrooms provide the opportunity for instructors to challenge students to think for themselves, rather than simply to answer a list of discussion questions. His description of how he engaged students in learning during classroom discussions is, in itself, a testament to the value of the roundtable learning space. Whereas the same two or three students engage in discussion in the traditional classroom, for example, each Blount student typically wishes to engage in interactive learning during each class meeting. The teaching assistant described how he attempted to begin discussions by, “giving students a question they have to answer…but then, to some degree, leaving them to their own devices to answer the question.” He further stated,

> It makes it a lot better experience for them if you ask them the “big question,” and make them really sit and think about it for a minute. Then…ask them maybe a smaller question, or ask them a different question, and give them time to answer.
By “leaving students to their own devices” in answering the “big question,” the teaching assistant described how students begin to take ownership of the discussion and guide it where they wish. He further described classroom discussions by comparing them to students’ “view of the elephant.” He stated,

You lead the students to the elephant and you ask them, “All right. What is it?” Then somebody says, “Okay. Well, it’s got to be a spear,” because they’re thinking about or feeling the tusks or whatever. Another student says, “No, it's definitely a flyswatter,” because they have their hand on the tail.” Or, “No, I know it's a suit of armor,” or whatever because they're touching the side of the animal. Then, the interesting thing about the class is, at some point, you can kind of take the veil off the magic trick and let everybody see it.

One of the marks of a good classroom discussion is that students continue to talk about it amongst themselves sometimes for weeks after a class session. The teaching assistant, who stayed after class in the lobby for an hour each week, described how he often participated in or overheard such continued discussion. He described how “something important comes out of each [classroom discussion]” and that “everything that we talk about…extends outside of the classroom.” He further reported that students regularly get together to “just sit and talk about Descartes” long after the class has adjourned.

In this study, students and faculty reported that the roundtable classroom provided them with more opportunity to engage in learning than some of the traditional classrooms in which they have taught or attended class. While they reported that many traditional classrooms were adaptable and did not impede their learning, most students described at least one traditional classroom in which they felt that their learning was hindered by a lack of comfort and/or enjoyment. Overall, both students and faculty provided evidence that the roundtable classroom better achieved the goals of the user-experience design principles, along with the outcome of interactive learning than do most traditional classrooms.
Instructor Perceptions of Virtual Space. The three instructors interviewed in this study agreed that students learned and interacted with each other in a meaningful way in the roundtable classroom and that technology played a very minimal role. For example, the teaching assistant for the freshman class described how people who use PowerPoint are “just really lazy in presenting information” and that he tunes out people who “just read off the slides on PowerPoint or have too much information on them.” For example, if he knows the speaker is not going to elaborate on the information printed on the PowerPoint slides, he chooses not to pay attention because he can simply read the information for himself. As he stated, “That right there turns me off from interacting with that person.” The teaching assistant clearly does not support the passive use of PowerPoint slides in learning spaces. He added that technology is often used as a way to hide from others, or to avoid interacting with them at all. He stated,

One thing that I think is really unique about the Blount program is you can't hide behind a laptop or in a live text chat room…we don’t present slides. I've written on the blackboard last year some. I guess we have some notes in front of us about what we wanna talk about, but it's a lot more about me interacting with you…

He also contended that the use of mobile devices or laptops in the Blount classroom disrupts interactions during class. He described how he turns off his phone in the Blount classroom, “because I just feel like that’s the time really where everybody’s in there to interact, hopefully with each other and not with their best friend…on their phone.” He described how the use of tablets or kindles was also disruptive to classroom interaction, because students were clearly focused more on a mobile device than on each other.

Each instructor interviewed for this study had taught in and/or taken classes in both a technology-light classroom and in a technology-rich classroom, in which various media platforms (e.g., Blackboard, PowerPoint) had been utilized. Although they described how technology-rich classrooms could be effective for larger class lectures and useful for showing
films, instructors described how the smaller, technology-light classrooms in Blount were more effective for small group discussion and interactive learning. Rather than adding to the classroom experience, virtual technology was described by both faculty and students as a distraction in the Blount classroom. The following table (see Table 7) displays student and faculty comparisons of technology-light classrooms and technology-rich classrooms in this study.

Table 7

*Student and Faculty Comparisons of Technology-Light and Technology-Rich Classrooms*

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<thead>
<tr>
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<th><strong>Technology-Light Classrooms</strong></th>
<th><strong>Technology-Rich Classrooms</strong></th>
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<tbody>
<tr>
<td><strong>Students</strong></td>
<td>Effective for small group discussion</td>
<td>Blackboard useful for accessing grades</td>
</tr>
<tr>
<td></td>
<td>Effective for interactive learning</td>
<td>Blackboard useful for sharing files</td>
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<tr>
<td></td>
<td>Removes distractions</td>
<td>Laptop use is either useful or distracting</td>
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<td></td>
<td></td>
<td>Mobile phone use is distracting</td>
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<td></td>
<td></td>
<td>PowerPoint useful for technical info.</td>
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<td></td>
<td></td>
<td>PowerPoint useful in larger class lectures</td>
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<tr>
<td><strong>Faculty</strong></td>
<td>Effective for small group discussion</td>
<td>Blackboard useful in larger classes</td>
</tr>
<tr>
<td></td>
<td>Effective for interactive learning</td>
<td>Projectors useful for showing films</td>
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<td></td>
<td>Removes distractions</td>
<td>Laptop use causes disengagement</td>
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<td></td>
<td></td>
<td>Mobile phone use causes disengagement</td>
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<td></td>
<td></td>
<td>PowerPoint is often misused</td>
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<td>PowerPoint useful in larger class lectures</td>
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In general, students described the technology-light classroom as effective for small group discussion and interactive learning, due to the removal of the distractions of technology, whereas they described the potential usefulness of technology in larger classrooms in which small group discussions do not occur as regularly. Faculty also described the technology-light classroom as useful for small group discussion and interactive learning, although they also described how PowerPoint slides can be useful for larger classes if they are utilized with interactive learning in mind.

**Classroom Discourse.** The Blount roundtable classroom promoted a high degree of engaged and interactive learning. The classroom observations, particularly lengthy back-and-
forth conversations between students and instructor, provided useful information about how learning occurred in this roundtable classroom design. For example, during a discussion about the Holocaust documentary entitled *Weapons of the Spirit*, students in the senior class responded to the instructor’s question about whether the French community that harbored refugees during World War II was afraid they would get caught. An excerpt of the transcript:

**Student:** They had dealt with religious persecution...they took that past experience in their heritage to, you know, letting in, um, the Jewish groups and stuff...they had a common, a commonality there, um...

**Instructor:** Um, Do you think they were afraid?

**Student:** I mean definitely, I would be. It’s, um, especially when you have, um, kind of representatives that are watching your moves...that come into your community to make sure that you’re like, you know....

**Instructor:** Drawing a line.

**Student:** Yeah, basically, that you’re drawing a line.  

“*Drawing a Line*” p. 1

Without leading the student to a certain, specific response, the instructor helped the student to contextualize her thinking in this discussion. Through this parallel elaboration of the idea of being under surveillance, the student and instructor worked together to determine the outcome of the boundaries of community.

Another discussion that demonstrates this same kind of interactive discussion between students and the instructor was about Shakespeare’s play *King Lear*, shown as a film in class, students in the senior class responded to the instructor’s questions about what Shakespeare is trying to portray about the king’s inability to admit that he made a mistake in dividing up his kingdom. An excerpt of the discussion:

**Student:** It’s obvious as the story goes on, that he gets more and more kind of senile; he starts going crazy a little bit...
Instructor: Well, he, yeah…we can talk about that, he does and sometimes he doesn’t…

Student: But that shows that he’s not like this divine being, he’s human. He’s going a little bit…

Instructor: Right. Well, yes, you’re quite right, I think, um, [Mary], but I also…if you give away your kingdom, as monarchs did that in this time frame…maybe, the smartest thing to do, if you decide to divide your kingdom, is to go to a monastery.

Class: (Laughter).

Instructor: …because your heirs really don’t want you around.

“King Lear” p. 1

In this humorous discussion, the instructor provided an historical reference to a king who had decided to live in a monastery after a tumultuous political dispute over his land, money, and power. By assisting in a parallel elaboration as to whether King Lear realized he had made a mistake in deciding to divide his land into parts, the instructor had helped the student to interact with the reading in a new way.

**Theme 3: The design of learning spaces influences students’ development of socialization and self-directed skills necessary for future life and work.**

The process of learning about a future profession or discipline through involvement, engagement, investment of time and energy, collaboration, and integration with others; socialization is an active process of assimilation requiring newcomers to make sense of a culture, which can determine whether or not they become part of the organizational in-group (Graen & Scandura, 1987).

In this study, students reported that the roundtable classroom provided them with the opportunity to develop the skills necessary to be successful in their future careers. Interview and focus group responses from both students and faculty, along with analysis of classroom proceedings, provided evidence that the roundtable classroom achieved the goals of the user-experience design principles, along with the student learning outcome of socialization. Both faculty and students agreed that students develop intellectually and become better writers,
speakers, critical thinkers, and active participants in debate and dialogue by taking Blount classes in a roundtable classroom.

**Student Perceptions of Built Space.** Students reported that the roundtable classroom facilitated their ability to develop the skills necessary for future success in life and work. Almost all of them agreed, however, that they are not taking classes in Blount in order to gain a technical skill set; they are here to develop intellectual breadth, the ability to think critically, the ability to write and think well, and the ability to engage in dialogue and debate. One freshman Chemical Engineering major reported that, “School isn't really about learning how to do your job. It is about learning how to learn.” She described how professors, “are not really teaching you things that you are going to be necessarily using all the time, but they are teaching you how to think. They’re teaching you how to solve problems, how to go about things.” Although she described how the university experience teaches students how to function in several important ways, she also contended that, “you also throw [a lot of it] out the window as soon as you get your first job. You have to learn how to adapt to your new environment, which isn't necessarily like school is.” This adaptation process is clearly important to several students in the program. A senior described how attending college with the intention of training for a specific job is remarkably short-sighted.

Beyond simply gaining employment, some students felt that the program socialized them into the intellectual pursuit of actively interrogating preconceived notions, “disconfirming previous biases,” and “actively wrestling” with ideas. A senior History and English major described how his future career in journalism and reporting will likely endure a great deal of change during the coming decades and that his writing and thinking ability will be able endure along with those changes. He stated, “Certain ways of doing things will always be important, that
are resistant to any change in the economy, in society… like communicating, like how to express an argument articulately and as quickly as possible.” He further described how, “There's always going to be a need for people who know how to communicate ideas well.” Clearly, students in the Blount program do not necessarily want to just “get a job” when they graduate. They described how attaining the skills of communicating and adapting to new environments would equip them with the decision-making skills to find meaningful work in the future.

As to the role of the learning space in facilitating socialization, a freshman Chemical Engineering major described how she learned how to research and write in a journalism and newspaper class offered at her high school in Ohio. About the classroom space, she stated,

The way the classroom was set up…the desks were lining the walls, and then there was like another circular inside the ones that were on the walls. So, all the computers were facing in, which I think helped, because as soon as you had a question, you can like have your teacher come over and he can like immediately be looking at the screen and saying, “Okay, this is how we do this…”

Citing this parallel from her high school experience, the student described how the circular classroom layout promoted a high degree of interaction between and amongst teacher and students. Although she emphasized the built space in facilitating her socialization into the journalism profession, her high school classroom also incorporated technology into teaching students how to be journalists. Clearly, the circular or roundtable classroom format is useful in facilitating socialization.

While the roundtable classroom format appears to be effective across a variety of disciplines, it is particularly effective in Blount classrooms. Instruction from professors in this setting is certainly value for socializing students into future professions, however peers can also be influential in providing helpful feedback and critique that prepares students for future life and work as well. For example, several BUI 104 English classes offered through the Blount program
incorporate peer workshops, in which students share their written work with each other and give advice about how to improve it. These peer workshops simulate a work setting, as students are learning to revise their writing to the based on suggestions from others. A freshman Political Science major described the peer workshops in this way,

[For the] peer review… what we'll do is, maybe we'll write initially one, two paragraphs and then…we'll sit, just in the circular, round shape set up. We'll take our papers and pass them…to the left…and the person to the left will review the first paragraph. Then, he'll say pass again. Then, the next person will review the second paragraph. You review paragraphs pretty much until it gets back to you. A new person in the circle reviews different paragraphs of your essay.

A former Blount student, who is now a teaching assistant in the program, described how useful the BUI 104 peer workshops were to his development as a writer. He stated,

There was a lot more interaction between students, which I feel is really useful. Especially in a program like this, where you have…peers that are qualified to help you with your paper, even if it's not something that interests them or they [don’t] know as much about it as you…The papers or projects I did in other classes, you sort of just did by yourself and you never really had the responses of your peers.

Students described how the roundtable classroom facilitating the exchange of feedback that helped them to improve their writing and that these writing and communication skills would serve them well in their future professions.

In a Blount class entitled Critical Thinking and Speaking, a senior Business and Management major, who admitted he was woefully afraid of public speaking, described how he learned practical skills that would be very useful in the workplace. He described how typical classroom proceedings circulated around giving students several opportunities to give speeches and receive feedback about them. Some of the speech assignments challenged students to speak off-the-cuff, in an impromptu manner, about a future job opportunity. The student stated, “[On] Friday, he would assign a speech. He gave us topics…we got instructions and we’d just have to run with it.” The organized, weekly schedule in the class provided the student with the
opportunity to give several speeches over the semester in order to prepare for job interviews as graduation grew closer. The student went on to describe how the class taught him how to adapt to his audience, and to use posture and gesture to better communicate ideas. Receiving feedback and critiques from his professor and classmates was integral to learning these communication skills.

This student, along with several others, attributed his positive experiences with socialization specifically to the roundtable classroom setting. Students’ classroom behaviors and their own descriptions of experiences in socializing into future professions also served as useful evidence that socialization happens regularly in a roundtable learning space.

**Student Perceptions of Virtual Space.** Because the Blount program prioritizes human communication over the use of technology, students did not comment much on the role of virtual technology in helping them develop, or be socialized into, intellectual skills. One instance in which the use of technology was role-modeled for them was during Convocation. Convocation is a gathering of all Blount freshman every two weeks for a lecture from a guest speaker. On the last Convocation of the semester, seniors in the program presented their final projects to the freshmen. In those presentations, seniors utilized presentation technology (e.g., PowerPoint) as they explained the worldviews they had cultivated during their four years in the program. By showcasing the way in which intellectual talk can be aided by the use technology, seniors modeled future professional behavior for freshmen during Convocation. Although students reported feeling that Convocation was less personal than the roundtable classroom, because all 60 of the freshman students convened there, they described how Convocations were helping them to socialize into the program.
Another example of the way in which technology was used to aid in socialization happened in a BUI 104 English class, taken by some of the freshmen students. In this roundtable classroom, students would research and write essays on their laptops during class, and subsequently share verbal and written feedback about their drafts. Students reported that they enjoyed the way in which laptops were used to assist in the critiquing of each others’ work, because their peers in Blount were qualified to provide substantial, helpful feedback. Students also reported that they appreciated the opportunity to email and/or upload multiple versions of their papers for their instructor to review before the final draft was due.

While students did not necessarily attribute their ability to socialize specifically to the use (or lack of use) of virtual space around them, their descriptions of classroom experiences along with their observed classroom behaviors provided useful evidence that socialization clearly occurs in a learning space that employs minimal technology. Their descriptions of the distracting nature of technology speaks to a certain perception that students do not believe that technology is always necessary for them to develop the self-directed skills necessary for future life and work.

**Instructor Perceptions of Built Space.** The teaching assistant for the freshman class described how the roundtable classrooms in Blount empower students with unique communication skills that they will not learn in other classrooms. He described how important it is for instructors to prepare students to adapt their message to the audience, because being able to communicate about one’s area of specialty is crucial in the jobs that students pursue after college. He described an example of his friend, a physicist, whose innate ability to communicate with people about technical, scientific information has provided him with a successful career over the years. He stated that, “[my friend] has always said the thing that’s gotten him almost every job that he's had…is not that he's so brilliant, or that he understands physics…it's the fact
that…he can speak to people…who don’t necessarily understand physics.” These unique communication skills not only help to secure employment in the short term, but also over decades of a working life.

The teaching assistant added that the broad, intellectual skills gained through the Blount classroom experience equip students to thrive throughout a lifetime in any careers they choose. He described how a physics class, a math class, or a psychology class cannot teach students how to think about the best way to solve the problems that they will encounter in their working lives. Because students in the program are encouraged to reflect on their ideas before implementing them, they learn to enjoy their work, rather than just have a job. The teaching assistant stated,

The students that come through Blount are not gonna hit 45 years old, and have been working this job, and all of a sudden have this existential crisis where they don’t know what they're doing with their life…maybe they can't work math problems better, or maybe they don’t understand how to determine the structural integrity of a bridge better. But…all of these students are gonna be able to do whatever work they wanna do.

In this study, students and faculty reported that the roundtable classroom provided them with more opportunity for students to socialize into future professions than some of the traditional classrooms in which they have taught or taken classes. While they reported that many traditional classrooms were adaptable and did not impede their ability to socialize, most students described at least one traditional classroom in which they felt that their ability to socialize was hindered by the lack of comfort and/or enjoyment. Overall, both students and faculty provided evidence that the roundtable classroom more effectively achieved the goals of the user-experience design principles, along with the outcome of socialization than do most traditional classrooms.

**Instructor Perceptions of Virtual Space.** Each the three Blount instructors interviewed for this study described the role of technology in the Blount classrooms as useful at times, but overall unnecessary for classroom proceedings. One instructor emphasized that he saw his role as
a mediator of Socratic dialogue. Through dialogue, he described how he challenged students to defend their ideas so that they would be prepared to engage in active civic dialogue in the future. The main instructor observed during this study maintained communication with several Blount students both during their years in the program and long after they graduated. He observed that many of them are now successful in whatever they have chosen to do because they have the critical thinking skills and communication skills necessary to interact with people.

Because few remarks about the role of technology were shared during the interviews with instructors, few remarks about technology are being shared in this results section of this dissertation. As the teaching assistant for the freshman class stated, “An education [isn’t about being] able to just read off a PowerPoint or being able to sit on your laptop… you can't hide behind a laptop.” He further stated, “We don’t present slides…it's a lot more about me interacting with you, and trying to understand what we're talking about, which I think is an important skill to have no matter what you're gonna do past college.” Clearly, this instructor equated PowerPoint slides with disengaging from the class material and from each other.

He also added that technology plays one important role in socializing students into their future careers: teaching them to have their work prepared on time. For example, the teaching assistant described how students who were not able to produce a printed copy of their papers had clearly not spent enough time writing them and waited until the last minute to print them. He stated,

There's something to be said for having to print off your papers, into a hard copy, before classes. [That requires] planning ahead…I kind of have a hard time believing that anybody that’s having problems printing their paper off for class didn’t write it the night before.

The teaching assistant described how, from his perspective, technology serves one very important purpose: allowing students to show that they can print work on time. Clearly, the
ability to prepare and produce work in a timely manner for an instructor or supervisor to review it is a useful skill for success in life and work. Using technology to produce quality work on time could certainly socialize students into their future careers.

Each instructor in this study had taught or taken classes in both a technology-light classroom and a technology-rich classroom, in which several virtual media platforms were utilized. Instructors described how technology-rich classrooms are effective for larger class lectures and useful for showing films. However, no faculty member described how PowerPoint was effectively utilized in the classroom. Faculty members described how the smaller, technology-light classrooms in Blount were effective for socializing students into their future careers and professions.

**Classroom Discourse.** The Blount roundtable classroom promoted a high level of socialization throughout the semester. The rigorous amount of discourse required in the courses challenged instructors to guide and respond to students’ intellectual interrogation of, and sometimes wrestling with, the readings. Classroom observations were helpful in understanding how instructor’s facilitation of classroom discussion challenged students to voice their thoughts about the readings in an intellectual and sometimes provocative way. For example, during a discussion about the Holocaust documentary entitled *Weapons of the Spirit*, students in the senior class responded to the instructor’s question about how interviewer Bill Moyers conducted an effective interview with one of the leaders of a village that harbored Jewish refugees during World War II. The following discussion was included in the transcript:

**Student:** I mean, Bill Moyers is always really good at, uh, getting down to people’s core motivations for why they did something…he seems to be really good at finding out what drives people at a very basic level.
Student: Mm, hmm.

Instructor: Particularly if you think that that perspective or worldview, you might say, is worth expanding and communicating more fully to the audience. Too often, I think interviewers don’t do that.

“Bill Moyers,” p. 1

Classroom discourse clearly demonstrated how seniors, especially, have cultivated a sophisticated sense of how to critically evaluate what they have read. For example, during a discussion about Shakespeare’s play *King Lear*, shown as a film in class, students in the senior class responded to the instructor’s questions about what Shakespeare is trying to portray about the king’s inability to admit that he made a mistake when he decided to divide up his kingdom.

