

Spring 2024

## Developing Intercultural Competence and Cultural Capital: Applying Virtual Reality to Study Abroad Pedagogy

Jenifer Butler  
*Old Dominion University*, [jenifer.butler@fmarion.edu](mailto:jenifer.butler@fmarion.edu)

Follow this and additional works at: [https://digitalcommons.odu.edu/english\\_etds](https://digitalcommons.odu.edu/english_etds)



Part of the [Communication Technology and New Media Commons](#), [Educational Technology Commons](#), and the [Rhetoric and Composition Commons](#)

---

### Recommended Citation

Butler, Jenifer. "Developing Intercultural Competence and Cultural Capital: Applying Virtual Reality to Study Abroad Pedagogy" (2024). Doctor of Philosophy (PhD), Dissertation, English, Old Dominion University, DOI: 10.25777/02ed-zc65  
[https://digitalcommons.odu.edu/english\\_etds/178](https://digitalcommons.odu.edu/english_etds/178)

This Dissertation is brought to you for free and open access by the English at ODU Digital Commons. It has been accepted for inclusion in English Theses & Dissertations by an authorized administrator of ODU Digital Commons. For more information, please contact [digitalcommons@odu.edu](mailto:digitalcommons@odu.edu).

**DEVELOPING INTERCULTURAL COMPETENCE AND CULTURAL CAPITAL:  
APPLYING VIRTUAL REALITY TO STUDY ABROAD PEDAGOGY**

by

Jenifer Butler  
B.A. May 2014, Coastal Carolina University  
M.A. May 2016, Coastal Carolina University

A Dissertation Submitted to the Faculty of  
Old Dominion University in Partial Fulfillment of the  
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

ENGLISH

OLD DOMINION UNIVERSITY  
May 2024

Approved by:

Kevin Moberly (Director)

Margaret Konkol (Member)

Michelle Fowler-Amato (Member)

Andrew Kissel (Member)

## **ABSTRACT**

### **DEVELOPING INTERCULTURAL COMPETENCE AND CULTURAL CAPITAL: APPLYING VIRTUAL REALITY TO STUDY ABROAD PEDAGOGY**

Jenifer Butler  
Old Dominion University, 2024  
Director: Dr. Kevin Moberly

As the world becomes increasingly globalized thanks, at least in part, to the ubiquity of digital technology, scholars in discourse and new media must explore the possibility of learning and composition to expand pedagogical practices and opportunities. This project uses study abroad programs and education as a test case for establishing the feasibility of easily incorporating existing virtual reality (VR) technology into the classroom. It examines the theoretical and technological question of whether advancements in virtual reality have achieved the potential for practical pedagogical applications, and if virtual technology can provide responsible, accurate, and educational access to concepts as complex as culture.

This dissertation considers questions of culture, historical and current study abroad practices, and theories of technology, the virtual, and the real as the foundation for the creation of a digital prototype designed to demonstrate the feasibility of using off-the-shelf VR technology for pedagogical applications. This dissertation also employs empirical user-based research to determine the best design strategies for constructing the VR prototype. By demonstrating how low-cost VR technologies can increase intercultural competence and existing study-abroad pedagogies, this dissertation highlights the potential of using VR to supplement traditional pedagogies in a number of humanities-related fields.

@Copyright, 2024, by Jenifer Butler, All Rights Reserved.

This dissertation is dedicated to my family – my parents James and Linda Butler; my brother, Matt Butler; and my nephew, Jayden Butler. Thank you for always believing in me, even when I did not believe in myself.

A special dedication to my mother, Linda. Though you are not here to see this milestone, you never doubted I would achieve this moment. You have always been my greatest champion. Your faith, strength, and love were, and are, with me forever.

## ACKNOWLEDGEMENTS

This journey is not one I have traveled alone. Many people deserve recognition for the success of this project and my overall success. Dr. Kevin Moberly must be the first to receive my unending gratitude. He saw promise in me and this project long before I fully understood the shape it would take, providing direction and support when the pressure felt too heavy. I can honestly say that I could not have asked for a better scholar and person to serve as my committee chair.

My sincerest thanks to my committee members, Dr. Michelle Fowler-Amato, Dr. Margaret Kilcline, and Dr. Andrew Kissel for their patience and flexibility throughout the defense process. All three committee members challenged me in the defense while also expressing a level of support for my work that has bolstered my confidence beyond words.

Dr. Kate Oestreich was the first person to tell me that I have a talent for graduate-level work, which inspired me to push myself farther than I dreamed. Dr. Shannon Stewart recognized my need for a support system as an off-campus doctoral student, providing messages of support throughout my journey. Dr. Tripti Pillai has been a mentor, seeing me through so many self-doubts and struggles. It was her faith in me that helped me discover my strength and belief that I could achieve success. It is my deepest desire to be for my students what they have been and continue to be for me.

Last, but not least, my colleagues at Francis Marion University. Had it not been for the fabulous support from the English department, this journey would have been exponentially harder. It is my immense joy to have achieved this milestone as part of this department and school.

**NOMENCLATURE**

ICC Intercultural Competence

SA Study Abroad, American-based for-credit programs

VE Virtual Environment

VR Virtual Reality

## TABLE OF CONTENTS

	Page
LIST OF TABLES.....	ix
INTRODUCTION.....	1
WHAT IS CULTURAL CAPITAL AND INTERCULTURAL COMPETENCE? .....	2
RESEARCH STATEMENT.....	15
METHODOLOGY .....	17
CHAPTER OUTLINES.....	19
STUDY ABROAD HISTORY, PRACTICES, AND SCHOLARSHIP .....	22
PRESENT-DAY SA PRACTICES AND OUTCOMES.....	34
POTENTIAL – VIRTUAL REALITY AND CULTURAL EXPOSURE .....	37
LOOKING TO TECHNOLOGY.....	43
TRACING CULTURAL, VIRTUAL, AND TECHNOLOGICAL THEORY .....	44
CULTURE AND THE VIRTUAL.....	45
TECHNOLOGY AND THE VIRTUAL.....	47
FRAMING THE RELATIONSHIP BETWEEN THE REAL AND THE VIRTUAL .....	60
ESTABLISHING MEASURES OF STRUCTURE.....	67
MERGING IDEAS - REMEDIATION.....	70
APPLYING THEORY .....	73
METHODOLOGY AND RESEARCH.....	80
DEFINING KEY TERMS .....	81
DESIGN APPROACH .....	85
METHODOLOGY .....	89
INITIAL DATA.....	94
CHOOSING HARDWARE.....	99
INTERACTIVITY AND IMMERSION .....	102
INTERACTIVE — ENGAGING THE EXPERIENCE .....	106
SENSORY FACTORS – VISUAL, MOBILITY, AUDIO .....	108
PROTOTYPE DESIGN, PROCESS, AND CONCLUSIONS.....	120
VIRTUAL REALITY AND THE DIGITAL DISSERTATION .....	123
SOFTWARE AND CHOICE .....	123
FIRST STEPS: SPATIAL .....	126
ADDING COMPLEXITY: VR CHAT .....	128
OUTLINING A DIGITAL DISSERTATION.....	131
CROSSROADS – DIGITAL AND TRADITIONAL DISSERTATION.....	139
PEDAGOGICAL THEORY AND APPLICATION.....	142



	Page
TRADITIONAL PEDAGOGICAL THEORY .....	142
EDUCATIONAL HISTORY AND TECHNOLOGICAL INFLUENCE .....	149
PUTTING THEORY INTO PRACTICE .....	154
PEDAGOGICAL DESIGN .....	156
PRE-TRAVEL COURSE .....	158
POST-TRAVEL COURSE.....	162
REFLECTION AND REMARKS .....	166
 CONCLUSION.....	 168
 WORKS CITED .....	 175
 APPENDICES .....	 186
APPENDIX A: PARTICIPANT INTAKE INFORMATION AND DEMOGRAPHICS.....	185
APPENDIX B: INTAKE SURVEY .....	186
APPENDIX C: EXPERIENCES AND ENGAGEMENT RATES .....	191
APPENDIX D: LIKERT SCALE SURVEY .....	192
APPENDIX E: HIGH AND LOW DESIGN PRIORITY DATA .....	193
APPENDIX F: EMAIL TO FRANCIS MARION UNIVERSITY FACULTY .....	194
APPENDIX G: PRE-TRAVEL COURSE SYLLABUS AND SCHEDULE .....	195
APPENDIX H: POST-TRAVEL COURSE SYLLABUS AND SCHEDULE.....	206
 VITA.....	 217