The discussion unfolded in this way,

Instructor: Do you think Lear is beginning to recognize that he made a mistake?

Student: Realizing, maybe internally, that he made a mistake. But…having to tell it to yourself, like, “I screwed up…the two daughters that obviously don’t love me, I gave them all this power, and then shunned the one who actually would’ve taken care of me.” [Cordelia] didn’t want to subject herself to, like, rote flattery.

Instructor: (pause). Um, so what do you think Shakespeare is saying, in the way he portrays Lear, about kingship?

Student: A lot of times, um, kings don’t make the best decisions court-wise, because they want someone to stroke their ego around them…a lot of times the positions of power that they choose are not based on merit. They’re based on flattery and bribery…
Instructor: Um, if you buy into the theory of divine right of kings, which most the
monarchs in this era did, that they are God’s lieutenants on earth, then you
believe that they deserve absolute obedience, subservience.

“In King Lear: Divine Rights” p. 1

In the same discussion of King Lear, students began taking an active role in facilitating the
discussion. In the moments just prior to the following exchange, students had held the floor for
several minutes, with little input from the instructor. During this exchange, however, the
instructor interjected his comments about what Shakespeare was attempting to communicate
through the play. An excerpt from the transcript included the following discussion:

Student 1: If Lear had just stepped down and taken a lesser role, do you think the
play would have developed the way it had?

Student 2: I don't think so, because even if he would have just stepped away and not
demanded all the love and respect and everything…Besides Cordelia, I
don't think the other sisters really cared much about him…

Instructor: They didn’t.

Student 3: Before, they just begged to get what they wanted.

Student 2: Yeah, and they wouldn't, even when he was down and out, the only one
who would still care about him would be Cordelia. I mean, the sisters
could care less…they wouldn't care if he fell off a cliff and died.

Student 4: They got what they wanted essentially...

Instructor: …I think there are two valid ways of looking at this play in a perhaps a
broader context. First of all, I think the way that Shakespeare here is
maybe criticizing…who we choose as leaders and “pillars of the
community.” …Shakespeare encourages us to be distrustful of power and
power seekers.

“In King Lear: Divine Rights” p. 3

In the discussion, students continued taking an active role in facilitating the discussion. During
the turn-taking of the discussion, students had held the floor for several minutes, with little input
from the instructor. However, later follow-up statements from the instructor demonstrated how he was contextualizing their comments into a broader historical reference in order to help students understand the author’s intent.

The amount of discourse and dialogue that emerged during data collection allowed a construct of classroom discourse to emerge in the findings. The implications of this construct will be discussed in the following theme and also in the Chapter V discussion of research question one.

**Theme 4: Classroom dialogue followed a consistent pattern of socializing intellectual talk in the roundtable classroom format.**

During the process of analyzing turn-taking during classroom discourse, it was apparent that students’ knowledge about the readings, and their ability to articulate how well they understood them, was sophisticated. Many of the students in the class seemed highly familiar with the material and were evidently comfortable expressing their thoughts and ideas to the instructor. The instructor guided and facilitated the discussion as it unfolded. 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. Closer examination of this pattern of classroom discourse evolved into a construct describing the instructor’s use of follow-up statements.

During the analysis of turn-taking segments, the third or fourth turn emerged as most interesting and led to a focus on instructor use of follow-up statements. The follow-up statement seemed to be the site in which the most remarkable amount of socialization occurred. As participants took turns during discussion, follow-up statements emerged as the central locations in discourse that provided a rich area for analysis of the socialization provided by the instructor. Follow-up statements were typically provided by the instructor as a student’s turn was
completed, or as a turn neared completion. As a regulator of linguistic discourse, turns tend to be
taken at transition-relevant moments (Sacks, Schegloff, & Jefferson, 1974). In this study, these
transitions took place when a pause would occur, or when students would look at the instructor
or each other quietly for a brief moment. The third or fourth turn in a sequence of participant
turn-taking was typically the site for an instructor’s follow-up statement.

By analyzing the instructor’s use of follow-up statements, this study identified four
specific constructs of classroom discourse that socialized students’ use of intellectual talk. These
follow-up statements took the form of one of the following: 1) revoicing, 2) contextualization, 3)
parallel elaboration, or 4) assistive elaboration (See Table 8). This results section will focus on
each of these types of follow-up statements as they occurred in the observations. Chapter V will
provide a discussion of these findings.

Table 8

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
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<tr>
<td><strong>Revoicing</strong></td>
<td>Restates students’ ideas in different terms.</td>
</tr>
<tr>
<td><strong>Contextualization</strong></td>
<td>Connects students’ ideas to conventional knowledge and broader perspective.</td>
</tr>
<tr>
<td><strong>Parallel Elaboration</strong></td>
<td>Extends student’s thinking – repeats words used by the student.</td>
</tr>
<tr>
<td><strong>Assistive Elaboration</strong></td>
<td>Student requests the help of the instructor - the instructor grants assistance.</td>
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**Revoicing.** O’Connor and Michaels (1993) defined revoicing as a linguistic structure,
often used by instructors, to bring students into the process of intellectual socialization. Through
revoicing, the instructor purposefully and skillfully creates a participation framework for talk by
restating students’ ideas with different terminology. Revoicing challenges the instructor to adapt
simultaneously to the unfolding of participant structure within the classroom discussion. In short,
the instructor and student jointly construct the lesson. Erickson’s (1982) work showed that instructors are in a state of constant activity: initiating, responding, and evaluating, sometimes on a minute-by-minute basis. In short, revoicing creates a participation framework as the instructor adapts to the discussion while it unfolds.

During the following excerpt of classroom discussion, the assistant instructor asked students to describe altruism, which related to the reading for the day. As a student summarized what she understood from the reading, the assistant instructor revoiced what he was hearing in different terms. For example, the classroom discourse included the following excerpt,

Student: Do you think that there are, like, different, like, forms of altruism? ‘Cause I…think…there can be something like, “I’m going to give the hobo money, because I feel sorry for him, and I’m gonna feel good about myself.” And then, there’s like, “I’m gonna take this bullet for you.” And then there’s like, I think they’re different forms, so…

Instructor: But, I…don’t you feel like giving people resources is more of a compassion and hospitality thing, and not necessarily…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: So, I don’t think it’s an altruism thing…[In] most ant societies, it’s the old women that go off to play scouts and to fight in the war…they’re sacrificing their lives as the scouts on the front lines, because they don’t have anything left to give to society. Does that make sense?

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: Right, I think you can talk about altruistic behavior…I think there’s a difference, when the word is used as the adverb or adjective and you’re describing something, and when 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.

“Altruism” p. 1

Here, the student described what she believed to be a definition of altruism. The instructor overlapped with the student’s turn, revoicing or restating the thought with a different vocabulary. What at first appeared to be a corrective statement, guiding the student towards a “correct” answer, was the assistant instructor’s attempt to restate the student’s idea in different words. This type of cascading or dovetailing during turn-taking shows that the assistant instructor does not necessarily want to give a “correct” answer, because perhaps none exists. His follow-up statements indicated that he wished to provide other words to describe the same concept.

The instructor’s revoicing of the student’s responses to the question introduced a potential controversy into this discussion, to which the student responds by hedging. The student used several upward vocal intonations and inflections, verbal pauses such as “like” and “you know,” and descended in vocal volume as her thought phrase came to an end. After this brief hedging, the instructor continued in explanation and elaboration, to repair any sense of controversy that loomed in this discussion.

**Contextualization.** Contextualization occurs when an instructor attempts to place a student’s ideas into a larger perspective during a follow-up statement. To contextualize, the instructor links students’ experiences and inventions with conventional knowledge categories of the wider world. This context gives the student a new direction in his or her thinking. The instructor in this particular study was particular 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 1: 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?

Student 2: Yeah, but you can't outright say that or you'll get, “Off with your head.”

Student 3: That's what I took from the whole story in general.

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 1: 1607, I think.

Instructor: …This is during the reign of James VI of Scotland…it's at this [tumultuous] time during James’ reign 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 King Lear: Divine Rights” p. 4

In this exchange, the first student described, and perhaps questioned, Shakespeare’s intentions by using the term “divine right of kings.” Two subsequent turns by fellow students was beginning to take the discussion in a different direction. In order to direct the discussion back to the idea of the divine right of kings, the instructor asked about the historical context of the play. In this discussion, the instructor contextualized this reaction, by stating 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 wants students to place their ideas in context with the author’s supposed intent.

**Parallel Elaboration.** In their study of classroom discourse, O’Connor and Michaels (1993) described the strategic value for an instructor to induct students into a discourse community, by encouraging them to “adopt roles in the ongoing practices that she [or he] wishes them to develop” (p. 325). Parallel elaborations allow an instructor to reintroduce a proposition made by a student in a slightly altered or clarified form. A parallel elaboration extends a student’s thinking by reinforcing some of the words used by the student, while introducing a new way of thinking about the idea or observation the student proposed.

During a discussion about Darwin and evolution in the freshman class, for example, a student inquired about whether or not domesticated animals maintain the characteristics of their parent genes. The assistant instructor elaborated briefly, and then provided a parallel elaboration, using some of the same thoughts, words, and ideas provided by the student. The following exchange took place during classroom discourse,

Student: …which I was kinda confused about, ‘cause if they descended from wolves, they’re not gonna go back to being wolves…like a chihuahua?

Class: (laughter)

Instructor: So, I actually brought an example to class about that…In this article about Russian silver foxes…[They] looked more like wolves than they did foxes, when they started...

Student: So, the chihuahua doesn't necessarily go back to the...

Instructor: **Maybe not the chihuahua turning into a wolf…**

Student: (laughter)

Instructor: **…but, so they were breeding for tameability.**

“*Chihuahua,***” p. 1
In this excerpt, the assistant instructor underscored some of the same words, either verbatim or with use of synonyms, as used by the student. For example, the assistant instructor repeated the student’s use of the words “chihuahua” and “wolf,” and responded directly to her question by referencing an article that was relevant to her question. The student and assistant instructor seemingly collaborated together on this parallel elaboration about Darwin’s beliefs of genetic survival of the fittest as it related to domesticated animals bred for tameability.

**Assistive Elaboration.** Similar to the parallel elaboration, assistive elaborations follow up on a student’s previous utterance, in order to extend or introduce a new way of thinking for the student to consider. With assistive elaborations, the student has requested the help of the instructor in fleshing out an idea. Gumperz (1990) has explored the idea that a speech community is created when individuals who have a common history, and have undergone similar communicative experiences, employ rhetorical strategies that serve as a badge of membership. In the classroom I observed, the professor had taught many of the students before, which set up an atmosphere of enough familiarity for students to make themselves vulnerable in asking for help as they talk about their insights and observations out loud.

During a discussion about Fyodor Dostoevsky’s *The Grand Inquisitor*, students in the senior class responded to the instructor’s question about the cynical nature of one of the main characters in the parable. The instructor’s follow-up statements in this discussion were clearly geared toward a student’s request for assistance in understanding the cynicism of one of the main characters, Ivan. The discussion occurred in this way,

Instructor: Ivan talks about horrible things that happened, right? And it’s his awareness of that, is it not, that gives him his cynical sense of life, don’t you think…
Student: Yeah, he brings up…basically, a big part of his argument and a big source of his skepticism, uh, is the problem of evil…you know…if God is benevolent, why…

Instructor: All powerful, why do people, good people, die?

Student: Yeah…but uh, yeah. And it’s a good problem. And it’s a relevant problem…

Instructor: **But the grand inquisitor has a response to that, doesn’t he?**

Student: Yeah, I think so. He says, uh, uh, is it the -- does he respond to that with the --

Instructor: **He says, “Love. Love a man even in his sin. Love all of God’s creation. Love everything. Love the animals.”**

“The Grand Inquisitor,” p. 1

In this excerpt, the student asked for assistance in understanding Ivan’s cynicism and skepticism. The instructor granted this assistance by quoting a passage from the reading, clarifying how another of the main characters was responding to Ivan’s cynicism. This assistive elaboration helped the student to elaborate on his interpretation of Dostoevsky’s writings on good and evil.

During data analysis, instructor’s effective facilitation of discourse and dialogue allowed this four-part repertoire to emerge as relevant in the findings. The instructor’s use of follow-up statements showcases how discourse socializes students into intellectual talk. Studying a knowledgeable and veteran instructor certainly enhanced this process of analysis. Having access to a roundtable learning space that clearly paved the way for such lively dialogue also allowed this four-part construct to emerge. The implications of these findings will be discussed in more detail in Chapter V.
Theme 5: The roundtable classroom design employs user-experience (UXD) design principles.

McArthur’s (2011) user-experience design (UXD) principles clearly demonstrate criteria for assessing learning spaces to impact student and faculty experience. Based on the findings in this study, this roundtable classroom employs all nine of the UXD principles (see Table 9).

Students reported that they appreciated the classroom arrangement and location because it fostered interaction between faculty and students. The UXD principle of transcendence posits that spaces should be designed to facilitate interaction between faculty and students and among various disciplines. In this study, classrooms were located in a place where students from a variety of majors and backgrounds could meet with each other and/or the instructor in the classroom or in adjacent areas, such as the lobby or other open classrooms. Although most faculty offices were located outside of the main buildings, students would meet with the professors in the classroom before or after class meetings. Blount students were also observed, at various times of the day and night, to be visiting and discussing assignments with their classmates in the informal common areas of the buildings.

Because classrooms were available at flexible times for individual and/or group use and provided materials (e.g., whiteboards) to encourage creativity, the learning spaces in this study also promoted the user-experience design criterion of engagement by providing areas devoted solely to experimentation and innovation. Furthermore, both physical materials (e.g., whiteboards) and digital materials (e.g., projector and screen, wireless access) were available to encourage creativity and innovation. For example, students reported that they gathered in the classrooms during the evening hours to collaborate on homework problems on the dry-erase boards. Students collaborated on assignments in informal learning spaces between classes.
The roundtable classroom in this study also aligned with the UXD principle of *malleability*. Although the space was highly malleable and furnishings could have supported multiple configurations, students always used the room as it was arranged upon entry. The room was never observed in a configuration other than the standard arrangement provided on the first day of class. Furniture, laptops, screens, and monitors could have been easily be rearranged for faculty-student consultation and for individual or group work. Wireless access was consistently reliable, in the event that the class wished to view a website or digital video. Students reported how much they appreciated that the learning spaces in Blount met their needs for small group discussion and meetings, meeting the UXD principle of *purpose*, which states that learning spaces should be designed with learning, not simply teaching, in mind. The learning spaces were also readily available at flexible times, fulfilling the UXD principle of *ownership*. The principle of ownership emphasizes that feedback from students, faculty, custodial staff, and technology support should be integrated into the design of a learning space and that learning spaces should be accessible to students when needed and often. The sense of community among students in Blount, and their apparent intertwined connection with the spaces themselves, served as adequate evidence that the learning spaces in Blount equip students with a sense of ownership. Students were also observed adjusting the thermostats on the days that the room was too cold or hot, indicating a sense of ownership over the room.
**Table 9**  

*Roundtable Classroom: Practical Applications of UXD Principles*

<table>
<thead>
<tr>
<th>UXD Concept</th>
<th>Applications for Spaces of Learning</th>
<th>Evidence of UXD Principles in Practice</th>
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| Transcendence | The space should be designed to facilitate interaction between faculty & students and among various disciplines. | · Although most faculty offices were located elsewhere, students met with faculty in the classroom before or after class meetings.  
· Students often visited with their classmates in informal common areas. |
| Engagement    | The space should have areas devoted solely to experimentation and innovation.                         | · Students used the whiteboards to collaborate on problem-solving outside of regular class meeting times.  
· Students collaborated on assignments in informal spaces anytime they wished. |
| Malleability  | The space should be modifiable to meet the needs of its variety of users.                            | · The space was highly malleable, however students never chose to rearrange.  
· Furnishings in each classroom could support multiple configurations.  
· Wireless signal was reliable. |
| Purpose       | The space should be designed with learning (not teaching) in mind.                                   | · Students and faculty reported that the spaces met their needs for group discussion. |
| Ownership     | The design phase should integrate the views of students, faculty, facilities management, & tech support; the building should be accessible to each of these parties when needed & often. | · The sense of community among students demonstrated a unique sense of ownership.  
· Students has access to the classrooms and |
| Panoramic       | The space should fit into the overall model of campus architecture. It should also allow pass-throughs to and from other buildings. | · Students enjoyed the central and visually pleasing view from the large windows.  
· Learning spaces were easy to find & use.  
· Wayfinding artifacts were provided. |
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<td>Responsiveness</td>
<td>The space should include in-house tech support and necessary student services.</td>
<td>· Response to student needs (e.g., tech support, residence hall support) was timely and professional.</td>
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</tbody>
</table>
| Inclusiveness   | The space should be comfortable, aesthetically pleasing, and inviting.                                                                                                                                                                                                                                                                                                                                                                                        | · Users reported being physically comfortable in the space and found it conducive to group interaction.  
· The overall sense of the space could be characterized as “pleasing.”                                                                                                                                                                                                                                                                                                                                          |
| Coherence       | The space should managed by a team of representatives, selected from each of its user constituencies, who are responsible for relaying information about the space to its users.                                                                                                                                                                                                                                                                              | · Program director, administrative assistant, custodians, & RAs clearly and consistently communicated information about the facility.                                                                                                                                                                                                                                                                                                                                                         |

Because the academic buildings and classrooms were located in a central location and were consistent with campus architecture, the Blount learning spaces aligned with the UXD principle of *panoramic*. The roundtable classroom in this study, along with the Blount residence hall and academic building locations, clearly fit with campus surroundings and were easy to find. Wayfinding artifacts (e.g., signs, maps and directions on the website) were provided in order to guide users to the space. As a result, Blount students were observed, at various times of the day,
to be present in the common areas of the residence hall and academic buildings. Seniors described how they liked the large windows, allowing a view of the center of campus. Freshmen described how they liked the large windows as well, although they were sometimes distracted by what was taking place outside if the blinds were open. Both classrooms afforded a panoramic view of the campus. Oliver-Barnard, located on the main quadrangle of campus, also afforded an especially convenient location.

The UXD principle of responsiveness was also evident in this study, in that the learning spaces included in-house tech support and offered necessary student services. Students reported that they would be able to contact someone about needed changes (e.g., technological support, residence hall support) in all of the Blount learning spaces if they needed it. Because the custodian and the administrative assistant were available during business hours and the resident assistant was available during the evenings, student support services were addressed in a timely and effective manner.

Not only were the learning spaces of Blount easy to find and use, they also met the UXD criterion of inclusiveness, which is providing a comfortable, aesthetically pleasing, and inviting space. Students consistently reported the temperature, color, and lighting to be comfortable and enjoyable. A few students commented on the cold temperature of the classrooms, however, a student in both the BUI 101 and BUI 401 class was observed adjusting the thermostat on multiple occasions. Some students commented that they preferred natural lighting to the cold nature of fluorescent lighting, but that they enjoyed the spacious windows in the classroom. One student commented that it was difficult to move the standard chairs across the coarse texture of the carpet, but that the chairs were overall comfortable. In general, both faculty and students reported that they were pleased with the physical surroundings in the Blount learning spaces.
They also reported that they noticed the physical and virtual surroundings in their classrooms more after they began participating in this study than they did before the study.

The program director, administrative assistant, custodians, and residence hall assistant communicated with students about the operating practices of the facility, aligning with the UXD principle of *coherence*. In the residence hall, the custodial staff was typically available during morning classes. In Oliver-Barnard Hall, administrative offices were located on the second floor of the building if any information about the facility needed to be shared with students. The director also emailed relevant information to students.

**Validity and Reliability Checking**

In order to answer each research question effectively, certain data from the collection of artifacts were analyzed. Several measures were taken to assure as much accuracy in the data as possible. The findings from data described in this chapter will be applied to the discussion of research questions in Chapter V. For example, RQ1 asked in what ways student development and communication is influenced by the built design and physical layout of a learning space. Classroom observations, particularly observations noted in the data collection form, were vital to answering this question. Sample memos from field notes (see Appendix J) demonstrate how reflections about classroom observations were developed into patterns or concepts about classroom discourse. Narrowed research questions that addressed the specific observations about dialogue and community building, interactive learning, and socialization were derived from classroom recordings.

RQ2 asked in what ways student development and communication was influenced by the availability and use of technology and wireless access in the learning space. Classroom observations were also useful in answering this research question. Observations about the use of
virtual technology in dialogue and community building, interactive learning, and socialization were derived from these classroom recordings. Sample memos from field notes (see Appendix J) demonstrate how reflections on interviews were developed into patterns or concepts about the influence of virtual learning spaces on student development.