**LIST OF TABLES**

Table	Page
1. Participant Demographics .....	92
2. VR Experiences .....	96
3. Likert Scale Results .....	98
4. Design Priority .....	121

## INTRODUCTION

Very few argue that learning about the complexities and diversity in culture and society is achieved by learners through experience and immersion. Being in a society or surrounded by any given culture is the most immediate way to explore and discover the nuance of values, beliefs, norms, and other aspects of interaction that diverge from culture to culture. However, what happens when society experiences a rupture that prohibits traveling abroad?

In 2019, a societal rupture occurred when an unexpected outbreak of a Covid variant, dubbed Covid-19, began to spread across the globe. By March 2020, the W.H.O. declared a global pandemic, bringing international travel to a halt. Countries closed borders and societies locked down to try and cull the spread of the virus, but these decisions would also cull the spread of learning opportunities. As of 2022, the pandemic shifted into an endemic phase, allowing for the lifting of many restrictions. However, the impacts on social and cultural learning are vast. In their 2021 article “Exploring the Relationship Between the COVID-19 Pandemic and Changes in Travel Behavior: A Qualitative Study,” Yilin Yang et al. note that “Educational institutions, including universities and research centres [sic], have been particularly affected due to the disease’s broad and indeterminate impact on global mobility” (2), which leaves potential international students less confident to travel to countries with higher cases of Covid-19 or to use public forms of transportation, such as airplanes, that are known as environments conducive to the spread of infections such as the common cold, influenza, and now Covid-19. As countries worldwide braced for the unknown ramifications of COVID-19 in the preliminary stages of the pandemic, international students faced tough decisions about whether they wanted to risk traveling abroad and faced the realities of legal systems minimizing traffic across international borders. Yang et al. explain that in the United States, international students faced concerns over

their visas when the U.S. Immigration and Customs Enforcement agency announced that degree-seeking international students would have to leave the country early if their [US-based] universities had transitioned to online learning (3). The health concerns, paired with the legal ramifications that international students faced, made it all the more likely that students would return to their native countries, and which students may return to their learning abroad goals has yet to be seen.

The COVID-19 pandemic has shifted into an endemic phase, allowing borders between countries to open again with lessons learned about how fragile our SA programs are in the face of global challenges that impede immersive learning through travel. When opportunities are lost, the capacity for education to facilitate learning and development of Intercultural Competence (ICC) is also severely limited.

#### WHAT IS CULTURAL CAPITAL AND INTERCULTURAL COMPETENCE?

Cultural capital and intercultural competence are complex concepts that require a more precise understanding before considering ways to increase them via immersive educational opportunities. Defining culture makes it possible to frame specific concepts of capital and competence related to culture. A 2021 article, "Rethinking Culture and Cognition," by Karn Cerulo, Vanina Leschziner, and Hana Shepherd, offers a comprehensive perspective on culture as both an experienced social construct and a cognitive engagement. Before discussing their approach to culture, Cerulo et al. point to the work of Paul DiMaggio, in which he argues that sociological studies of culture rely too heavily on "lived culture" that tends to be "plagued with implicit assumptions and mistaken presuppositions about 'what culture does and what people do

with it” (64). This view from Dimaggio prompted a shift in sociological considerations of culture within the developments of Cerulo, Leschziner, and Shepherd.