RQ3 asked how students perceived the influence of a learning space on their own development. Students’ comparison of the BUI classroom to other learning spaces on campus was useful in answering this question. Interview and focus group responses from participants revealed useful information about these comparisons. The journals were also useful in providing reflections about the classroom in general and as it compared to other learning spaces on campus. Specific observations about dialogue and community building, interactive learning, and socialization were derived from the interview, focus group, and journal data. Sample memos from field notes (see Appendix J) demonstrate interview and focus group excerpts were clustered into patterns or concepts. To assure that participants’ responses were accurately represented, many of them were asked to proofread the transcripts of their responses and to add or amend the quotations included there.

RQ4 asked how instructors perceived the influence of a learning space on student development. Interviews with the instructor were useful in answering this question. While the instructor was provided with a journal, he was not required to write in it. Interview data provided helpful information about how the instructor perceived the roundtable classroom to compare with other classrooms in which he has taught. Specific observations about dialogue and community building, interactive learning, and socialization were derived from this interview data.
Summary of Findings and Emergent Themes

From a social constructionist standpoint, this study sought to explore how the design of learning spaces influences student development and communication. Analysis of interview and focus group data from students and faculty in the program, in addition to classroom observations, field notes, photographs, sketches, and historical documents, resulted in the finding that the physical layout of the roundtable classroom not only strongly complied with user-design experience principles, but also positively influenced students’ ability to demonstrate mastery over the learning outcomes dialogue and community building, interactive learning, and socialization. Classroom dialogue followed a consistent pattern of the socialization of intellectual talk and a typology of instructor follow-up statements emerged during analysis.

While this study found support for the idea that virtual learning spaces can positively influence student development and communication, findings suggest that technology in the classroom should be implemented intentionally. Both faculty and students described how the virtual learning spaces available in the classroom and in the program helped to achieve desired student learning outcomes. The minimal use of technology in the program allowed students to focus on face-to-face communication and spontaneous dialogue, debate, and discussion.

Chapter Summary

This results section included a description of: 1) student demographics, 2) background characteristics of participants, 3) validity and reliability checking, 4) emergent themes from analysis, and 5) a summary of findings and themes. The next phase of this dissertation will discuss the results from this study, provide suggestions for future research, and make recommendations for higher education administrators and learning space planners.
CHAPTER V: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The qualitative analysis of the learning spaces in this liberal arts undergraduate initiative produced a number of useful findings. The collection and analysis of interviews and focus group data from students and faculty in the program, in addition to classroom observations, field notes, photographs, sketches, and documents, resulted in a general finding that the roundtable classroom design encourages dialogue, interactive learning, and socialization. Analysis revealed not only that the roundtable learning space employs the principles of McArthur’s (2011) user-experience design model, but that it also promotes the desired student outcomes proposed in this study. This dissertation will now turn to a discussion of the findings about learning spaces in this undergraduate liberal arts community. This discussion chapter includes: 1) a discussion of findings, 2) conclusions about the findings, 3) recommendations for policy and practice, 4) limitations and suggestions for future research, and 5) researcher reflections.

Discussion of Findings

Emphasizing desired student outcomes, this study generated some important findings about how learning spaces can be utilized effectively in order to foster student development. I found that, by empowering students to spark their own dialogue, interactive learning, and socialization, the learning spaces in this study influenced student development and communication in a transformative way.
The theoretical underpinnings of this study provided a useful lens through which to contextualize these findings. For example, social constructionism and situated pedagogy formed a basis for understanding the student development that occurred in Blount learning spaces. Brofenbrenner’s (1977, 1979, 1995) ecology of human development and Lave and Wenger’s (1991) situated learning theory emphasized the role of a learner’s situation in knowledge development. They contended that learning is embedded, or nested, in the constructs of a situation or social environment. Furthermore, Kitchens (2009) posited that situated learning builds self-identity, as students remap their curricular landscapes by decoding the cues and social forces in their environments. Morgan (2000) argued that these social interpretations of space build students’ identity, self-formation, and social-formation, in pedagogical environments. Students attend to place not only as the focus of their research inquiry and academic study, but also as a space for their own academic transformation. Based on these theoretical assumptions, this section will address the findings of each research question.

Research Question One: The Role of the Built Learning Spaces in Student Development and Communication

**RQ1:** In what ways is student development and communication influenced by the physical design and layout of a learning space?

RQ1 asked in what ways student development and communication is influenced by the physical design and layout of a learning space. As indicated in Chapter II, when a group of strangers create their own sense of community and shared social reality (Bormann, 1972), they actively create a supportive atmosphere that can result in high levels of academic performance (Kuh, et al., 2007; Tinto, 1988, 1997, 1999). The findings in this study support what scholars have emphasized for years: that space influences the social construction of reality. Foucault (1986) described space as an experience through which humans intersect. Thrift (2009) described
how places bring humans to life. In the Blount community, students created their own social reality, by utilizing the learning spaces to participate in meaningful and transformative dialogue and learning.

This sense of community was attributed to the nature of the roundtable classrooms and to other learning spaces in the Blount program as well. While Park and Choi (2014) indicated that traditional classrooms tend to divide students into a golden zone and a shadow zone, I found that the Blount classroom allowed every student to be in the golden zone.

The roundtable classroom in this study employed McArthur’s (2011) user-experience design (UXD) principles. For example, not only did students report that the Blount classroom arrangement and location foster interaction between faculty and students, they described how the learning spaces in Blount were clearly designed with their needs for small group discussions in mind. Students were able to exercise ownership of the Blount learning spaces and were also able to connect with the larger campus community, due to the central location of the residence hall and academic buildings. Students reported that the learning spaces were spacious, comfortable, accessible, and enjoyable.

In its narrowed form, RQ1 sought information about how the physical design and layout of a learning space influenced three specific student learning outcomes: 1) dialogue and community building, 2) interactive learning, and 3) socialization. The influence of built, physical learning spaces on these three outcomes will now be discussed.

**RQ1a: This study supported the idea that learning spaces influence levels of dialogue and community building between students.** Though dialogue, students achieve what Martin Buber (1958/1923) and Ronald Arnett (1987) described as standing one’s ground while being profoundly open to the other. Social construction scholar Kenneth Gergen (2009)
described dialogue as a co-creation of social meaning. In this study, I found that the physical layout of the roundtable learning space influenced students’ ability to engage in dialogue with each other.

As with the current study, past studies have supported the specific idea that furniture arranged in a circular format results in small group discussion and dialogue. For example, Henshaw, Edwards, and Bagley (2011) found that the tablet-swivel desk allowed students to face each other, without the ability to “hide,” and therefore promoted more dialogue. Cornell and Martin (1999) found that replacing desks with tables and chairs that could be arranged in U-shaped layouts and small group clusters resulted in improved dialogue and interaction. Henshaw and Reubens (2014) found that tablet desks on gliders, when arranged in a circular design, promoted dialogue because small groups could form with minimal noise and discomfort. One could surmise that from these corroborated findings that, with little to no investment of time or money, furniture that is arranged in a roundtable or circular design is more conducive to arrange dialogue and community building than traditional desks in rows.

**RQ1b: This study found that learning spaces influence levels of interactive and engaged learning.** Vygotsky’s (1978) social development theory posited that social interaction is necessary for cognitive development. This social interaction occurs within the constraints of a student’s situated pedagogy (Brofenbrenner, 1977, 1979, 1995; Kitchens, 2009) and desire for self-authorship in learning (Baxter-Magolda, 1999; Kegan, 1994; King, 2003). Claiming this internal locus of control allows students to engage in a more active construction of meaning and cognitive development in the classroom. Analysis of data in this study revealed that the physical layout of the roundtable learning space influenced students’ ability to engage in interactive learning with each other and with faculty members.
In concurrence with past studies, I found support for the idea that the circular arrangement of learning spaces influences interactive learning in a positive way. For example, Beichner’s (2008) Student-Centered Active Learning Environment for Undergraduate Programs (SCALE-UP) classroom design, featuring round tables, laptops, and projection screens at multiple points in the room, prompted one faculty user to report that it stimulated much more student-instructor interaction than was possible in the large traditional lecture/lab format (American Physical Society Letter, 2008). Alexander et al. (2008) found that SCALE-UP classrooms promoted meaningful relationships among students and between faculty and students and students reported that the classrooms promoted collaboration, teamwork, and active discussion, prompting them to be more talkative and participatory during class. Further, Van Horne, et al. (2012) found that students in SCALE-UP classrooms showed more engagement in the course than did the students in other classrooms. One trait that all of these experimental classrooms have in common is that students face each other in a roundtable setting. In this study, I found that, much life previous findings, the roundtable learning space is more conducive to interactive learning than the traditional desks in rows.

RQ1c: This study found that learning spaces influence levels of socialization and the self-directed skills necessary for future life and work. As the process of learning the ropes and being taught what is important in a particular organization (Schein, 1968; Van Maanen & Schein, 1979), socialization has the potential to demystify new and ambiguous situations for students as they integrate into a classroom environment and/or a future profession. As students attempt to adapt and prepare for their future organizational work, they embark on a journey of sensemaking in order to understand the social context of their new environments (Weick, 1995). Understanding this new environment brings with it the realization that one has earned
membership in it. Kolb and Kolb (2005) suggested that learning spaces that foster experiential learning and situated learning realistically prepare students for their future careers. For example, experiential learning spaces help newcomers to form their identities and to transition from novice to expert in an organization.

In the study of this roundtable classroom format, students remarked that they were developing intellectually. They specifically reported that they were developing into better writers, speakers, critical thinkers, and active participants in debate and dialogue. Integral to the intellectual, liberal arts nature of the program, these outcomes help students to prepare for their future careers and professions. A recent survey found that more than half of employers wish to hire college graduates who have received a broadly 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, liberal arts programs often equip students to be more successful in their careers than students who graduate from other academic programs. In essence, the purpose of Blount classroom discussions is to prepare students to articulate and defend their ideas with intellectual breadth and skill.

Because no studies have specifically described the influence of learning space design on socialization, this study sought to identify how the roundtable classroom design influences students’ ability to socialize into their future chosen professions. Classroom discourse was an important artifact in identifying whether or not socialization occurred in this study and whether or not the roundtable learning space is more conducive to socialization than traditional desks in rows.
Construct of Classroom Discourse. As noted in Chapter II, discourse in the classroom has the power to shape students as they test their ideas and think aloud in the classroom. Instructors also have the ability to establish norms of classroom behavior by the way they speak and act. The way in which an instructor solicits questions, responds to questions, and interacts with students communicates volumes about how talk should occur in the classroom. For example, instructors who actively engage undergraduate students in classroom discourse socialize them into future careers (Weidman, et al., 2001), specifically architecture and design professions (Dannels, 2000, 2009; Dannels & Martin, 2008; Dannels et al., 2008, 2011) and human resource management (Long & Meglich, 2013). Instructors at the graduate school level also socialize students into future professions, such as nursing (Holley & Taylor, 2009), law (Mertz, 2007), and the graduate school experience itself (Gardner & Barnes, 2007). In essence, instructors model future professional behavior for their students.

Classroom observations revealed several patterns about how classroom discourse occurred in this study of the roundtable classroom format. Instructor facilitation of discussion in this particular classroom was unique in its ability to challenge students to investigate, and sometimes interrogate, their own ideas and thoughts. In each class, the instructor engaged students in active discussion about the readings for the day. By assisting students in elaborating their own ideas, and helping them to restate or contextualize their ideas, the instructor elevated students’ ability to articulate what they were thinking.

While past studies of classroom discourse in the design profession have categorized instructors’ comments 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),
this study categorized instructors’ follow-up statements in a way that is unique to the intellectual talk that is integral to discussions around the Blount roundtable. As indicated in Chapter IV, by analyzing the instructor’s use of follow-up statements, this study identified four constructs of classroom discourse that socialized students’ use of intellectual talk. Follow-up statements took the form of one of the following: a) revoicing, b) contextualization, c) parallel elaboration, and d) assistive elaboration. This socialization both integrated students into the Blount community, and prepared them for future professional roles in which they will likely use the same intellectual talk. The implications of these findings about classroom discourse and socialization will now be discussed.

One major finding in this analysis of classroom discourse was that giving students voice in the classroom has apparent cognitive consequences for them. Students who felt that their instructor wanted to hear what they had to say were perhaps more likely to prepare in such a way that they could speak intelligently in the class. Giving students the floor may have given them not only the confidence necessary to speak in front of other students, but also the motivation to prepare in advance for such an opportunity. Students’ willingness to regulate the flow of classroom discourse was an indication that they were comfortable and were enjoying the classroom experience in this dialogic, roundtable learning space.

Another finding was that both instructor and students seemed to collaborate in creating the knowledge that was shared in this roundtable classroom. In this supportive climate, where they were reportedly comfortable sharing their ideas openly, students were able not only to socialize into the program, but also into their future chosen professions. These findings support what is already known about the importance of socialization to student development (Weidman et al., 2001) and to enmeshment in one’s future chosen career (Schein, 1968; Van Maanen &
Schein, 1979; Weick, 1995). Developing the intellectual talk necessary to perform well academically will also help students develop the skills necessary for success in future life and work. Students’ active participation in this socialization of intellectual talk was, in itself, a testament to the dialogic nature of this roundtable learning space.

A third finding in this study was that students clearly became enmeshed in the Blount community and were able to demonstrate this membership through their use of intellectual talk. As one senior stated, when freshmen step through the doors of Oliver-Barnard Hall, they are hailed by upperclassmen for being in the “Big Leagues.” According to Gumperz (1990), individuals who have a common history and undergo similar experiences within a certain institutional network earn a badge of membership. In this study, it was clear that the instructor created a supportive climate that not only produced positive cognitive results, but also created a community of support among members of the class. Before class, on more than one occasion, students offered verbal support and advice about their studies and about the experience of being in the program. These in-between times provided some of the best examples of socialization into intellectual talk and into future professions that will likely demand the same ability to integrate into the community. Harking back to Edwards’ (2000) description of university buildings as “silent teachers,” the learning spaces of Blount were silent witnesses during such meetings, providing a comfortable and enjoyable environment for this socialization to unfold.

Finally, the emergence of a discourse construct serves as evidence that, in order for learning spaces to influence socialization in a positive way, students must receive active mentoring and coaching from an instructor during classroom discourse. Instructors who provide thoughtful follow-up statements during classroom discourse actively assist students in thinking about and articulating their ideas about the material in a way that prepares them for future life
and work. Thus, by actively engaging students in classroom discourse, these findings suggest that the roundtable classroom design positively influences socialization.

This section of the dissertation discussed the four-part construct of classroom discourse that was introduced in the findings. As a means of identifying and describing the socialization of intellectual talk in the roundtable classroom, this construct was central to this study. However, this construct needs to be tested further by studying other instructors to see what other codes might emerge in the data. Other instructors may approach turn-taking and participant framework of discourse in differently. It will be relevant in this future research to consider the discipline in which the instructor teaches. A comparative study of an instructor in the business school and an instructor in the engineering sciences, for example, may produce very different results in expanding the construct proposed in this study. Finally, the socialization that occurred in this study needs to be further tested to see if the roundtable classroom design is more conducive to socialization than are traditional desks in rows.

**Research Question Two: The Role of the Virtual Learning Spaces in Student Development and Communication**

*RQ2: In what ways is student development and communication influenced by the availability and use of technology and wireless access in a learning space?*

*RQ2* asked in what ways student development and communication was influenced by the availability and use of technology and wireless access in a learning space. This study lends overall support to the idea that virtual learning space has a positive influence on student development and communication.

In Chapter I, virtual learning spaces were defined as technology (e.g., virtual collaboration or video conferencing tools, learning management systems, Web 2.0) used in a learning space. In this study, however, I was able to collect few observations about these
particular types of virtual learning spaces. Participants reported very little about the use of learning management systems and nothing about the use of online virtual environments. Thus, my findings focus more on the use of in-class technology than on online virtual collaboration. Specifically, findings report a comparison of technology-light classrooms in which little to no technology is utilized, and technology-rich classrooms in which in-class technology (e.g., PowerPoint slides, projector) and/or learning management systems (e.g., Blackboard) is utilized. These categories were introduced in Chapter IV.

**Use of Virtual Learning Spaces.** Although neither students nor faculty reported that its absence from the course was problematic, Blackboard learning management was not commonly utilized in Blount classes. Some students did, however, report using Blackboard in other classes and found it to be useful when it was clearly integrated into the course. For example, some students reported that they appreciate being able to access course files and documents on Blackboard because they did not carry printed copies with them. Across the board, though, most participants in this study did not describe much use of virtual learning spaces.

The lack of data collected about online virtual collaboration in this particular study can be explained in a few different ways. First, the site observed in this study does not emphasize the use of technology, so it is no surprise that data about online collaborative environments was unavailable among students and faculty participating in the Blount program. Secondly, other classrooms described by participants did not utilize virtual online collaboration either, so students and faculty were not able to elaborate on the influence of online virtual collaboration at all.

A third explanation for the lack of findings about online collaborative environments is that faculty, across the board, simply may not currently require the use of web-based
technologies in their classrooms. Perhaps they do not know where to begin doing so, or they believe that students are already gaining necessary technological skills outside of the classroom. Bennett, Maton, and Kervin (2008), for example, contended that because young people already know how to use such technology as email and social media with ease, faculty mistakenly assume that students also know how to use new, unfamiliar technologies and the virtual collaborative tools (e.g., Skype, wiki, virtual collaboration tools) that come with them. Long and Meglich (2013) claimed that, “students likely use technology for individual research and investigation, social networking, and online shopping. However, collaboration via technology demands abilities that are not inherent in the typical use of technology and virtual media” (p. 3). Using technology to meet typical, personal needs is a different endeavor, and perhaps a less difficult and time-consuming endeavor, than utilizing technology to collaborate with others for academic and career development. In short, students may currently know how to use technology for entertainment, but they may not know how to use technology for academic and professional collaboration. Taken together, the lack of findings about the influence of virtual online collaboration in this study may represent a larger, widespread lack of instruction in web-based technologies in higher education based on the assumption that students already know how to use them.

**Use of In-Class Technology.** Although some students reported that in-class use of technology hindered their dialogue and learning, this study provided evidence of support for the use of in-class technology (e.g., PowerPoint slides, use of a projector) when it was clearly integrated into the course. Although not nearly as sophisticated in its implementation, the current study corroborates past findings about the positive influence of in-class use of technology in the classroom (Van Horne, et al., 2012). Blount classes tend not to utilize technology, however, both
students and faculty agreed that the minimal use of technology in no way prevented the achievement of desired learning outcomes. In the classrooms in which PowerPoint slides were used, students reported that they learned from them.

**Employment of UXD Principles.** Analysis of classroom discourse indicated that the virtual learning spaces in this study employed McArthur’s (2011) user-experience design (UXD) principles. For example, the projector was effectively used to show films, and occasionally a student would use an iPad or laptop to show a video or to play a song. Further, students reported that they appreciated using laptops in the Blount English class, BUI 104, to improve their writing and research skills during group work or during consultation with the instructor. They reported that they had observed students using their laptops for purposes unrelated to their studies in other classes; they found this misuse of technology to be distracting and ineffective. Although students did not utilize them often, other digital materials that are sometimes necessary for learning (e.g., Blackboard Collaborate, Blackboard Discussion Board, Skype, youtube, wireless access, computer software, faculty email) were easy to find and use if the need arose. The learning space in Blount that students found most useful was the computer and printing lab in Oliver-Barnard Hall. Students were observed using the lab on several occasions.

In its narrowed form, RQ2 sought specific information about how the availability and use of technology and wireless access in a learning space influenced three specific student learning outcomes: 1) dialogue and community building, 2) interactive learning, and 3) socialization. The influence of virtual learning spaces on these three outcomes will now be discussed.

**RQ2a: This study found virtual learning spaces influence levels of dialogue and community building between students.** As reported in Chapter IV, because Blount courses emphasize small group discussion and dialogue, the role of technology is minimal, and usually
absent. The technology-rich culture that millennial students may experience in other classes is, quite intentionally, not part of the Blount liberal arts culture of face-to-face dialogue and discussion. Neither faculty nor students reported being averse to technology, however they agreed that technology changes the overall atmosphere of classroom discussion, for better or worse. For example, the class engaged in dialogue on the days that a student volunteered to share a short video or song, and the class disengaged in dialogue on the days that the instructor shared a long video.

Thus, perhaps what is most relevant in this finding is that virtual learning spaces influence dialogue in a positive way when they are implemented with students’ interests and attention spans in mind. These findings suggest that in-class technology is primarily unessential in a program that seeks to promote dialogue. More evidence is needed in order to declare with confidence that a technology-rich classroom positively influences dialogue more than a traditional classroom with desks in rows or a roundtable classroom that employs minimal use of technology.

**RQ2b: This study found virtual learning spaces influence levels of interactive and engaged learning.** Students reported that they easily adapted to the minimal use of technology in Blount classrooms and that they found the lack of technology to be a refreshing escape from other technology-rich classes. In other classes, students reported that it was sometimes difficult to follow along with the PowerPoint slides and notes. Students also reported that their classmates’ use of laptops and mobile devices in their other classes, for non-academic purposes, was distracting. In other Blount classes they have taught, faculty reported that storing and referencing course readings on tablets or mobile devices was a distraction. Although some students agreed that it may be useful to access grades or the syllabus on Blackboard, students and
faculty agreed that even this minimal implementation of technology is unessential to the needs and goals of the program.

In general, the findings in this study indicate that the design of virtual learning spaces influence interactive learning and must therefore be approached judiciously. First, virtual learning spaces positively influence interactive learning when the instructor strategically times and places short digital videos, slides, or other artifacts during the proceedings of a lecture or discussion. As shown in this study, students disengage from learning when PowerPoint slides and/or videos are poorly prepared and executed. The breadth, depth, and length of each slide should be carefully edited and adapted in order to spark creativity and innovation in the classroom. Lengthy films and videos should be discussed beforehand; instructors should brief students about concepts to which they will need to pay special attention. If appropriate to the nature of the course, the film should be shown in short, edited segments. As an alternative to group viewing, students could be allowed to watch the film alone, at their own pace, in a separate location.

Second, virtual learning spaces influence interactive learning in a positive way when the instructor clearly specifies the length of time and purpose that student laptops or mobile devices will be utilized during classroom proceedings. For example, in larger classes, an instructor may ask students to turn off their laptops and mobile devices unless a specific discussion requires the use of mobile devices. Instructors and students have reported that technology limits interaction with others in the classroom (Jamieson, 2003; Kolleny, 2003; Okojie & Olinzock, 2006; Venezky, 2004). The personal and individualized nature of mobile devices can create an alluring conduit for disengagement from classroom experiences. If the instructor is concerned that students are using their laptops for non-academic purposes during class, the instructor could
provide notes and readings for purchase in printed form from a library or campus bookstore and/or in digital form on Blackboard in order to limit or eliminate the need for laptops in class. The findings in this study indicate that working in small groups with clear and consistent guidance and instruction is the most effective way to promote interactive learning when using laptops for instruction in the classroom. Overall, thoughtful integration of technology is likely to maintain students’ attention and keep their learning on task.

A third way in which virtual learning spaces influence interactive learning in a positive way is when the instructor uses it to provide students with information about their progress in the course and about the course itself. Findings in this study indicate that students are more likely to interact with their peers and their instructor during class if they are aware of the expectations for assignments and about their performance in the course. Using technology for this purpose could be helpful in positively influencing interactive learning.

**RQ2c: This study found that virtual learning spaces influence levels of socialization and self-directed skills necessary for future life and work.** As indicated in Chapter IV, the Blount program prioritizes face-to-face communication over the use of technology, so students reported few remarks about the influence of virtual technology in helping them to socialize into future professions. However, students reported that they were aware that they would need to learn to present PowerPoint presentations in front of a larger audience, as they learned from Convocation gatherings. They also described how the virtual learning spaces in which they used laptops to conduct research and to improve their writing was necessary to help them improve their ability to be critical thinkers, writers, speakers, and active participants in future debate and dialogue.
Overall, the findings in this study indicate that virtual learning spaces influence socialization in two ways. First, in order for virtual learning spaces to influence socialization in a positive way, students should exchange peer feedback about their writing in laptop- or computer-guided, small group, peer feedback sessions. Peer feedback sessions in the BUI 104 English class took place in a typical Blount roundtable classroom. The exchange of papers was organized such that each student in the small group had ample time to offer written or spoken suggestions about each classmate’s paper. Students reported that they valued their peers’ feedback and appreciated the fact that they could immediately make the suggested revisions on their laptops. Students reported that this virtual learning space simulated a work setting, in which students could discuss and respond to their peers’ comments and feedback efficiently. Students indicated that these laptop-guided sessions helped them not only to respond to suggested revisions from peers, but also to learn how best to instruct others on revising their writing. Students described how the laptop-guided feedback sessions provided them with skills that they would use in their future life and work.

Second, in order for virtual learning spaces to influence socialization in a positive way, students must receive active mentoring and feedback from an instructor during laptop- or computer-guided, feedback sessions in a roundtable setting. Students indicated that instructor consultation during laptop-guided sessions helped them to revise their writing based not only on the feedback from their peers, but also from the instructor. In addition, the instructor proofed multiple drafts of each paper over email and Blackboard. Students reported that this feedback, offered in a virtual format, helped them revise their papers from rough draft to final draft form. They indicated that the virtual communication with their instructor during these feedback sessions provided them with skills that they would need in their future life and work.
Research Question Three: Student Perceptions of the Role of Learning Spaces

*RQ3*: How do students perceive the influence of learning spaces on their own development?

*RQ3* asked how students perceive the influence of learning spaces on their own development. A surprising finding in this study is that students prefer a technology-light learning space more often than expected, even when a technology-rich learning space is easy to find and use. Contrary to Cox’s (2011) finding that students prefer technology-rich classrooms over traditional, utilitarian, lecture-style classrooms, faculty and students in this study reported that, dependent on the subject matter being taught, the traditional, technology-light, classroom serves an important purpose. They reported that the traditional “desks-in-rows” classroom offers an efficient way to convey information to a growing number of students who do not necessarily wish to pay the potential, hidden financial costs associated with experimental, non-traditional, or active learning classrooms.

Students in this liberal arts program may be in the minority when it comes to their satisfaction with technology-light classrooms, when compared with their millennial peers, who may experience a campus primarily through virtual technologies in the 21st century. Students in a liberal arts program simply may not need as much technology to achieve their goals. Blount students may also echo the sentiments of other students who have become frustrated with the misuse of technology by both faculty and students since the use of technology became so readily available in the classroom. Blount students may also echo the sentiments of students in liberal arts programs at other college campuses who simply value face-to-face communication over technology.

Unlike the extensive classroom redesign suggested by Alexander et al. (2008), students in this study reported that the traditional classroom does not necessarily require a technological
overhaul in order to improve collaboration, teamwork, and active discussion. Owing to the ability and willingness of instructors and students, students reported that resourceful rearrangement of existing, traditional classrooms has the potential to raise the level of interactive learning without making a large investment of time or money in implementing technology or extensive classroom renovations.

In some instances, students reported that they were comfortable with the traditional classroom, having grown accustomed to it over the years, and having adapted to some of its perceived shortcomings. For example, students reported that a mid-sized Blount English class that spends one day a week in peer editing of student documents could work just as well in a traditional classroom equipped with long tables and a place to work in groups on laptop computers, as it does in the Blount roundtable classrooms. Students reported that a comfortable, well lit, well maintained, low-technology, traditional classroom is an effective setting for a smaller classes that emphasize dialogue, discussion, writing, and face-to-face communication. Further, students described how a traditional classroom is effective for math, science, and/or engineering classes, in which a wealth of technical information is being shared.

Although Leiboff’s (2010) experimental classroom of the future was described as a studio classroom popular for its interactive and collaborative design, neither this study nor past literature points in the direction of replacing all traditional classrooms with studio-style classrooms or technology-laden classrooms across the board. For example, the SCALE-UP classroom (Beichner, 2014) being tested at a number of universities demands an investment of time and money on the front end, and may or may not deliver a return on the investment in the long run. While a large physics class that requires daily, scientific problem solving in groups may benefit more from the SCALE-UP classroom (e.g., several small tables spread across a
“banquet hall” type setting, a professor moving through the room, and easy access to laptops and wireless capability), more evidence of the value-added benefits of the SCALE-UP classroom is needed. Further research on simple, low-cost traditional classroom renovations would help to determine if user-experience design principles could be successfully integrated into them. Before investing time and money into experimental active learning classrooms, the ability of the renovated, traditional classroom to deliver user-experience design principles needs to be further assessed.

**Accounting for Differences Based on Minor.** The possibility of having lively discussions with a small group of like-minded peers around a table may be what attracted some of the students to this liberal arts program, and thus what led to their reports of the positive influences of its learning spaces. The fact that the students in this program elected to apply to Blount needs to be included in the explanation of their support for the positive influence that a roundtable classroom space can have on their development.

For example, the Blount website describes the program as “living in a community of scholars” who “have a special curriculum that includes seminars, discussion groups, special presentations, and activities that will engage them,” taught by faculty who “teach the foundation course and spend extended periods of time in the Living-Learning Center working and talking with students” (Blount website, 2015). Oliver-Barnard Hall and Tuomey Hall are referred to as students’ academic “home” on campus. The Blount website (2015) describes the program in this way,

This is a four-year program, which includes a freshman residential year in which students will reside and take special classes in what we call "a living-learning environment." Two Academic Houses, Oliver-Barnard and Tuomey Halls, which are located on the Quadrangle and physically in the center of the University, will serve as the focal point for the sophomore, junior, and senior years. Students in the Initiative major in the same subject areas as all University students. However, they have a special curriculum that
includes seminars, discussion groups, special presentations, and activities that will engage them in an integrated approach to learning. The essence of the program is the establishment of an active learning partnership between teacher and student….Several graduate students are named as Junior Fellows each year and assist in teaching the foundation course. Perhaps more importantly, they live in the Living-Learning Center, serving as mentors and role models for the entering students.

This description of the program emphasizes that Blount is a liberal arts academic “home” that provides students with special curriculum, faculty, staff, support, and resources to promote their academic success. This description, along with other program documents, corroborate the notion that bright, motivated students are invited to apply. Each student in this study had his or her own “recruiting” story to share, some of which involved personal visits off campus or to a student’s home. The first year of the program, including foundations courses and convocations, further orients students to the program. As one of the only liberal arts initiatives of its kind in the southeast, the Blount program clearly aligns with its academic mission, by socializing students into academic success in a liberal arts community of scholars. Students described how the opportunity to engage in discussions in a roundtable learning space was a part of their decision to apply to Blount and they have so far been pleased with their decision to enroll.

To put these findings in context, it is important to consider that the students in this program may have described the roundtable learning space as a positive influence on their learning and development because that is what they expected when they enrolled in the program. The Blount website and documents clearly and consistently communicate that the program’s learning spaces are designed to promote partnerships between teacher and student, that faculty actively work with and talk with them, and that junior fellows will serve as mentors and role models for them in those spaces. Photographs of the learning spaces are also posted on the website to provide visual support for the idea of a home for this community of scholars.
While students in this liberal arts program may be in the minority when compared with their peers in other programs and in other institutions, the students in this study expressed satisfaction with simple, comfortable, well lit, technology-light classrooms that promote the kind of dialogue and interactive learning that is necessary for their future life and work. Several of them described how excellence in face-to-face communication is a skill set that will weather technological, economic, social, and cultural changes over time. This far-sighted view of their future careers explains why many of them do not wish to supplement their learning experience with technology in the classroom. This view also helps to explain why students in this study consistently pointed to the circular classroom, in which students face each other, as the preferred design of a learning space. Facing each other is a common characteristic observed in all learning spaces in Blount and served as the most powerful influence on their learning and development.

While all students reported that they found the roundtable classroom to be comfortable and enjoyable, a few students reported that facing each other every day was difficult. Although they are potentially outliers, they pointed to students’ occasional desire to fade away, hide, or otherwise disengage in class. An interesting finding is that, upon observation, Blount students who apparently wished to disengage did not reach for a mobile device or laptop, however, they typically doodled, drew, or sketched in their notepads. Otherwise, students rarely looked away from each other to read or take notes in either of the Blount classes.

This finding suggests that Blount students’ unique preference for engagement is sometimes interrupted by their own occasional choice to disengage. This choice to disengage could perhaps have been ingrained through years of attending classed in traditional desks in rows, where they had the option to disengage daily if they chose to do so. The level of this perceived desire to disengage varied from student to student in this study and very few students
reported that chose to disengage occasionally or at all. As a whole, students reported that participating in this study made them more cognizant of their surroundings and appreciative of a learning space that fostered their learning and development.

**Accounting for Differences Based on Major.** Student comments about the influence of learning spaces on their development may have varied based on the majors they had chosen. For example, findings in this study suggested that Blount students are unique in their preference for a technology-light classroom in which they face each other and talk with each other every day. However, based on major, some students expressed more of a preference for the roundtable classroom than others. For example, a freshman Biology major and a senior Computer Science major reported that they enjoyed “escaping” from the reliance on PowerPoint slides and the desks in rows that they experienced in their majors.

However, a senior Biology major and a senior Marketing and Management major described how they had become accustomed to taking notes from PowerPoint slides and engaging in more of a virtual relationship (e.g., Blackboard, emails) with their professor and peers. They described how, sometimes, they appreciated the traditional desks in rows, where they knew what was expected, they did not have to engage in discussion every day, and they could occasionally disengage from the class.

The students in this study represent an interesting mix of majors from the College of Arts and Sciences, the College of Science and Engineering, the College of Social Work, the College of Human Environmental Sciences, and the College of Commerce and Business Administration. However, no students in this study represented the College of Communication and Information Sciences, the College of Community Health Sciences (Nursing), or the College of Education. Because majors in nursing, communication, or education are not represented in this study,
perhaps a future study could investigate how students preparing for professions that emphasize a high level of interpersonal communication perceive the influence of the roundtable classroom on their development.

Accounting for Differences Based on Technology Preferences. Extending Lave and Wenger’s (1991) situated pedagogy, students can learn anywhere. Because virtual online collaboration allows the use of any mobile device (e.g., iPad, iPhone, tablet) or computer device (e.g., standard computer, laptop), virtual collaboration can be conducted anywhere and at any time as long as a wireless or internet signal is available. This flexibility and fluidity of both location and device affords continued collaboration between and among students before and after class meetings. Gikas and Grant (2013), for example, argued that mobile devices and collaborative, social media tools allow students to interact not only during class (e.g., backchannel twitter), but also to continue collaborating after leaving the classroom (e.g., twitter, Facebook, texting). Online virtual collaboration tools present ample opportunities for students to make sense of their social environments, to learn, and to develop.

Although many students may appreciate the integration of such new technologies into their courses, not all of them do. Some of the students in this study reported that, if misused, technology has the potential to overwhelm them and distract them from their learning. In this study, some students reported that they were distracted by the use of mobile devices, especially the use of mobile devices by students who were sitting near them. Students reported, for example, that it was sometimes difficult to concentrate if a mobile device was powered on and was visible to them. This finding supports past research about the exciting, yet distracting, and sometimes addicting, nature of mobile devices. For instance, Gikas and Grant (2013) found that students reported they enjoyed communicating with their classmates and others by using mobile
devices in the classroom, but that “the allure of social networking applications that were not being used for class potentially threatened their concentration” (p. 23). In past studies, students reported that technology limited their interaction with others in the classroom (Jamieson, 2003; Kolleny, 2003; Okojie & Olinzock, 2006; Venezky, 2004). Mobile phones allow for constant connectivity with others, which allows students to interact with the course and with each other at any time.

This constant connectivity may pose a recognizable threat to some students, while other students may see the benefits of constant connectivity. Some students are not eager or willing to adopt new technologies for academic and professional use. Grasha and Yangarber-Hicks (2010), for example, posited that technology can pose a challenge to students’ learning styles, thus, some students resist any departure from traditional ways. Some students may also be what Rogers (2003) called laggards, as opposed to early adopters, of technology. These variances in students’ willingness to integrate new technologies into their academic and learning experience shape the way in which these findings are contextualized and understood.

**Research Question Four: Faculty Perceptions of the Role of Learning Spaces**

**RQ4: How do instructors perceive the influence of learning spaces on student development?**

RQ4 asked how faculty perceived the influence of learning spaces on student development. Students’ enjoyment of a learning space is mitigated by the instructor (McArthur, 2008). Because an instructor’s comfort level with a classroom design directly impacts the quality of teaching and the overall outcomes of a course, Park and Choi (2014) suggested that instructor perspectives should be considered in the design of learning spaces. Instructor perceptions about the influence of learning spaces on student development and communication have been sought in
previous studies. Alexander et al. (2008) reported that instructors have reported feeling closer to their students in classrooms that allow students to face one another, whether by providing multiple round tables throughout the classroom (Alexander et al., 2008) or by equipping the classroom with tablet-swivel desks.

Each instructor interviewed for this study had taught in and/or taken classes in both a technology-light classroom and in a technology-rich classroom, in which several media platforms (e.g., Blackboard, PowerPoint, Skype) has been utilized. Although they described how technology-rich classrooms could be effective for larger class lectures and useful for showing films, instructors described how the smaller, technology-light classrooms in Blount were more effective for small group discussion and interactive learning. Rather than adding to the classroom experience, virtual technology was described by both faculty and students as a distraction in the Blount classroom.

In this study, faculty reported that the technology-light roundtable learning space worked well for small group discussions, debate, and dialogue. One instructor described how the roundtable classroom promoted a Socratic, egalitarian classroom, in which no one sat at the “head” of the table. Much like the students in this study, Blount faculty reported that they have observed the misuse of technology in the classroom. For instance, the BUI 101 teaching assistant reported that because Blount classes are “about me interacting with you,” the use of PowerPoint slides, laptops, tablets, and other virtual devices typically causes both students, and sometimes faculty, to disengage in class. Instructors described the importance of face-to-face communication, and that as long as class sizes are kept small, the roundtable classroom arrangement is successful in achieving desired learning outcomes.
Also like students, faculty reported that a comfortable, well lit, well maintained, low-technology, traditional classroom is an effective setting for the smaller classes offered by Blount. The main instructor in this study also reported that traditional classrooms have been easily adaptable for the classes he has taught in History and in the Honors College.

**Accounting for Differences Based on Teaching Style.** Three instructors were interviewed for this study. The BUI 101 and BUI 401 instructor who was observed as part of the study provided the most information; he was interviewed and observed in class several times throughout the semester. The BUI 101 teaching assistant also provided very useful information for use in this study; he also was interviewed and observed in class multiple times throughout the semester. Another BUI 101 and BUI 401 instructor, who is a veteran faculty in the Blount program, was a third source of information about the program, although he was not observed in the classroom and was interviewed only once.

Because the instructor who was observed in BUI 101 and BUI 401 provided the most information for this study, it is important to take his particular teaching style and background into account when weighing the evidence shared in these findings. For example, not every instructor would have been able to provide a level of dialogue that would result in the emergence of a discourse typology. Not every instructor would have voiced follow-up statements in the way this instructor did. Likewise, not every instructor would have been able to engage freshmen students just as actively as he engaged seniors. Although he provided more historical context and background to start discussions in BUI 101, and he collaborated with the teaching assistant in order to do so, he facilitated the same level of intellectual rigor in the freshman class as he did in the senior class. While his follow-up statements emphasized his background in military history
and presidential history more than other instructors, he used stories and anecdotes effectively in order to contextualize discussions.

A future study of this professor during a different semester, or of a different professor, may yield results that may have in some way been mitigated by the reliance on one primary instructor for the purposes of this study. For example, the third, veteran instructor in the program who was also interviewed for this study may emphasize his interdisciplinary background when he teaches. Another instructor’s perspectives and classroom discourse style could supplement what the current study found. Furthermore, other Blount instructors may be able to provide information about how technology can be effectively adapted for the small, liberal arts classes offered in the Blount program.

**Accounting for Differences Based on Technology Preferences.** Although he brought his laptop to class in order to show two films, the instructor observed during this study did not necessarily support the frequent use of technology in the classroom. For example, besides emailing his students, he reported that he did not use other technology (e.g., Blackboard, turnitin, Skype, youtube) to conduct any of his classes taught in the Blount program, in the History department, or in the Honors College. His commitment to face-to-face dialogue and discussion aligns with the mission of the Blount program, as well as with his own personal commitment to engage students in dialogue, debate, and discussion of readings. All three of the instructors interviewed for this study upheld a similar emphasis on face-to-face communication over the use of technology in the classroom.

Although the use of new technology sounds exciting, and many instructors integrate them into their classes, some instructors support a healthy skepticism about using new technology. Some legitimate concerns about new technologies in the classroom is that they may promote an
impersonal atmosphere, less face-to-face contact between instructor and students, and a lack of sensitivity to students’ learning styles (Grasha & Yangarber-Hicks, 2010). While some instructors believe that technology will save time, students need *more*, not less, time from the instructor when new technologies are utilized. Nelson (1989) contended that, with the challenges that using technology in the classroom brings, faculty must provide support to meet those challenges. The level of willingness to invest the required time and energy into integrating new technologies into the classroom varies from instructor to instructor. These differences in adoption of technology (Rogers, 2003) help to explain some of the varied findings about instructor use of technology in this particular study.