Culture, in cognitive contexts, is viewed as both a public and personal entity, in which the public is that which “resides in public spaces” and is constructed of “codes, classifications, frames, narratives, models, customs, and rules” (Cerulo et al. 64) that people can observe and draw upon as they navigate a given culture’s immediate social environment. Personal culture, however, includes “two elements: ‘non-declarative cultures (skills, dispositions, schemas, prototypes, and associations), and declarative cultures (views, attitudes, orientations, worldviews, and ideologies)’” (Cerulo et al. 64). These specific distinctions about the layers that exist when considering what culture is, and how we understand it, indicate that there are multiple heuristics from which a study might choose to engage culture. Too often, we enact obtuse perceptions of culture without considering the disparate levels of complexity at work within an individual alone. Every person within a culture presents the public performance of one’s culture along with the personal nondeclarative and declarative influences and understandings that are sometimes not observable or capable of articulation within the confines of language. Culture is vast and complex and cannot be fully engaged or contained within a single frame of mind. Still, suppose any prototype, program, or discourse should consider ways of expanding cultural capital and ICC. In that case, it is necessary to understand the complexity of culture and how people obtain, store, and activate culture. We must also see how those aspects affect how disparate cultures interact.

Just as culture is complex, so is the concept of Intercultural Competence (ICC) and Cultural Capital. A 2020 article by Christin Tarchi and Alessio Surian, “Promoting Intercultural Competence in Study Abroad (SA) Students,” discusses the development of intercultural

competence as a potentially measurable learning outcome for study abroad programs. They begin by noting that no agreed-upon definition of ICC exists, likely because of the complexities of gaining ICC and the lack of reliable means for measuring a student's ICC. Fabian Wolff and Christoph Borzikowsky, in "Intercultural Competence by International Experiences? An Investigation of the Impact of Educational Stays Abroad on Intercultural Competence and Its Facets," explain that the only foundational agreement that scholars from multiple disciplines can reach is that ICC "is a heterogeneous construct involving multiple dimensions, which are necessary to interact with people from other cultures adequate and effectively" (489). The "dimensions" involved are, simply put, facets of ICC that have been identified but are usually complicated to discern in their own right, as Wolff and Borzikowsky point out that one study determined there were as many as 325 facets of ICC that were either interconnected or, at best, overlapping (489). To further muddy the understanding of ICC, terminologies developed to suit the aims of a given disciplinary study or focus, with terms ranging from those used interchangeably with intercultural competence to those related off-shoots, with often only the slightest of nuance between them and ICC. By combining these off-shoot terms, I have developed the understanding of ICC that this study takes, which informs the project's approach towards developing ICC.

Intercultural Competence comprises three primary domains: intercultural traits, intercultural capabilities, and intercultural attitudes and worldviews (Tarchi and Surian 124). While Tarchi and Surian focus solely on intercultural attitudes and worldviews, SA programs today want to see perspectives and worldviews develop into the capability to navigate across cultural borders respectfully and productively. Therefore, this project understands the latter of the three domains as informing the second, making both equally crucial for ICC development.

Tarchi and Surian further divide their domains into external and internal outcomes: "Internal outcomes include adaptability, flexibility, analyzing, interpreting, and relating." In contrast, "external outcomes include effective and appropriate communication and behavior in intercultural situations" (Tarchi and Surian 124). Despite the academically worded outcomes currently used by universities and colleges around the nation, these outcomes are the crux of what programs want, or what they should want, as their learning outcomes for students. When developed through pedagogical and experiential learning practices, ICC's internal and external outcomes will achieve the broader goals outlined by existing programs in more substantial ways.

Wolff and Borzikowsky identify three critical terms that inform this project's approach to defining ICC. The first of these terms is *intercultural sensitivity*, described as "the ability to discriminate and experience relevant cultural differences.' We can infer that greater intercultural sensitivity is associated with the potential for exercising ICC, it can be seen as a prerequisite to developing ICC" (Wolff and Borzikowsky 489). Intercultural sensitivity is strictly internal, whereas ICC is both internal and external and focuses more on the "ability to think and act in intercultural appropriate ways" (Tarchi and Surian 125). Given this important distinction, this project aims to create a pre-travel course to promote intercultural sensitivity, which I hypothesize will increase ICC development and practice during travels abroad. I base this hypothesis upon the fact that Tarchi and Surian, too, conclude that the relevance of intercultural sensitivity is that its distinction allows us to see better the need to "scaffold study abroad experiences to trigger and support the development of intercultural competence based on students' cultural encounters and misunderstandings" (125). Misunderstandings are inevitable, but not all need to occur within the culture where students are less likely to understand how to correct their error if they even realize it has occurred. Virtual reality contributes an option for pre-travel training to aid with

navigating the most common missteps. Intercultural sensitivity is only one of three primary aspects of ICC that this study hopes to achieve.