Finally, just as students may be drawn to the Blount program because its learning spaces promote dialogue and interaction with the instructor and students, instructors may be attracted to teach in the Blount classroom for the same reason. As a senior described it, faculty who teach in Blount report that they enjoy the classes, in some case, more than they enjoy teaching in their home departments. Instructors may have reported that the learning spaces in this study had more of a positive influence on learning outcomes because they know what to expect and have continued to teach in these learning spaces because they enjoy them and appreciate the values these learning spaces promote.

**Conclusions**

From a social constructionist standpoint, this study sought to investigate how learning and development is influenced by the social interaction and communication that occurs in learning spaces. Gergen (2009) described how social constructionism centers on the co-creation of knowledge and how meaning originates through “coordinated action, not individual minds” (p. 397). In sum, social reality and self-identity develop through interaction with others.
Brofenbrenner (1977, 1979, 1995) and Lave and Wenger (1991) further emphasized that learning is embedded in the constructs of a situation or social environment. To be sure, social reality and self-identity develop not only through interaction with others, but also through the situation in which the interaction occurs. These theoretical underpinnings, along with the analysis of the artifacts collected in this study, led the researcher to the following conclusions.

The roundtable classroom promotes student development, dialogue, and communication. What was especially interesting about the findings in this study is that the roundtable classroom design empowered students to spark their own dialogue and to interact with each other before and after class as well. The roundtable classroom in this study certainly qualified as an active learning classroom that complied with user-design experience principles. Not only did students stay after class to talk with one another, they sometimes stayed after class to talk with the instructor as well. Students and faculty worked together to construct the knowledge and meaning in this learning space.

Classroom dialogue in this roundtable format followed a consistent pattern of promoting dialogue, encouraging interactive learning, and socializing intellectual talk. The wealth of meaningful discourse and interaction in this roundtable classroom resulted in the creation of a construct of classroom discourse. Students’ desire to listen and to participate in classroom dialogue was evident not only in their classroom interactions, but also in their ability to reflect on their own student development, as well as on the development of their peers.

This roundtable classroom design promoted student development and communication by consistently creating an atmosphere in which each student reported feeling invited into the discussion. Park and Choi (2014) suggested that students who secure a seat in the golden zone perceive that they interact with their instructor more, interact with each other more, concentrate
better, and learn more. As suggested in Chapter I, students prefer to sit in the golden zone and will settle for the semi-golden zone if they arrive late or want to sit with friends (see Figure 16, also depicted in Chapter I).

Fig. 16: The golden zone and shadow zone in traditional classroom design

Most students dislike sitting in the shadow zone, because they are disconnected from other students who are sitting in the golden zone or semi-golden zone. Many traditional classrooms divide students into these discriminate learning conditions. The seating arrangement in the roundtable classroom, however, minimized these unnecessary divisions between students and faculty. The roundtable classroom design utilized in this study promoted multiple levels of interaction between and among both students and faculty (see Figure 17).

Fig. 17: Interactive engagement in an active classroom design

This study of the Blount Undergraduate Initiative classrooms confirmed the notion that any classroom that is consistently and reliably arranged in an interactive way is more likely to promote student development. Students and instructors who arrange a learning space to be
inclusive and interactive increase the likelihood that student development and communication will occur.

*Informal learning spaces (e.g., residence hall, academic buildings) promote student development, dialogue, and communication.* Another interesting conclusion from the findings in this study is much of the observed student development occurred not only in the classroom, but also in the informal learning spaces of Blount. For example, the residence hall and academic buildings served as informal gathering spaces where students would socialize or collaborate on their work. Students routinely stayed after class to talk with each another or to talk with the instructor, either inside the walls of the classroom or in one of the adjacent spaces. The corridors and sitting spaces in the residence hall, for example, allowed for students to engage with each other at any time. They would meet in the hallways, outside of their rooms, and sometimes in the classroom, at night. In addition, the academic buildings provided ample gathering spaces for informal conversation, group meetings, and discussions with faculty. While the residence hall was considered a more lively and energetic space for informal collaborations, the academic buildings were considered to be a space for smaller and more private collaborations.

*Virtual learning spaces promote student development and communication when instructors intentionally design and implement those spaces.* This study prompted several conclusions about the use and influence of virtual learning spaces. In this study, for instance, students reported that they were able to learn from the material that was available on Blackboard when they understood how it fit with the overall purpose of the course assignments and with the course itself. However, students also reported that they appreciated a departure from the use of virtual learning spaces when the built, physical learning spaces adequately met their needs.
Students in this study reported a preference for face-to-face dialogue, a learning style that attracted them to the Blount program. This preference for face-to-face dialogue shaped classroom norms and dynamics. This preference also likely influenced the intentional, logical, and appropriate way in which faculty chose to include and/or exclude virtual learning spaces. Taken together, I conclude that learning and development seems to be enhanced by virtual learning spaces when instructors design and implement them with careful attention to student needs, learning styles, classroom norms, and the purpose of tasks and assignments.

As a result of the findings in this study, I also conclude that teaching preferences and learning preferences often dictate: 1) the extent to which faculty integrate virtual online collaboration into their courses, and 2) the extent to which students adopt and/or resist the integration of such technology. Rogers’ (2003) theory of the diffusion of innovations, for example, described how early adopters of technology are the first users to implement technology into their personal and work lives, whereas laggards are late to adopt or do not adopt new technologies at all. Past studies in an undergraduate design studio (Conanan & Pinkard, 2001) and in an undergraduate human resources management course (Long & Meglich, 2013), for example, have found that virtual learning spaces can be beneficial when instructors authentically design them and implement them into a course. However, sensitivity to one’s own teaching preferences and to student learning styles, along with one’s own willingness to integrate technology, is important when deciding whether or not to adopt new technologies.

In-class use of technology promotes student development and communication when instructors intentionally design and implement technology. This study revealed that student development is enhanced by the use of in-class technology when instructors design and implement it carefully. For example, in this study, students and faculty reported that the use of
in-class technology (e.g., laptops, PowerPoint slides, projectors) had a positive influence on student development and communication when its use and purpose was clearly communicated. For example, students reported that they understood the purpose of using laptops during the writing workshops in their English classes because typed feedback from their peers was readily available for use during their later revisions. Furthermore, students reported that they were able to take notes and learn from PowerPoint slides that were meaningfully integrated into course proceedings. For example, carefully crafted, timed, and placed slides are more likely to spark creativity and innovation. Video clips that are carefully introduced, edited, and placed are more likely to ignite discussion. Laptop use, whether for individual or group use, is effective when the instructor has a specific purpose, timing, and placement for it. Students reported that in-class technology helped them to learn, when it was clearly integrated into the face-to-face classroom proceedings.

However, students also reported that most of their needs were met by the built, physical learning spaces provided in the Blount program. Their preference for face-to-face dialogue, a learning style that reportedly attracted them to the Blount program, created a classroom norm that was slightly skeptical of and perhaps hostile toward technology. As with the use of virtual online collaboration and virtual learning spaces, sensitivity to student needs, learning styles, classroom norms, and the purpose of tasks and assignments increase the likelihood that students will be receptive and responsive to the use of in-class technology.

**Recommendations for Policy and Practice**

This study provided insight on how best to design and adapt learning spaces to achieve desired learning outcomes. As suggested in Chapter I, university space becomes useful and effective because of the decisions made by designers, users, and those who manage and maintain
it. Feedback from such stakeholders as administrators, industry professionals, custodial staff, faculty, and students, can generate ideas about the usability of a space.

The learning and design principles described in this study compel researchers and practitioners alike to move toward designing built pedagogy with user-experience design principles in mind. The result of user-experience design is more effective learning, by having a sense of ownership of the space in which it takes place. With the thorough review of the research questions, the subsequent conclusions drawn from the results, and the user-experience design principles in mind, this study will now provide some recommendations for policy and practice in the design and creation of learning spaces.

**Recommendation 1: University administrators should intentionally design learning spaces that promote dialogue and community building, in both built and virtual contexts.**

Learning spaces that are intentionally designed to facilitate interaction and communication between students achieve the goal of dialogue and community building. For example, in this study, the roundtable classroom design influenced dialogue and communication between students in a positive way. The roundtable classroom was an effective choice for a program that emphasizes the role of active, open dialogue.

Based on the findings, this study recommends the following policies and practices for administrators who make decisions about classroom designs. The recommendations (see Tables 10 and 11) are provided with intentionality in mind. That is, administrators should consider the needs of the program using the learning space when they make decisions about classroom designs. For example, in order to promote dialogue in physical, built learning spaces:

- Various disciplines and majors should be assigned to the same physical space.
- Furniture should be adaptable to rearrangement for individual work or for group work and discussion.
- Materials necessary for dialogue (e.g., whiteboards) should be easy to find and use.
- Formal learning spaces should be close to informal ones (e.g., cafes, corridors, lounges.).
• Informal learning spaces (e.g., lounges, cafes, corridors) should be easy to find and use.
• User councils should be strategically appointed to assess needs and to implement necessary changes regularly.

To promote dialogue in virtual learning spaces:

• Various disciplines and majors should be assigned to the same virtual space.
  o Variance of majors within a particular class on a particular campus.
  o Variance of majors between students representing multiple campuses.
• Laptops, screens, and monitors should be adaptable to rearrangement for individual or group work and discussion.
• Digital materials necessary for dialogue (e.g., Skype, Blackboard, wiki, forums, GroupMe, google docs, youtube, updated software, email, wireless access, reliable internet) should be easy to find and use.
• Digital materials necessary for informal dialogue (e.g., twitter, Facebook, texting) should be easy to find and use.
• Instructors should actively mentor students as they learn to dialogue using virtual collaboration tools.
• User councils should be strategically appointed to respond to student needs for technology support services on a regular basis.
Table 10

Best Practices to Promote Student Development in Built Learning Spaces

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Applications for Spaces of Learning</th>
<th>Examples of Current &amp; Possible Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialogue and Community Building</td>
<td>The learning space is designed to facilitate communication and interaction between and among students.</td>
<td>· Various disciplines and majors are assigned to the same physical space.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Furniture can be rearranged for individual or group work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Materials necessary for dialogue (e.g., whiteboards) are easy to find and use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Formal learning spaces are close to informal ones.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Informal learning spaces (e.g., cafes, corridors, lounges) are easy to find and use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· User councils assess needs and implement necessary changes regularly.</td>
</tr>
<tr>
<td>Interactive Learning</td>
<td>The learning space is designed to facilitate interactive engagement, creativity, experimentation,</td>
<td>· Classrooms are located near offices, or faculty can meet students in classroom.</td>
</tr>
<tr>
<td></td>
<td>and innovation between faculty and students.</td>
<td>· Furniture can be rearranged for faculty-student and individual or group work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Materials for interactive learning (e.g., whiteboards) are easy to find and use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Informal learning spaces (e.g., lounges, corridors, cafes) are easy to find and use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· User councils assess needs and implement necessary changes regularly.</td>
</tr>
<tr>
<td>Socialization</td>
<td>The learning space is designed to facilitate knowledge of and experience with a future chosen</td>
<td>· Classrooms are located near offices, or faculty can meet students in classroom.</td>
</tr>
<tr>
<td></td>
<td>career or profession.</td>
<td>· Furniture can be rearranged to simulate a work or studio-style setting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Materials necessary to invite outside professionals’ advice (e.g., whiteboards) are easy to find and use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Informal learning spaces (e.g., lounges, corridors, cafes) are easy to find and use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· User councils assess needs and implement necessary changes regularly.</td>
</tr>
</tbody>
</table>

Recommendation 2: University administrators should intentionally design learning spaces that promote interactive learning, in both built and virtual contexts.

In this study, the roundtable classroom allowed faculty and students to interact in the construction of knowledge and meaning, promoting a high degree of interactive learning. Based
on the findings, this study recommends the following policies and practices (see Tables 10 and 11). To promote interactive learning in physical, built learning spaces:

- Classrooms should be located near faculty offices, or faculty should be allowed time and space to confer with students in the classroom.
- Furniture should be adaptable to rearrangement for faculty-student consultation and for individual and/or group work.
- Materials necessary for interactive learning (e.g., whiteboards) should be easy to find and use.
- Informal learning spaces (e.g., lounges, cafes, corridors) should be easy to find and use.
- User councils should be strategically appointed to assess needs and to implement necessary changes regularly.

To promote interactive learning in virtual learning spaces:

- Laptops, screens, and monitors should be adaptable to rearrangement for faculty-student consultation and for individual and/or group work.
- Digital materials necessary for interactive learning (e.g., Skype, Blackboard, wiki, forums, GroupMe, google docs, youtube, updated software, email, wireless access, reliable internet) should be easy to find and use.
- Digital materials necessary for informal interaction (e.g., twitter, Facebook, texting) should be easy to find and use.
- Instructors should actively mentor students as they interact with virtual learning spaces.
- User councils should be strategically appointed to respond to student needs for technology support services on a regular basis.
Table 11

*Best Practices to Promote Student Development in Virtual Learning Spaces*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Applications for Spaces of Learning</th>
<th>Examples of Current &amp; Possible Practices</th>
</tr>
</thead>
</table>
| Dialogue and Community Building      | The virtual learning space is designed to facilitate communication and interaction between and among students. | · Various disciplines and majors are assigned to the same virtual space.  
· Laptops, screens, and monitors can be rearranged for individual or group work.  
· Digital materials (e.g., Skype, wiki) easy to find and use.  
· Digital materials for informal collaboration (e.g., twitter) are easy to find and use.  
· User councils respond to student needs for technology support services regularly.                                                                                                                                                                                                                       |
| Interactive Learning                 | The virtual learning space is designed to facilitate engagement, creativity, experimentation, and innovation between faculty and students. | · Laptops, screens, and monitors can be rearranged for faculty-student consultation and for individual or group work.  
· Digital materials necessary (e.g., Skype, software, internet) are easy to find and use.  
· Digital materials for informal collaboration (e.g., twitter) are easy to find and use.  
· User councils respond to student needs for technology support services regularly.                                                                                                                                                                                                                       |
| Socialization                        | The virtual learning space is designed to facilitate knowledge of and experience with a future chosen career or profession. | · Laptops, screens, and monitors can be rearranged to simulate a work setting.  
· Digital materials for collaboration (e.g., Skype) are easy to find and use.  
· Digital materials for informal collaboration (e.g., twitter) are easy to find and use.  
· User councils respond to student needs for technology support services regularly.                                                                                                                                                                                                                       |

**Recommendation 3:** University administrators should intentionally design learning spaces that promote socialization, in both built and virtual contexts.

Learning spaces that are intentionally designed to facilitate learning about a future chosen career or profession achieve the goal of socialization. For example, in this study, the roundtable classroom allowed students to develop a vocabulary and enculturation that was useful not only for the Blount program, but also for future life and work as well. Based on the findings, this study recommends the following policies and practices (see Table 11 and 12). To promote socialization in built learning spaces:
• Classrooms should be located near faculty offices, or faculty should be allowed time and space to confer with students in the classroom.
• Furniture should be adaptable to rearrangement, to simulate a work or studio-style setting.
• Materials necessary to invite outside professionals’ advice (e.g., whiteboards) should be easy to find and use.
• Informal learning spaces (e.g., lounges, cafes, corridors) should be easy to find and use.
• User councils should be strategically appointed to assess needs and to implement necessary changes regularly.

To promote socialization in virtual learning spaces:

• Laptops, screens, and monitors should be adaptable to rearrangement, to simulate a work or studio-style setting.
• Digital materials (e.g., Skype, Blackboard, wiki, forums, GroupMe, google docs, youtube, updated software, email, wireless access, reliable internet) necessary to collaborate with peers and professionals from other geographical locations should be easy to find and use.
• Digital materials for informal collaboration (e.g., twitter, Facebook, texting) should be easy to find and use.
• Instructors should actively mentor students as they learn to use virtual collaboration tools.
• User councils should be strategically appointed to respond to student needs for technology support services on a regular basis.

The user-experience design principles can clearly be adapted to explain how the assessment of the virtual and built learning spaces examined in this study could inform future policy and practice. Developing a common vocabulary to describe how well a learning space promotes dialogue and community building, interactive learning, and socialization allows planners and users to describe the most effective ways to achieve those desired learning outcomes in a particular space.

**Addressing Issues of Cost.** Keeping class sizes small is essential to creating and sustaining a roundtable classroom format such as the one utilized in this study. While this low enrolled class generated less tuition revenue for the university, it was not costly to the institution due to the support from private donors. However, many universities do not possess the infrastructure or facilities to support such a classroom and must rely on the adaptation of existing
traditional classrooms to promote the student development and communication found in this study and in other previous studies. As indicated by several participants, inexpensive revisions to the traditional classroom (e.g., repairing or replacing older chairs, supporting instructors in their commitment to try new arrangements of furniture, replacing light fixtures, removing clutter) can improve its comfort and enjoyment factor. User councils composed of students, faculty, staff, and other employees who assist in the regular maintenance and gradual upgrade of classrooms could suggest inexpensive adaptations that would improve the quality of the classroom experience each academic year.

**Recommendation 4: University administrators should intentionally design informal learning spaces that promote student development and communication.**

Chapter I defined physical, built learning spaces as both *formal* spaces (e.g., classrooms, lecture halls, offices) and *informal* spaces (e.g., hallways, residential study areas, learning commons) in which students can engage in learning and social interaction with others. Jamieson, Dane, and Lippman (2005) contended that increasing the flexibility of those informal learning spaces outside the classroom, in particular, bridges the instructional and social design goals and prevents the death of the traditional classroom as we have come to know it. The interstitial spaces outside of classrooms provide a location for dialogue, interactive learning, and socialization to occur.

Based on the findings, this study recommends that, in addition to intentionally designing formal learning spaces (e.g., classrooms), university administrators intentionally design informal learning spaces that promote student development and communication. Because the informal gathering spaces, such as the learning commons in Oliver-Barnard Hall, were a site for such academic and social transformation, students only stand to gain by the strategic and ample placement of informal learning spaces on campus.
Recommendation 5: University instructors should intentionally design and implement web-based technologies that clearly promote student development and communication.

This study, along with past studies, found that virtual learning spaces promote student development and communication when instructors design them and implement them with learning in mind. Doing so, however, requires instructors’ careful attention to and awareness of students’ learning styles, classroom norms and dynamics, the purpose of tasks and assignments, students’ willingness to adopt new technologies, one’s own willingness to adopt new technologies, and one’s own teaching style and preferences.

Based on the conclusions drawn from the findings, this study recommends that instructors approach the use of web-based technologies in the following ways. For example, if students report that they are reticent to learn new technologies (e.g., wiki, Skype, online virtual collaborative tools), instructors should assess how they can allay this reticence and actively equip students with the knowledge needed to perform the necessary tasks. If instructors choose to utilize mobile devices and/or laptops during class, the length and purpose of the assignment should be clearly communicated, so that students stay on task. Finally, instructors should provide intentional breaks from the use of technology (e.g., disable all mobile devices) when it is time to draw attention back to a face-to-face discussion with those present in the classroom. Such preparations on the part of the instructor address the concern that technology has the potential to overwhelm students and distract them from learning.

While graduate students adapt to new technologies readily (Holley & Taylor, 2007), undergraduate students are often eager to learn to utilize them as well (Dannels, 2011; Conanan & Pinkard, 2001; Long & Meglich, 2013). Instructors who actively engage both undergraduate students and graduate students in using new technologies equip them not only with technical skills, but also with the teamwork and communication skills that are necessary for future work.
and success. The willingness of both graduate and undergraduate students to adapt to new technologies may be highly determined by the extent to which the instructor equips and encourages them to utilize them. This adaptation to new technologies is, in itself, a process of socialization.

**Recommendation 6: University instructors should intentionally design and implement in-class technologies that clearly promote student development and communication.**

As with the use of virtual online collaboration and virtual learning spaces, instructors’ sensitivity to student needs should guide their decisions about how best to incorporate and use in-class technology. Careful consideration of learning styles, classroom norms, the purpose of assignments, students’ willingness to adopt technology, one’s own willingness to adopt technology, and one’s own teaching style and preferences increases the likelihood that the use of in-class technology will positively influence student development and communication. In this study, students reported that they were able to learn from such in-class technologies as PowerPoint slides and videos, as long as the instructor helped them to understand their meaning and purpose in the course.

This study and past studies have found that the active mentoring, coaching, and attention of the instructor is essential in helping students to integrate any technology into a course. Based on the conclusions drawn from this study, I recommend that university instructors intentionally design and implement in-class technologies in the following ways. For example, instructors should explain the purpose and specify the length of time that student laptops or mobile devices will be utilized during classroom proceedings. For example, if instructors want students to use laptops for 20 minutes during class, they should make sure students have their laptops powered up and with them that day. If the laptop activity requires students to exchange laptops and
critique each others’ work, then the instructor should actively guide students through all steps of the activity.

Secondly, instructors should integrate PowerPoint slides into course proceedings in a meaningful and purposeful way. For example, create slides that are likely to spark creativity and innovation and place them at strategic times during the lecture or discussion. Furthermore, show all slides in class, but only select slides on Blackboard, to provide a value-added incentive for attending class and taking notes. Third, integrate video clips that likely to start, not stop, discussion. Use short, edited versions of all video clips, or allow students to watch longer clips on their own time, in a different location. Consider the timing and placement of each video, keeping students’ attention spans at the forefront of your planning.

Finally, no matter what type of in-class technology has been utilized during classroom proceedings, instructors should intentionally mark the break from using in-class technology (e.g., power down all laptops) to draw attention back to a face-to-face discussion. Such intentionality helps students to learn, see the meaning and purpose of the use of in-class technology, and to build confidence with using technology in the classroom in the future.

**Limitations and Suggestions for Future Research**

Although the researcher attempted to mitigate their effects, some limitations of generalizability and reliability may have existed in this study. Some of these limitations include:

1. *Limited generalizability* - This study focused on one undergraduate learning initiative, a purposive, convenience sample rather than random sample, limiting access to a wider array of undergraduate student participants.
2. **Limited artifacts** - Data was collected during only one semester, with one instructor and two sets of students. Longitudinal analysis of the space may have yielded richer data.

3. **Use of self-report data** - Artifacts collected in this study were self-reported by students and faculty, which may have introduced bias or have been influenced by students’ wishes to give socially desirable responses.

4. **Potential researcher bias** - Although the researcher attempted to be authentic in reporting participants’ perceptions, researcher bias can occur. Additionally, the researcher may have unwittingly misinterpreted the articulations shared by the participants.

5. **Relative newness of proposed student outcomes** - The three themes of community building, interactive learning, and socialization may not be the most effective categories to use in investigating the student development and communication that occurs in a learning space.

6. **Relative newness of discourse typology** - The four constructs of socializing intellectual talk in classroom discourse needs to be further tested, by studying other instructors to see what other constructs might emerge in classroom discourse.

The first limitation of this study was that the students who consented to participate in this study may not have been representative of students in other learning contexts. This study included traditional students, who were enrolled full-time, lived on or near campus, and actively participated in multiple face-to-face classes and activities. As the Year 2020 approaches, several
demographic projections predict that college students of the next decades will include ethnically
diverse, part-time students, who are the first in their family to attend college. Chronicle Research Services (2010) reported that, “at some point, probably just after 2020, minority students will outnumber white students on college campuses for the first time. The average age of students will keep trending higher as expectations shift in favor of people going back to college again and again to get additional credentials to advance their careers or change to new ones” (p. 3). Thus, this study may have been limited in its realistic generalizability to future undergraduate students.

This study may also have been limited in its generalizability because it focused on one learning community, limiting access to a wider array of undergraduate student participants. Because a convenience sample, rather than a random sample, was selected in this analysis, focus groups with, interviews with, and observations of more respondents would perhaps yield a more generalizable sample of participants. For example, Blount Undergraduate Initiative students self-select to participate in the program, and its demographic composition may not represent the entire student body, or students in traditional residence halls or other classrooms across campus. Future research could survey and/or interview a larger, more representative sample of students and faculty at a variety of other institutions and/or among a wider variety of living-learning communities, traditional residence halls, and other classrooms.

A second limitation of this study was that data artifacts, though diverse and comprehensive, were collected during only one semester with two sets of students at one particular university. It would also be useful to interview or observe students taking a class in the same classroom space at a different time or institutional location than the primary class being observed. For example, the same study conducted at a different time of year, at a different hour during the same semester, or at different institutions, may reinforce and/or contradict some of the
patterns that were identified in this study. Longitudinal analysis of the space may also yield richer data in the future. In particular, ethnographies and discourse analyses that gather in-depth experiences of the enculturation and socialization into various disciplines would be very useful.

Third, many of the artifacts collected in this study were self-reported by students and faculty, which may have introduced bias or have been influenced by students’ wishes to give socially desirable responses. Future studies on student perceptions of learning spaces could mitigate potentially skewed participant responses by linking student data to aggregate records reported by the institution.

Fourth, although measures were taken to validate the findings in this study, through close reading and analysis of collected artifacts, other elements – such as the passage of time and high-level instructor quality and student quality – may account for some of the improvements in dialogue and community building, interactive learning, and socialization that were being examined in this study. Although this study made a case for classroom space and environment to play an important role in student development and communication, passage of time and other factors may also be key influencers of change. For example, personal student characteristics (e.g., motivation, maturity level) may strongly influence their perceptions of their own development, despite the space in which their learning takes place. Future research could take into account other factors, which students describe, report, or otherwise display which are parallel influences on their development and communication in the same way that learning spaces may influence the student.

Fifth, although several artifacts were collected from both the students and faculty to check for fit between data and coding categories, the three themes of dialogue, interactive learning, and socialization may not be the most effective categories to use in investigating the
student development and communication that occurs in a learning space. Future research could identify a more streamlined typology for assessing the effectiveness of a learning space, perhaps combining the themes from this study, McArthur’s (2011) user-experience design principles, and/or Cornell’s (2002) criteria for assessing classroom environments.

Finally, this dissertation proposed a four-part typology as a means of identifying and describing the socialization of intellectual talk during classroom discourse. However, the model needs to be tested further by studying other instructors to see what codes consistently emerge in classroom discourse. Other instructors may approach turn-taking and participant framework of discourse in a much different way. It will be relevant in this future research to consider the discipline in which an instructor teaches. A comparative study of an instructor in the business school and an instructor in the engineering sciences, for example, may produce very different results in expanding the model proposed in this study of a liberal arts program. More research on follow-up statements as a form of socialization of intellectual talk in the university classroom would also help to shed light on other roles that follow-up statements may play in classroom discourse. Further research on the four constructs may also help to provide validity for this tool as a pedagogical model that can be applied to other studies.

The continuing evolution of classroom design puts us squarely in the position of conducting more research and testing in order to determine which learning spaces deliver the most desired student outcomes for the largest number of students for the most sustainable amount of time possible. As suggested by Henshaw (2011, 2014), input from a variety of stakeholders is essential to determine which classroom design is the right fit for each particular classroom room on each particular campus. Classroom redesign is an important, time-
consuming, and costly undertaking that requires feedback from users of the space: students, faculty, staff, custodians, and administrators.

**Researcher Reflections**

As with any inductive investigation, I had little idea about what would emerge as interesting or important in this study. By interviewing both the instructor and students, I realized that the roundtable classroom empowers students to engage, voice their ideas, and to develop the self-directed skills necessary to be successful in life and work. Artifacts and historical documents about the program, along with classroom observations, corroborated the hunch that students feel welcomed, accepted, and invited into the Blount learning spaces.

After observing the class several times, it became evident that not only did the roundtable classroom design equip students to learn, but also that both instructors’ interactive teaching styles equipped students for interactive discussions. The transparent, adaptive, and interactive teaching style of both the instructor and assistant instructor allowed a four-part typology of classroom discourse to emerge as relevant in the findings. Both instructors’ use follow-up statements revealed a discourse style that socializes students into intellectual talk.

A major finding in this analysis is that giving students voice in the classroom has profound and apparent cognitive consequences for them. Students who felt that their instructor wanted to hear what they had to say were more likely to prepare in such a way that they could speak intelligently in the class. Giving students the floor not only gave them the confidence necessary to speak in front of other students, but also the motivation to prepare in advance for such an opportunity.

Another important finding, that elevates my experience as both an instructor and a researcher, is that both instructor and students seemed to collaborate in creating the knowledge
that was shared in the class. In this supportive climate, where students felt comfortable and safe
in sharing their ideas openly, dialogue was enriched, interactive learning was facilitated, and an
environment where students can thrive in work and life was simulated. I realized just how much
work it must have taken this instructor over the years to cultivate the methods and adaptability to
create this supportive classroom climate. Leaving awkwardly long pauses during a discussion is
not something beginning instructors are comfortable doing, because they may think it makes
them look like they don’t know the material. And, often, it is the case that the instructor simply
does not want to relinquish the floor for the students to discuss their ideas. In my own teaching, I
have started incorporating more pauses in order to allow students time to think and respond more
intentionally. As a result, I have observed more introverted students speaking out in class, not
only to me, but also to their classmates. Intentional pause can give students an opportunity to
voice their opinions not only with me, but with each other as well. Through these reflections, I
know that I developed as an instructor, a researcher, and an individual by observing such able
instructors and talented students.

**Concluding Remarks**

In this study, learning spaces – both physical and virtual – provided a potential site for
social change by influencing student development and communication in colleges and
universities. During a time when teaching, learning, and technology are changing rapidly,
researchers and practitioners are clearly addressing this need for learning spaces that promote
student development in a modern university setting. This discussion section included a
description of: 1) findings, 2) conclusions about the findings, 3) recommendations for policy and
practice, 4) limitations and suggestions for future research, and 5) researcher reflections.
From a social constructionist standpoint, this study sought to explore how learning spaces influence student dialogue and community building, interactive learning, and socialization into future professions. The paradigm of user-experience of instructional space (McArthur, 2011) was utilized to assess the influence of physical and virtual space on student development and communication. Conducting a qualitative analysis of this liberal arts undergraduate initiative provided an opportunity to better understand students’ ideas about learning spaces, as expressed through classroom proceedings, reflection journals, interviews, and focus groups.

Visualizing what the active learning classroom looks like in multiple settings will require more extensive research and testing. Neither this study nor past research suggests eliminating traditional classrooms altogether. Neither do they suggest that studio-style, fluid classrooms have proven consistently preferable by multiple stakeholders. Experimental testing on various adaptations of the traditional classroom, roundtable-style classrooms, technology-light classrooms, and technology-rich classrooms will help to isolate which types of active learning classrooms are most effective for which environments. More learning space research and testing may support the idea that traditional classrooms, when properly adapted by instructor’s pedagogical choices and by the adaptations of current furniture and technology, perform just as well as, if not better than, experimental active learning classrooms.

Nine years ago, when Dr. Diana Oblinger (2006) called for more active, participatory, and experiential learning spaces, she emphasized that focusing on learning spaces will help us to know how to see learners and learning more clearly with the overall goal of improving learner success. If we look carefully, active and social learning is continuously happening on our campuses and in the virtual spaces around us. To echo once again the words of Buckminster
Fuller, if we reform the environment, we increase the likelihood for students to think, reflect, and learn.
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Interview Questions (for Instructor)

1. How would you describe your overall experience in this BUI seminar this semester? What kinds of things do you think your students learned?
2. In which course objectives (see BUI 101/401 syllabus) do you feel your students improved/are improving most? How so?
3. How does the layout of this classroom (e.g., desks, chairs, board, projector, lab computers, spatial orientation) influence your students’:
   a. Learning?
   b. Ability to work in groups?
   c. Ability to prepare for their future careers?
   d. Comfort and enjoyment of the class?
   e. Ability to pay attention?
   f. Ability to express their ideas?
4. How does the use of technology (e.g., Blackboard, PowerPoint, blogs, the internet, mobile devices, lab computers) influence your students’:
   a. Learning?
   b. Ability to work in groups?
   c. Ability to prepare for their future careers?
   d. Comfort and enjoyment of the class?
   e. Ability to pay attention?
   f. Ability to express their ideas?
5. What other benefits or drawbacks do you think your students have taken away from this course?
6. Do you believe that classroom atmosphere and spatial layout/arrangement plays more of a role in student development than you did before this study?
7. Are there other factors besides classroom atmosphere that played a significant role in your students’ development this semester?
APPENDIX B: INTERVIEW PROTOCOL (FOR STUDENTS)

Student Interview: The Blount Classroom Experience
Fall 2014

Interview Questions (for Students)
1. How would you describe your overall experience in this BUI seminar this semester? What kinds of things do you think you learned?
2. In which course objectives (see BUI 101/401 syllabus) do you feel you improved/are improving most? How so?
3. How does the layout of this classroom (e.g., desks, chairs, board, projector, lab computers, spatial orientation) influence:
   a. Your learning?
   b. Your ability to work in groups?
   c. Your ability to prepare for your future career?
   d. Your comfort and enjoyment of the class?
   e. Your ability to pay attention?
   f. Your ability to express your ideas?
4. How does the use of technology (e.g., Blackboard, PowerPoint, blogs, the internet, mobile devices, lab computers) influence:
   a. Your learning?
   b. Your ability to work in groups?
   c. Your ability to prepare for your future career?
   d. Your comfort and enjoyment of the class?
   e. Your ability to pay attention?
   f. Your ability to express your ideas?
5. What other benefits or drawbacks have you taken away from this course?
6. Were there aspects of this classroom that made it more enjoyable than other classrooms in which you have taken classes this semester? If so, explain.
7. Were there aspects of this classroom that made it less enjoyable than other classrooms in which you have taken classes this semester? If so, explain.
8. Do you believe that classroom atmosphere and spatial layout/arrangement plays more of a role in student development than you did before this study? If so, how?
9. Are there other factors besides classroom atmosphere that played a significant a role in your learning and development this semester?
10. Offer any other feedback about this classroom.

Indicate the grade you received or expect to receive on:
Writing assignments | A | B | C | D | F
Speaking assignments  | A | B | C | D | F
Group work           | A | B | C | D | F
Participation        | A | B | C | D | F
Your final exam/project | A | B | C | D | F
Final course grade   | A | B | C | D | F

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Have you taken another Blount Undergraduate Experience class before?  Yes  No

Thank you for your taking the time to participate in this interview.  
Your responses are greatly appreciated!
APPENDIX C: FOCUS GROUP QUESTIONS (FOR STUDENTS)

Focus Group: The Blount Classroom Experience
Fall 2014

How would you describe your overall experience in this BUI seminar this semester?

What kinds of things do you know now that you didn’t know at the beginning of the class?

In which course objectives (see BUI 101/401 syllabus) do you feel you’ve improved most? How so?

How does the layout of this classroom (e.g., desks, chairs, board, projector, lab computers, spatial orientation) influence:

- Your learning?
- Your ability to work in groups?
- Your ability to prepare for your future career?
- Your comfort and enjoyment of the class?
- Your ability to pay attention?
- Your ability to express your ideas?

How does the use of technology (e.g., your own mobile devices, Blackboard, PowerPoint, blogs, the internet, lab computers) influence:

- Your learning?
- Your ability to work in groups?
- Your ability to prepare for your future career?
- Your comfort and enjoyment of the class?
- Your ability to pay attention?
- Your ability to express your ideas?

Were there aspects of this classroom that made it more enjoyable than other classrooms in which you have taken classes this semester?

Were there aspects of this classroom that made it less enjoyable than other classrooms in which you have taken classes this semester?

What other benefits or drawbacks have you taken away from this course?

Do you believe that classroom atmosphere and spatial layout/arrangement plays more of a role in your development as a student than you did before this semester?

Are there other factors besides classroom atmosphere that played an important role in your development as a student this semester?
APPENDIX D: BLOUNT SYLLABI (BUI 101 FOUNDATIONS AND BUI 401 CAPSTONE COURSES)

BUI 101 Foundations Syllabus

Course prerequisite: Membership in the Blount Undergraduate Initiative is a prerequisite for both BUI 101 and BUI 102. Ordinarily, BUI 101 is the prerequisite for BUI 102.

Core Curriculum credit: In addition to fulfilling 6 semester hours of the Blount minor, BUI 101 and 102 count as Core Curriculum general studies credit. BUI 101 fulfills 3 hours of Humanities requirements and BUI 102 fulfills 3 hours of Social and Behavioral requirements. The two courses together satisfy the requirement for a sequence of courses in either literature or history.

- BUI 101-001 TR 2-3:15, BLLC 119
- BUI 101-002 TR 3:30-4:45, BLLC 119
- BUI 101-003 TR 2-3:15, BLLC 123
- BUI 101-004 TR 11-12:15, BLLC 117
- BUI 101-005 TR 9:30-10:45, BLLC 117
- BUI 101-006 TR 11-12:15, BLLC 123
- All sections of BUI 101 meet Tuesdays and Thursdays in the Living-Learning Center.

Student Learning Outcomes

1. We expect our students to develop intellectual breadth and dexterity through study of liberal arts.
2. We expect our students to develop and improve their critical reading and writing skills.
3. We expect our students to acquire problem solving skills, and the ability to analyze and do research using data across the disciplines of the College of Arts and Sciences.
4. We expect our students to become effective at debate and discussion in classes and outside them.
5. We expect our freshmen to live together and develop a sense of community from their shared academic experience in the program.

BUI 101-102 Grading Policies

Attendance: Foundations Course: Of course, you are expected to attend every class. You will be allowed three absences. If you miss more than three classes, for whatever reason, your grade for the course will drop 5 points for each class missed after the third absence.

Convocation: You are expected to attend every convocation. If you miss more than one convocation, your grade for the convocation portion of this course (BUI 100) will be a failure. Convocation information on p. 3.

Late Paper Policy: You are expected to turn in your papers at the beginning of class on the day those papers are due. Any late paper will be penalized a letter grade for each day late (weekend days count). After 4 days, the late paper will receive an “F.” You will not be permitted to rewrite a paper that has been awarded an “F” for lateness.

Plagiarism and Other Forms of Academic Misconduct: The work a student hands in for marking must be his or her own work. While students will be strongly encouraged to work together, to review each other's work, and to give each other all possible assistance, the University expects that no student will directly copy another student's work or borrow material from secondary sources (including material taken from the internet) without acknowledgement. Note that you must acknowledge sources, even if you translate the information into your own words. This point applies especially to seminar notes. The penalties for plagiarism are heavy:

If you are found guilty of plagiarism or other forms of academic misconduct, you will be dismissed from the Blount program.

Grading Distribution:

- Papers 1 & 2 (length: 3-4 pages) 10% each
- Papers 3 & 4 (length: 5-6 pages) 15% each
- Final Exam 20%
- Participation 15%
- Journals/Reflection papers 15%
- 100%

Assignments:
Participation Expectations: You must participate regularly, relevantly and thoughtfully. If you do so, you will receive the full 15% credit for participation. This does not mean that you have to say something every class. But you do have to make your presence known in a meaningful way every week.

Reaction Papers/Quizzes: You may be required to keep a journal of your reactions to the assigned readings. Or you may be asked, at the beginning of class, to answer a question about those readings. In each case your grade on those assignments will depend upon the quality and accuracy of your response to the reading. If you miss a quiz or fail to hand in a reaction paper when required, then your grade for that assignment will be a failure.

Formal Essays: You will write four papers during the course of the semester.

Paper Rewrites: In special cases, and only at the instructor’s discretion, you may be allowed to rewrite one paper. If you are permitted a rewrite, the version receiving the highest grade will be the one to count in your final evaluation. But the instructor is under no obligation to permit a rewrite.

Comprehensive Final Exam: Your final examination will be a comprehensive examination consisting of an essay or a series of essays based upon questions given to you at the time of the final exam.

BUI 100 Convocation—Ordinarily, the second and fourth Mondays of each month, 4-5:00 p.m. in 30 ten Hoor, unless otherwise announced. The dates (and sample topics):

Aug. 26  The Blount Book Signing Ceremony in Morgan Auditorium.
Sept. 9  Prof. G. McClure “From Odysseus to Augustine: Journey of the Hero”
Sep. 23  Prof. Richard Richards, “Development of the Blount Curriculum”
Oct. 7   Dr. Bert Park, “Medical Ethics”
Oct. 21  Dr. Deborah Keene “Evolution and Creationism”
Nov. 4   Dr. Hank Lazer “Creativity”
Nov. 18  The Life of a Percussionist
Dec. 2   Senior Blount students’ World Views presentations

Only one absence allowed for Convocation, graded Pass/Fail according to attendance.

The Foundations Course, like the Blount program itself, affirms the value of a liberal arts education. It invites students to join faculty in the liberal arts tradition of exploring the intellectual and cultural heritage of Western civilization, and of developing the critical perspectives necessary to a broad understanding of the world in all of its diversity. The emphasis is on discussion and debate, and on the connections between and historical continuities among the classic disciplines.

The Subject of the Fall Seminar: "Origins"  
As far as we know, humans are the only species with the mental capacity to ask questions about origins. Where do we come from as individuals, as spirits, as a species, as a planet, as a solar system. This semester we explore the different ways the disciplines have grappled with the question of "origins."

Rules of the Road: The Method of Shared Inquiry in the Seminar
1. Only those who have read the selection may take part in discussion. Participants who have not read the selection cannot support their views with evidence from the text or make sound judgments about what others say about the work. It is therefore very important that keep up with, if not ahead, of the assigned readings, so that you can participate fully in the seminar.
2. Discussion is restricted primarily to the selection everyone has read, so that each student can determine whether facts are accurately recalled & views adequately supported.
3. All opinions should be supported with evidence from the selection. The point of the discussion is to come to a better understanding of the reading or other material being considered.
4. We will not move on to new questions until we have explored the old ones, and until the group has had a chance to consider follow-up points and questions. The aim of the course is not to beat the clock, or to march relentlessly through the material. The schedule is important, but it is not sacrosanct. We will not always reach consensus or agreement, and that is not our goal. Rather, it is to see, as a group, that our questions have been thoroughly examined.

Required Books Available for Purchase*
Augustine, Confessions. Oxford University Press.
Week One: Origins of Western Culture
August 21, Thursday—The Odyssey, pp. 1-78.

Week Two
August 26, Tuesday—The Odyssey, pp. 81-108, 125-182.
August 28, Thursday—The Odyssey, pp. 185-192 (through line 266), pp. 195 (at line 387)-244, 289-331.

Week Three
September 2, Tuesday—The Odyssey, pp. 335-462.
Origins of Knowledge and Self
September 4, Thursday—Augustine, Confessions, Books I-II, 3-34. (First paper due at beginning of class.)

Week Four

Week Five
September 16, Tuesday—Augustine, Confessions, Books VIII-IX, 133-178.
Origins of the Natural World
September 18, Thursday—Bible, Genesis (CP, 1-10).

Week Six
September 25, Thursday—Galileo, “Letter to the Grandduchess Christina” (CP, 29-50). (Second paper due at beginning of class.)

Week Seven
September 30, Tuesday—Darwin and Wallace, "On the tendency of species to form varieties; and on the perpetuation of varieties and species by natural means of selection" (CP, 51-60); Tattersall, The World from Beginnings, Ch. 1 (1-17). See 2 charts in Course Packet: Evolutionary Tree, 60-61, and Geologic Time Scale, 62.
October 2, Thursday—Tattersall, The World from Beginnings, Ch. 2-5 (19-88).

Week Eight
October 7, Tuesday—Tattersall, The World from Beginnings, Ch. 6-7 (89-124); E. O. Wilson, “Altruism and Aggression,” In Search of Nature, 73-94.
Origins of Human Understanding
October 9, Thursday—MacWhinney, “Emergence of Language from Prelanguage” (CP, 63-90).

Week Nine

Week Ten
October 21, Tuesday—Descartes, Discourse on Method (all except Part V, 23-33). October 23, Thursday—Freud, Civilization and Its Discontents, 10-63. (Third paper due at the beginning of class.)

Week Eleven
October 28, Tuesday—Freud, 64-end.

Fall Study break, October 30 and 31.

Week Twelve
November 4, Tuesday—Shakespeare, The Tempest.
November 6, Thursday—The Tempest. Langston Hughes, "Theme for English B" (poem in CP, 127), and Jarrell, R. "Thinking of the Lost World" (poem in CP, 128-29).

Week Thirteen: Origins of Social Reality

Week Fourteen

Week Fifteen

Week Sixteen

FINAL EXAM SCHEDULE
BUI 101-001 Thursday, Dec. 12, 8-10:30 a.m.
BUI 101-002 Thursday, Dec. 12, 7-9:30 p.m.
BUI 101-003 Thursday, Dec. 12, 8-10:30 a.m.
BUI 101-004 Friday, Dec. 13, 8-10:30 a.m.
BUI 101-005 Wednesday, Dec. 11, 8-10:30 a.m.
BUI 101-006 Friday, Dec. 13, 8-10:30 a.m.

The final examination is comprehensive.
BUI 401 Capstone Syllabus

COURSE DESCRIPTION - Our beliefs about the world and our place in it are parts of more comprehensive ways of conceiving the world. This course will be a study of worldviews and an application of insights about worldviews to a topic of interest.

OBJECTIVES - First, to understand what a worldview is, how it works, and some of the various competing worldviews. Second, to learn how apply the insights gained about worldviews.

COURSE REQUIREMENTS

- **Participation (20%)** - The participation portion of your grade will be based on attendance, and the quality and quantity of your contribution to discussion. (This course is, after all, a discussion course.) By quality, I mean the relevance of your contribution, and the insight it reveals. As far as quantity goes, there is a happy medium: you should feel free to comment throughout class, but without monopolizing discussion. You will be expected to help lead class discussion with one or two of your colleagues for one class. Your performance on that exercise will constitute half of your participation grade.

- **Midterm Exam (30%)** - You will be given a list of essay questions one week prior to the exam. You will be asked to write an in-class essay on three of the questions. Make-up exams will be offered only at the discretion of the instructor.

- **Independent Project (30%)** - There will be two components to your grade: First, your project will be evaluated in terms of its design and execution. Second, it will be expected to engage at least one of the issues raised in the readings and discussion. Due December 10. The penalty for late work will be up to one full grade per day after the due date.

- **Project Proposal, Outline Summary and Presentation (20%)** - On Sept. 17, a draft proposal (5%) is due. This will identify and explain what your project is and how you intend to execute it. The progress report (5%), due Nov. 5, lays out in more detail the major components of your project, how far along you are and what else needs to be done to complete your presentation. It will be expected that all of the main components of your project will be in place – even if you have not worked out all the details. Finally, you will be expected to give a presentation (10%) dealing with the design and execution of the project and how it engages some issue raised in the readings and discussion. If your project is presented in a Freshman Foundation Convocation, up to 5% is available for extra-credit.

Texts:

- Fyodor Dostoevsky: “Grand Inquisitor”
- Thomas Kuhn: *Structure of Scientific Revolutions*
- Steven Pinker: *The Blank Slate*
- William Shakespeare: *Antony and Cleopatra*
- E. O. Wilson: *Consilience*

**TENTATIVE SCHEDULE:**

**I. The Idea of a Worldview**

In this first section, we will be introduced to the idea of a worldview, why history suggests there are such things as worldviews, the components of a worldview, and the implications of the worldview idea.


**Aug. 27: Last day to drop a class without a grade of “W”**

Sept. 2: Kuhn chapter I: Introduction: A Role for History

- Chapter IX: The Nature and Necessity of Scientific Revolutions
- Chapter X: Revolutions as Changes in Worldview pp. 111-129
- Chapter XIII: Progress Through Revolutions

**II. The Scientific “Consilient” Worldview**

Here, we examine one increasingly influential worldview that is focused on science and what it tells us about our world and us. We will begin with Wilson’s presentation of its framework. Then we will look at some puzzling phenomena that confront this worldview: mind and the mental, culture, and values.
Sept. 9: Wilson  Chapter 1: The Ionian Enchantment
               Chapter 2: The Great Branches of Learning
               Chapter 4: The Natural Sciences
               Chapter 5: Ariadne’s Thread (pp. 72-88)
Sept. 16: Pinker  Chapter 1: The Official Theory
               Chapter 2: Silly Putty
               Chapter 3: The Last Wall to Fall

Sept. 16: Draft Proposal Due (2-3 pages)
Sept. 23:  Pinker  Chapter 4: Culture Vultures
               Wilson  Chapter 8: The Fitness of Human Nature
               Pinker  Chapter 20: The Arts
Sept. 30:  Pinker  Chapter 15: The Sanctimonious Animal
               Chapter 16: Politics
               Chapter 17: Violence
               Chapter 18: Gender

Oct. 7:    Wilson  Chapter 12: To What End? (pp.291-307, 325-326)

III. Cultural and Religious Worldviews
In this section, we will approach the topic of worldviews indirectly—and more personally—as expressed through two literary works. What are the consequences of adopting a particular worldview?

Oct. 14: Video: King Lear
Oct. 21: Lear/Dostoevsky
Oct. 28: Dostoevsky—Review for exam

Oct. 29: Last day to drop a class with a grade of “W”

Nov. 4: Midterm Exam

Nov. 11: Outline Summary Due
Nov. 11: Presentations
Nov. 18: Presentations
Nov. 25: Presentations

Dec. 2: Independent Projects due by 3:30 pm

INDEPENDENT PROJECTS

**Topic:** There are no prior limits to possible topics. You will, however, need to get your topic approved. In general, it must engage a “worldview” issue. A worldview issue is one that addresses how various commitments, beliefs and values are related. What this means will become clear over the next few weeks. (See the WORLDVIEWS handout for more information.)

**Approach:** There are no prior restrictions on what kind of an approach you may take. It may be a paper, a play, a photo essay, research project or art project. If your project is not primarily a written project, however, there must be some written component to it, explaining the method and goals.

**Magnitude:** An appropriate magnitude of the project will be determined by the nature of the project. A philosophical paper, for instance, might be 10-15 pages. A play or research paper would normally be longer. A non-written project (an Art project for example) needs to be of a corresponding magnitude, accompanied by an essay explaining the project. There will be opportunities through the duration of this course to get a good sense how much you need to do.

**Class Project Presentation:** Your presentation should be no more than 40 minutes long. It can take any form: power point, lecture, show and tell, puppets; use whatever medium best communicates what your project is about. It is not necessary that your project be complete, but it is necessary that it be far enough along for the discussion associated with your presentation to be helpful. The presentation is designed to be part of the project development. If you’re presentation is chosen for freshman Convocation, you must condense it to 10 minutes.

**Recommendations:**
1. Pick a topic you already know something about and have an interest in.
2. Pick a topic that is the start of another project that you want to pursue, or will be useful in other ways (post-graduate plans – graduate, law or medical school).
4. Try to get a sense, early on, what the worldview connection will be.
5. If you have questions, or want feedback, ask! I will be happy to engage your project as much as you want. The advantage with asking me is that you can know in advance what will work and what won’t.

Sample Topics:
“Realization of an Artist’ – Walter Anderson
“Religion and Religiosity as Moderators of Just World Beliefs’
“Performance of Life: the Worldview of Martha Graham”
“The Mahler Marriage: Doomed by Ideals,” “A Picture is Worth a Thousand Words: Ekphrasis”
“All for Naught and One for Self” – Collective and Individualistic Worldviews
“Apples and Amish: A Journey to Understand Technology and Society”
“The Beginning of Human Life,” “The Evolution of Love”
“Curandismo and Catholicism in Northern Peru: Heresy or Syncretism?”
“A Critical Analysis of Matt Cybulsky’s Worldview” (by Matt Cybulsky)
“Aztecs and Christians: A Comparison of Two World Views,” “God’s Place in the Classroom,” “The Purposeless Driven Life,” “Reproductive Genetic Modification: A WorldView apart from Eugenics”
“There and Back Again – My Journey through the Realm of Fantasy”
“A Critique of the ordered Universe: A Worldview Offered by Modern Mathematics”
“Maintaining a Worldview through the Episcopal Church,” “Enchantment: Worldview of Don Quixote”
“Freemasons and Catholicism: Two Opposing Worldviews”
“The Human Genome Project: A Paradigm Shift in Racial Worldview?”
“For a Good Time, Scrawl: Bathroom Graffiti and “Impersonal Sex in Truck Stops”
“A Right to Die: Euthanasia and Physician-Assisted Suicide”
“Cadavers, Chalk and Cutlery” – Leonardo and dissection”
“A Lack of Common Ground, or How Political Ideology Arises from A Worldview
The Progress and Growth of a Toothworm: How Dentistry has change”
“Laughter and Humor (Human Nature and the Universe)”

WORLDVIEWS - Prof. R. Richards
Components of a Worldview:
• Things - What are the fundamental things that exist? What sorts of things are ruled out?
• Processes - What are the fundamental processes? How do things interact? What sorts of processes are ruled out?
• Problems and Questions - What questions can be answered about things and processes? And what questions are ruled out. What questions need to be answered?
• Standards - How should we answer these questions about things and processes? What kinds of explanation are appropriate? What rules of explanation are there? (Scientific, political, cultural, theological, etc.)
• Imaginative engagements - How are imaginations engaged by commitment to specific things, processes and problems? What are imaginings like? How does the world get imagined in art, literature, music etc.? What cannot be imagined?
• Values - Given this commitment to things, processes, problems and standards: How should people act? What should they do or not do? How should people live? What counts as a good life, a good person, a good society, and a good world? (Ethical, political, religious and aesthetic values)
APPENDIX E: COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI) COMPLETION REPORT

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)
HUMAN RESEARCH CURRICULUM COMPLETION REPORT
Printed on 05/31/2014

LEARNER: caroline parsons (ID: 108990)
DEPARTMENT: Communication Studies
PHONE: 205-348-0684
EMAIL: csparsons@ua.edu
INSTITUTION: University of Alabama
EXPIRATION DATE: 05/30/2016

NON-MEDICAL INVESTIGATORS: Choose this group to satisfy CITI training requirements for investigators and staff involved primarily in Social/Behavioral Research with human subjects.

COURSE/STAGE: Refresher Course 2
PASSED ON: 05/31/2014
REFERENCE ID: 1300120

<table>
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<tr>
<th>REQUIRED MODULES</th>
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<th>SCORE</th>
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For this Completion Report to be valid, the learner listed above must be affiliated with a CITI Program participating institution or be a paid Independent Learner. Falsified information and unauthorized use of the CITI Program course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Program Course Coordinator
APPENDIX F: SCRIPT FOR INVITATION TO PARTICIPATE

Learning Spaces in Higher Education: A Classroom Study
Fall 2014

Good morning/afternoon. I would like to invite you to participate in a research study about classroom atmosphere as it relates to student development and communication. We are interested in your reflections about and perceptions of how the classroom space (e.g., its size, shape, furniture, lighting, acoustics, ambience, and comfort) influences learning experiences. Your participation will help us to understand how the classroom space and environment helped you to develop as a student and a communicator this semester. In addition to your normal participation in the class, you will be asked to keep a journal, to be observed during class, and to participate in an interview and a focus group at designated and arranged points throughout the semester. Classroom proceedings, interviews, and focus groups will be audio-recorded for transcription purposes. The results will be used to improve classes at UA and other universities.

Confidentiality. Your participation in this study is very important, but it’s also voluntary. All of your answers will be confidential. The researcher will have no way to track back to you your journal reflections, classroom comments, or how you answered focus group or interview questions. So, it is very important that your reflections are based on what you actually think or do.

Components of the Study (During Class):

- Classroom Observations – You will be audio-recorded during multiple class sessions. You may feel awkward or uncomfortable at first because you are aware of the recorder. We find that most people become engaged in conversation and gradually forget about the recorder.

Components of the Study (Outside-of-Class, Not a Graded or Required Assignment):

- Focus Groups and Interviews - You will also be audio-recorded, outside of class, during a one-hour interview and a one-hour focus group about your experience of the classroom.

- Journals - You will be asked to keep a journal (digital or physical) in which you can respond to the following statement: Indicate any observations about teaching practices, student responses, or classroom successes or issues of concern that you relate directly to the physical classroom space in which this class occurs. These observations may include, but are not limited to:
  - For Students - general observations about classroom climate, how this class compares and/or contrasts with other classes you are taking, and general reflections on activities and assignments.
  - For the Instructor - general observations about classroom climate, how this class compares and/or contrasts with other classes you are teaching, and general reflections on activities and assignments.

- Please journal at your convenience, but especially when you notice a specific instance in which communication and student development took place and was possibly attributed to the arrangement of the classroom space. You will be asked to submit your journal entries around the midterm and at the end of the term.

Please take a moment to review the information sheets for this research. Contact me, Caroline Parsons, at csparsons@ua.edu if you have any questions or concerns at any point during the study.
APPENDIX G: PARTICIPANT INFORMATION SHEET

University of Alabama
Information about Research Study
Learning Spaces in Higher Education: A Classroom Study

You are invited to participate in a research study about classroom atmosphere. In this study, we want to better understand student and instructor perceptions of how the classroom atmosphere (e.g., its size, shape, furniture, lighting, acoustics, ambience, arrangement, technology, and comfort) influences student development and communication. Your participation will help us to understand how the classroom space and environment helped you to develop as a student and a communicator this semester. The results will be used to improve classes at UA and other universities. This study is supervised by Dr. Karri Holley, Associate Professor, Department of Educational Leadership, Policy, and Technology Studies. As part of this study, classroom observations, journals, interviews, and focus groups will be conducted and collected by Ms. Caroline Parsons, an Interdisciplinary Ph.D. Student in Communication and Student Development.

What is this study about?

This study is being conducted in order to gather data about reflections and perceptions of how the classroom space influences learning experiences, from both a student and instructor standpoint.

What will I be asked to do in this study?

In addition to your normal classroom participation, you will be asked to keep a journal and to participate in an interview and a focus group at a mutually-agreed-upon meeting time during the semester. In this study, you would also be observed during multiple classes. Classroom proceedings, interviews, and focus groups will be audio-recorded for transcription purposes. You may feel awkward or uncomfortable at first because you are aware of the recorder. We find that most people become engaged in conversation and gradually forget about the recorder.

Why is this study important – what good will the results do?

Establishing perceptions of classroom atmosphere as it relates to communication and student development helps to improve the classroom experience for undergraduate students. Observations and recordings can shed light on previous findings and be preserved for future researchers.

Why have I been asked to participate in this study?

Because of your involvement with this undergraduate initiative and because you are a student enrolled in a class offered by the undergraduate initiative, you are an expert on your own student development as a member of this community. You are in a position to help other educators understand your experience(s), what occurred, and what would help in making the best decisions about providing learning spaces in the future. You can also help other educators understand what specific components of this particular learning space resulted in the most effective communication and student development for you personally.

How many people besides me will be in this study?

During the 2014-2015 academic year, there will be 20-40 people in this study.
What do I have to do if I am in this study?
You will be asked to speak as naturally as possible during classroom observations and to reflect thoughtfully and honestly in the journals, the interview, and the focus group.

How much time will I spend being in this study?
The total amount of out-of-class time spent will be 2-4 hours. This is a 16-week study, in which you are invited to participate in class as normal, in addition to participating in interviews, focus groups, and journal writing outside of your regular class time. You will spend an hour in the interview and an hour in a focus group, at mutually-agreed-upon times. You may invest as much time as you wish on the reflection journals, anywhere from 30 minutes to two hours. Multiple classroom sessions will be audio-recorded for up to eight hours of class time, for one-hour per session.

Will I be paid for participating in this study?
You will not be paid for being in this study, but you will be provided with a copy of either or both audio-recordings if you request them.

Are there risks (dangers) to me from being in this study?
Little or no risks are foreseen; however, there is a chance you may realize, after a recording, that you wish for something you said to be removed from the release of information. You may withdraw from the study at any time if this is the case; this is your right as a participant in a research study.

Are there any benefits (good things) to me from being in this study?
Although benefits cannot be promised to you in this study, you may feel good knowing that reflecting on your experience(s) may be useful in helping other students to develop as communicators and leaders as a result of your experiences. It may feel good to speak and write about your experiences with a safe, understanding person who will share some of your ideas with future students and educators.

Will I be compensated for participating in this study?
You will not be compensated for being in this study.

Will being in the study cost me anything?
There will be no cost to you except for your time.

What are the alternatives (my other choices) to being in this study?
Your alternative to being in this study is not to participate in it. Taking part in this study is voluntary – it is your free choice. You may choose not to be a part of it or stop at any time. Leaving the study will not affect your grade or standing in the class or at the university in any way.

How will my privacy (confidentiality) be protected?
Several things will be done to protect your privacy. Your information sheet and other identifying information will be kept strictly confidential by giving you a code number on your information sheet, transcribed classroom proceedings, and audio-records to protect your identity. This information will be kept in a locked cabinet in Ms. Parsons’ office. Once the interviews are typed up and identified only by code, the records and transcripts will be locked in the cabinet and will be destroyed in five years.
The results of this study will be used for Ms. Parsons’ dissertation and may be published in a professional journal and/or book, but no names will be used. If people’s actual words are used to make a point, they will be given pseudonyms. Also, the dissertation and the article and/or book will say only that the students in the study came from a large, public university in the southeastern United States.
What are my rights as a participant in this study?

Your decision to be in this study is voluntary. It is your free choice. You may refuse or agree/consent to participate in as many of the parts of the project (e.g., journaling, interviews, focus groups, and/or being audio-recorded) as you wish, and you may change your mind about participating once you start. If you start the study, you can stop at any time and your regular participation in the class will not be included in the results of the study. There will be no effect on your relations with The University of Alabama.

Who do I call if have questions or problems?

If you have questions about the study at this time, please ask. If you have questions about the study later on, which can be done anonymously, please call me at (205) 348-xxxx or contact me:

Caroline Parsons  
College of Communication and Information Sciences  
The University of Alabama  
203 Reese Phifer Hall

You may also contact the chair of my dissertation committee, Dr. Karri Holley, Associate Professor in the Department of Educational Leadership, Policy, and Technology Studies at the following address: The College of Education, The University of Alabama, 301 Graves Hall.

If you have questions about your rights as a research participant or if you would like to make suggestions or file complaints or concerns, you may call Ms. Tanta Myles, the Research Compliance Officer at the university, at 205-348-8461, or file complaints through the IRB Outreach website at http://osp.ua.edu/sitePRCO_Welcome.html. You may email questions or concerns to participantoutreach@bama.ua.edu.

I have read this information. I have had a chance to ask questions. I agree to take part in this study. I will receive a copy of this information.

Signature of Research Participant ____________________________ Date ____________

Signature of Investigator ____________________________________ Date ____________

Recording Consent

A focus group, interview, and classroom proceedings will be audio-recorded for research purposes to learn about how classroom atmosphere influences communication and student development. The records will be stored in a locked file cabinet in a locked room and available to the research staff. The records will be destroyed five years after completion of the study.

→ I understand that part of my participation in this research study will be audio-recorded and I give my permission to the researcher(s) to record the interview, focus group, and classroom proceedings.

___Yes, my participation in this study can be audio- and/or video-recorded.

___No, I do not want my participation to be audio- and/or video-recorded.
APPENDIX H: INSTRUCTOR CONSENT FORM

University of Alabama
Information about Research Study
Learning Spaces in Higher Education: A Classroom Study

You are invited to participate in a research study about classroom atmosphere. In this study, we want to better understand student and instructor perceptions of how the classroom atmosphere (e.g., its size, shape, furniture, lighting, acoustics, ambience, arrangement, technology, and comfort) influences student development and communication. Your participation will help us to understand how the classroom space and environment helped you to develop as a student and a communicator this semester. The results will be used to improve classes at UA and other universities. This study is supervised by Dr. Karri Holley, Associate Professor, Department of Educational Leadership, Policy, and Technology Studies. As part of this study, classroom observations, journals, interviews, and focus groups will be conducted and collected by Ms. Caroline Parsons, an Interdisciplinary Ph.D. Student in Communication and Student Development.

What is this study about?
This study is being conducted in order to gather data about reflections and perceptions of how the classroom space influences learning experiences, from both a student and instructor standpoint.

What will I be asked to do in this study?
In addition to your normal instruction of the class, you will be asked to keep a journal and to participate in interviews with the researcher at mutually-agreed-upon meeting times during the semester. In this study, your class would also be observed multiple times. You will also be asked to share a copy of your syllabus.
Classroom proceedings, interviews, and focus groups will be audio-recorded for transcription purposes. You may feel awkward or uncomfortable at first because you are aware of the recorder. We find that most people become engaged in conversation and gradually forget about the recorder.

Why is this study important – what good will the results do?
Establishing perceptions of classroom atmosphere as it relates to communication and student development helps to improve the classroom experience for undergraduate students. Observations and recordings can shed light on previous findings and be preserved for future researchers.

Why have I been asked to participate in this study?
Because of your involvement with this undergraduate initiative and because you are an instructor in a class offered by the undergraduate initiative, you are an expert on your students’ development in this learning community. You are in a position to help other educators understand your experience(s), what occurred, and what would help in making the best decisions about providing learning spaces in the future. You can also help other educators understand what specific components of this particular learning space resulted in the most effective communication and student development for your students.

How many people besides me will be in this study?
During the 2014-2015 academic year, there will be 20-40 people in this study.
What do I have to do if I am in this study?
You will be asked to speak as naturally as possible during classroom observations and to reflect thoughtfully and honestly in the journals and in the interviews.

How much time will I spend being in this study?
The total amount of out-of-class time spent will be 2-4 hours. This is a 16-week study, in which you are invited to participate in teaching your class as normal, in addition to participating in interviews and journal writing outside of your regular class time. You will spend an hour in each of two interviews, at mutually-agreed-upon times. You may invest as much time as you wish on the reflection journals, anywhere from 30 minutes to two hours. Multiple classroom sessions will be audio-recorded for up to eight hours of class time, for one-hour per session.

Will I be paid for participating in this study?
You will not be paid for being in this study, but you will be provided with a copy of either or both audio-recordings if you request them.

Are there risks (dangers) to me from being in this study?
Little or no risks are foreseen; however, there is a chance you may realize, after a recording, that you wish for something you said to be removed from the release of information. You may withdraw from the study at any time if this is the case; this is your right as a participant in a research study.

Are there any benefits (good things) to me from being in this study?
Although benefits cannot be promised to you in this study, you may feel good knowing that reflecting on your experience(s) may be useful in helping other students to develop as communicators and leaders as a result of your experiences. It may feel good to speak and write about your experiences with a safe, understanding person who will share some of your ideas with future students and educators.

Will I be compensated for participating in this study?
You will not be compensated for being in this study.

Will being in the study cost me anything?
There will be no cost to you except for your time.

What are the alternatives (my other choices) to being in this study?
Your alternative to being in this study is not to participate in it. Taking part in this study is voluntary – it is your free choice. You may choose not to be a part of it or stop at any time. Leaving the study will not affect your standing at the university in any way.

How will my privacy (confidentiality) be protected?
Several things will be done to protect your privacy. Your information sheet and other identifying information will be kept strictly confidential by giving you a code number on your information sheet, transcribed classroom proceedings, and audio-records to protect your identity. This information will be kept in a locked cabinet in Ms. Parsons’ office. Once the interviews are typed up and identified only by code, the records and transcripts will be locked in the cabinet and will be destroyed in five years.
The results of this study will be used for Ms. Parsons’ dissertation and may be published in a professional journal and/or book, but no names will be used. If people’s actual words are used to make
a point, they will be given pseudonyms. Also, the dissertation and the article and/or book will say only that the students in the study came from a large, public university in the southeastern United States.

**What are my rights as a participant in this study?**

Your decision to be in this study is voluntary. It is your free choice. You may refuse or agree/consent to participate in as many of the parts of the project (e.g., journaling, interviews, and/or being audio-recorded) as you wish, and you may change your mind about participating once you start. If you start the study, you can stop at any time and your regular participation in the class will not be included in the results of the study. There will be no effect on your relations with The University of Alabama.

**Who do I call if have questions or problems?**

If you have questions about the study at this time, please ask. If you have questions about the study later on, which can be done anonymously, please call me at (205) 348-xxxx or contact me:

Caroline Parsons  
College of Communication and Information Sciences  
The University of Alabama  
203 Reese Phifer Hall

You may also contact the chair of my dissertation committee, Dr. Karri Holley, Associate Professor in the Department of Educational Leadership, Policy, and Technology Studies at the following address: The College of Education, The University of Alabama, 301 Graves Hall.

If you have questions about your rights as a research participant or if you would like to make suggestions or file complaints or concerns, you may call Ms. Tanta Myles, the Research Compliance Officer at the university, at 205-348-8461, or file complaints through the IRB Outreach website at http://osp.ua.edu/sitePRCO_Welcome.html. You may email questions or concerns to participantoutreach@bama.ua.edu.

I have read this information. I have had a chance to ask questions. I agree to take part in this study. I will receive a copy of this information.

Signature of Research Participant ____________________________ Date ____________

Signature of Investigator __________________________________ Date ____________

**Recording Consent**

A focus group, interview, and classroom proceedings will be audio-recorded for research purposes to learn about how classroom atmosphere influences communication and student development. The records will be stored in a locked file cabinet in a locked room and available to the research staff. The records will be destroyed five years after completion of the study.

→ I understand that part of my participation in this research study will be audio-recorded and I give my permission to the researcher(s) to record the interviews and classroom proceedings.

___ Yes, my participation in this study can be audio- and/or video-recorded.

___ No, I do not want my participation to be audio- and/or video-recorded.
APPENDIX I: INSTITUTIONAL REVIEW BOARD APPROVAL

June 5, 2014

Karrl Holley
Dept of Higher Ed. Admin.
College of Education
Box 870302

Re: IRB#: 14-OR-214 “Learning Spaces in Higher Education: A Classroom Study”

Dear Dr. Holley:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

Your application will expire on June 3, 2015. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Request for Study Closure Form.

Please use reproductions of the IRB approved stamped information sheet or consent form to provide to your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

[Signature]

Carriean T. Myles, MSM, CIC, CIFP
Director & Research Compliance Officer
Office of Research Compliance
The University of Alabama

358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
fax (205) 348-7189
Toll free (877) 820-3066
During the following excerpts of classroom discussion, the instructor asked the students what they thought William Shakespeare was trying to communicate in the play *King Lear*. In each of the four exchanges excerpted in this memo, the instructor shared historical context relevant to the time period in which the play was written, giving a broader context for the message of Shakespeare’s play. This contextualization happened after about the third or fourth turn of student discussion.

Instructor: Do you think Lear is beginning to recognize that he made a mistake?

Student: Realizing, maybe internally, that he made a mistake. But…having to tell it to yourself, like, “I screwed up…the two daughters that obviously don’t love me, I gave them all this power, and then shunned the one who actually would’ve taken care of me.” [Cordelia] didn’t want to subject herself to, like, rote flattery.

Instructor: (Pause). Um, so what do you think Shakespeare is saying, in the way he portrays Lear, about kingship?

Student: A lot of times, um, kings don’t make the best decisions court-wise, because they want someone to stroke their ego around them…a lot of times the positions of power that they choose are not based on merit. They’re based on flattery and bribery…

Instructor: Um, if you buy into the theory of divine right of kings, which most the monarchs in this era did, that they are God’s lieutenants on earth, then you believe that they deserve absolute obedience, subservience. “*King Lear: Divine Rights*” p. 1

Student: It’s obvious as the story goes on, that he gets more and more kind of senile; he starts going crazy a little bit…

Instructor: Well, he, yeah…we can talk about that, he does and sometimes he doesn’t…

Student: But that shows that he’s not like this divine being, he’s human. He’s going a little bit…

Instructor: Right. Well, yes, you’re quite right, I think, um, [Melody], but I also…if you give away your kingdom, as monarchs did that in this time frame…maybe, the smartest thing to do, if you decide to divide your kingdom, is to go to a monastery.

Class: (Laughter).

Instructor: …because your heirs really don’t want you around. “*King Lear*” p. 1
Student 1: If Lear had just stepped down and taken a lesser role, do you think the play would have developed the way it had?

Student 2: I don't think so, because even if he would have just stepped away and not demanded all the love and respect and everything...Besides Cordelia, I don't think the other sisters really cared much about him...

Instructor: They didn't.

Student 3: Before, they just begged to get what they wanted.

Student 2: Yeah, and they wouldn't, even when he was down and out, the only one who would still care about him would be Cordelia. I mean, the sisters could care less...they wouldn't care if he fell off a cliff and died.

Student 4: They got what they wanted essentially...

Instructor: ...I think there are two valid ways of looking at this play in a perhaps a broader context. First of all, I think the way that Shakespeare here is maybe criticizing...who we choose as leaders and “pillars of the community.”...Shakespeare encourages us to be distrustful of power and power seekers.

“King Lear: Divine Rights” p. 3

Student 1: 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?

Student 2: Yeah, but you can't outright say that or you'll get, “Off with your head.”

Student 3: That's what I took from the whole story in general.

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 1: 1607, I think.

Instructor: ...This is during the reign of James VI of Scotland...it's at this [tumultuous] time during James’ reign 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?

“King Lear: Divine Rights” p. 4
**Peer Reviews and Laptop Use in English and Narrative Writing Classes in Blount**

Interviews with Arielle, Cameron, and Melody

Memo 11/24/14

In these interview excerpts, Cameron and Arielle, who are both enrolled in BUI 104 English class in Blount, describe their experience in the peer review workshops, in which students use their laptops to research and write their papers. Mary, a senior, describes her experience with peer reviewing in BUI 104 and in a Blount Memoirs class. In BUI 104, the instructor actively proofs the drafts via email and Blackboard, before students submit the final draft to turnitin on Blackboard. By bringing their laptops to class for writing purposes, students are able to refine their papers from rough draft to final draft form, with the feedback and revisions from their peers and instructor. This BUI 104 class uses more technology both during classroom proceedings and for grading purposes than the other Blount classes.

**Interview with Arielle on 11/16/14**

Interviewer: Tell me about your English 104 class.

Arielle: I think BUI 104 is a lot like BUI 101 in that, there’s of course the round table with the teacher in the center. It's as comfortable as the BUI 101 class. It is a little different though, in that there's not much discussion and there's a whole lot more of technology. We use our computers, maybe every other day or sometimes everyday. We only meet twice a week. So we normally use our computers like once at least a week and everything that we submit is, we submit everything via turnitin, the online portal.

Interviewer: So, the Blount English instructors use technology in their classes.

Arielle: Right, for English 104, I think it's pretty common.

Interviewer: Do you proof each other's work?

Arielle: We do.

Interviewer: Tell me about this. Are they peer workshops, or what do you call them?

Arielle: We usually just say peer review. So we'll draft a paper, maybe like a research paper or argument paper or something. What we'll do is, maybe we'll write initially one, two paragraphs. And then, we'll sit, in the circular, round shape set up. We'll take our papers and pass them to the left and the person to the left will review the first paragraph. Then, he'll say pass again, then the next person will review the second paragraph. You will review paragraphs pretty much until it gets back to you. A new person in the circle reviews different paragraphs of your essay.

Interviewer: During these peer reviews…what kind of comments do you give?

Arielle: Personally, when I review my peer's paper, I actually do a little bit of both content and format comments. “Hey, there's like a run on.” Or “Hey, you need to add a comma.” Or “that sentence doesn't make any type of sense.” I may say that. But sometimes it will be content-wise like okay; this paragraph was way off base. It doesn't go with your paper. Sometimes, when I get my own papers back, it will be like, add a little bit more content here. It may not be as specific as what I give others but it may be something like, add a little bit more content here or summarize this. It just depends on the paragraph or the paper.
Interviewer: Do you feel like you're getting thoughtful feedback?

Arielle: The students in Blount, I appreciate their feedback a lot more than would some other random English class. I will say that. I do trust them because they might actually put a little bit more into it than other random kids. Even though I do prefer the professor, but if I had a choice between Blount students and just random university students, it would definitely be Blount.

Interviewer: You go back and you make those revisions and you come back the next day and do it again…or turn it into your professor on turnitin.com?

Arielle: Usually. He does give us the opportunity to email and say, “Professor, before I turn in this paper, can you look at this?” I really appreciate that.

Interviewer: So you could just email him your draft and he will proof it?

Arielle: Right. Sometimes it will be a little bit more general than I would like but that's one thing that I love about Blount. I love the fact that there are smaller classes, which gives an opportunity to do that. I'm glad that the classes are smaller, so he doesn't have to grade a billion papers, because now he's more willing.

Interview with Cameron on 11/14/14

Interviewer: Tell me about your BUI 104 class, your English 104 class.

Cameron: English in Blount is different because he makes us – I actually like this because it helps me – do outlines and we form our intro thesis then we have draft then we peer edit it then we have the final draft. It helps along in the process.

Interviewer: He takes you through stages of your writing outlining, peer drafting. Tell me about the peer reviews.

Cameron: Pretty much, we have our rough drafts and we just have to print them out. We pass along the papers. One person peer edits the entire essay, and they talk to us about what they thought we should do differently. It really helped, because I had two different ideas in the same paragraph and my peer suggested that I put in sub-paragraphs, and the teacher actually liked that. Then, the next time we did it, we had someone else’s paper. For every paragraph, we’d pass it around, so a different person might critique the intro and hand it someone else for paragraph one, two, three, and then closing. Some people don’t take it seriously, which is annoying, but it helps.

Interviewer: That’s a really interesting writing method, because you get a second chance. You get to make the changes your peers tell you to make before the teacher grades it.

Cameron: Then, I’ll email the teacher probably five times about one paper and he will always be fast responding. I think he really likes us asking questions about our peers’ feedback…He will have us upload our draft…He looks at it and makes comments…You have to write a paragraph or two about each peer’s comment – where you think their feedback is helpful and where you don’t think it’s helpful. And then, we talk start working the rough drafts into final drafts…I think it is really helpful, to know what’s working and what’s not working basically.

Interviewer: Does your BUI 104 instructor allow you to use the laptop to do research?
Cameron: We do research on our laptops, like scout for the library. Last class, we had to bring our laptops and he showed us how to do that because we were doing what he calls causal argument; it has cause and effect. Also, everything is submitted through turnitin on the computer. We bring our computers and if we don’t have a lot to do in class, he will let us work on our papers for the last 45 minutes. I think it’s really helpful, because you can ask some questions in class instead of having to him email about it, so you get feedback really fast.

Interviewer: So you are able to print it in the classroom and turn it in?

Cameron: No. We turn it in online, there’s a link called turnitin.

Interviewer: Your BUI 104 professor seems to really integrate blackboard, which is where you are turning in assignments.

Interview with Melody on 10/14/14

Interviewer: Do you believe like classroom atmosphere and spatial layout plays more of a role in your development as a student that you did before, now that we are talking about it?

Melody: Yeah. The Blount classroom makes me feel more like I can move and not feel closed up. When I’m in other classrooms and I’m stuck in a desk, I’m like “I don’t want to be here; I don’t want to do this.” Where here, I feel more open I feel like I can move I feel like that helps me think better.

Interviewer: Yes.

Melody: I've always loved Blount classrooms because of the way they are structured.

Interviewer: Was your Blount English class set up like this classroom?

Melody: Yeah. It was a big circular table. It's still definitely set up for discussion. You had to discuss.

Melody: …The first Blount class I took outside of freshman year was the Memoirs class…We did a lot of writing…Just writing and re-writing.

Interviewer: Did you all proof each other's writing in the Blount Memoirs and Narratives class? I'm curious about that.

Melody: Yeah. That course in particular helped me in narrative writing. It forced me to put my feelings on paper…And then they proofread them. We had to read our papers out loud to class and discuss openly what was right or wrong in those papers…You're just to critique the writing.

Interviewer: So in these proofreading workshops, were you circled up? Were you all facing the front, or in a circle like this? Did you have to rearrange the furniture?

Melody: We were in this Blount classroom. These tables were in this classroom.

Interviewer: So you didn't have to rearrange.

Melody: No…We would write the first paper and we give everyone a copy…We’d go around the circle and everyone had to comment on it, what they liked and didn't like.
Student Perceptions of Virtual Learning Spaces

The purpose of this memo is to parse out what about the roundtable classroom is so desirable for participants in this study and to draw some conclusions about their apparent lack of desire to use technology in the classroom, for the most part.

Citing the use of mobile devices for entertainment purposes in other classrooms on campus as a source of distraction, students reported the refreshing lack of technology use in Blount classes. A freshman in one of the focus groups stated,

Here, if you check your phone, everyone’s like [lengthy sigh]…that, for me, is probably the most important part about this… your mind is here. Your mind is not preoccupied with “Oh, look at what Kim Kardashian posted.”

Students in a senior focus group echoed their support for the lack of technology in Blount classrooms. In response to a question about whether they believed that the “low-tech” nature of Blount was a necessary component of the curriculum, they stated,

Student 1: For freshmen year, what we’re reading is ancient…we’re reading a lot of old, intellectual authors…so we don’t need [technology] then. Maybe towards the end we will, but definitely not the first year.

Student 2: There’s no reason...

Student 3: We use our mind more than technology.

In an interview with a freshman major in Chemical Engineering, who does not necessarily value the merit of having technology in the Blount classroom, she described the day that Cameron played the *Bird of Paradise* video. She stated,

There are a lot of people who have laptops, iPads, tablets, whatever out in like engineering or math classes…but only part of the time it's for following along…often people are getting distracted with it. There are benefits, like that one time [Cameron] pulled out her iPad and we all watched the video…but that's the only time where it was really necessary.

A senior in Marketing and Management described, in an interview, how using PowerPoint slides and Blackboard is necessary in his Business classes, but that he prefers to take notes by hand, as is customary in Blount classes. He stated,

I think projectors and stuff are kind of necessary in my business and management classes…I may be convenient to pull up a PowerPoint in front of you, but [I’d rather have] something smaller than taking my laptop around, or having to plug it in and fire it up…it's slow…I remember stuff better when I write it down instead of typing it out.
Instructor Perceptions of Virtual Space

The three instructors interviewed in this study agreed that students learned and interacted with each other in a meaningful way in the roundtable classroom and that technology played a very minimal role. For example, the teaching assistant for the freshman class stated,

I think technology is great…but to me, I've always felt like a lot of people that use PowerPoint, and I've been guilty of this too, are just really lazy in presenting information. The fastest way for me to tune somebody out is if they just read off the slides on PowerPoint, or have too much information on them.

He added that technology is often used as a way to hide from others, or to avoid interacting with them. He stated,

One thing that I think is really unique about the Blount program is you can't hide behind a laptop or in a live text chat room…we don’t present slides. I've written on the blackboard last year some. I guess we have some notes in front of us about what we wanna talk about, but it's a lot more about me interacting with you…

The teaching assistant also contended that the use of mobile devices or laptops in the Blount classroom disrupts interactions during class:

My phone’s off whenever we're in the Blount classroom, because I just feel like that’s the time really where everybody’s in there to interact, hopefully with each other and not with their best friend, where they'd be looking at their phone. Last year, we had a couple of students that had bought one or two other texts on a tablet or a laptop, and so we let them have it out to look at that. But even then, it's kind of concerning just to have something like that in a classroom where, for any amount of time, you're not really paying attention to somebody else.