Intercultural Competence comprises three primary domains: intercultural traits, intercultural capabilities, and intercultural attitudes and worldviews (Tarchi and Surian 124). While Tarchi and Surian focus solely on intercultural attitudes and worldviews, SA programs today want to see perspectives and worldviews develop into the capability to navigate across cultural borders respectfully and productively. Therefore, for this project, the latter of the three domains is understood to inform the second, making both equally crucial for ICC development. Tarchi and Surian further divide their domains into external and internal outcomes: "Internal outcomes include adaptability, flexibility, analyzing, interpreting, and relating."

In contrast, "external outcomes include effective and appropriate communication and behavior in intercultural situations" (124). Despite the academically worded outcomes currently used by universities and colleges around the nation, these outcomes are the crux of what programs should want as their learning outcomes for students. When developed through pedagogical and experiential learning practices, ICC's internal and external outcomes will achieve the broader goals outlined by existing programs in more substantial ways. Wolff and Borzikowsky identify *intercultural adaptation* as a branch of ICC, which "refers to altering one's behavior in response to a culturally different environment. Since intercultural adaptation requires the adoption of behaviors that accomplish goals and achieve tasks, it describes an outcome of ICC" (Wolff and Borzikowsky 489). This view of intercultural adaptation highlights how internal outcomes affect external ones, as one's adaptability impacts one's ability to perform behaviors in culturally appropriate ways.



A metaphorical umbrella under which sensitivity and adaptation fall is *cultural intelligence*. Cultural intelligence is “an individual’s capability to function and manage effectively in culturally diverse settings.” Unlike ICC, it is “construed as a certain form of intelligence and accordingly dependent on certain genetics, disposition, and personally related components of intelligence” (Wolff and Borzиковsky 489-490). A person’s cultural intelligence connects to their ability to develop intercultural sensitivity and enact intercultural adaptation. Let us assume that college and university students have gained admission to their chosen schools because those schools have determined, through their institutional parameters, that these students possess the necessary components of intelligence. It would, therefore, be reasonable to postulate that they also possess the capacity for cultural intelligence when the education and experiences focus on developing prerequisite intercultural sensitivity to facilitate their ICC growth. It is with this logic that my work on developing an immersive virtual reality cultural experience, in conjunction with a pedagogical framework for the application, is defining intercultural competence as the ability to engage cultural intelligence to apply the discerning skills of intercultural sensitivity to produce behavioral responses in culturally adaptive ways, intending to increase productive intercultural interactions.

Cultural Capital is another term we must further explore, and it is far less researched and defined by scholars than ICC or intercultural sensitivity. Identifying the concept of cultural capital requires looking beyond pedagogical and cultural and academic explanations and considering culture from an economic perspective. In *Cultural Capital*, economist David Throsby traces concepts of capital, specifically economic and human capital, to consider how the framework for understanding these definitions might inform the definition of cultural capital. Initially, Throsby takes issue with using the word cultural, instead preferring the term “adaptive

capital” due to the complexity of defining culture. Still, he concludes that simply accepting a broad view of culture, including manufactured and natural qualities and tangible and intangible aspects of culture, is sufficient to use the term cultural capital (5). After exploring both public (functional) and personal (anthropological) culture, Throsby concludes that the simple definition of cultural capital is “an asset that contributes to cultural value” (6). Though this is a simplistic definition to have a base for understanding cultural capital, Throsby does delve into a deeper explanation in which he divides cultural capital into tangible and intangible forms of cultural capital.

Tangible and intangible cultural capital are equally crucial to the aims of this project, especially since ICC requires both internal and external aspects of development. According to Throsby, tangible cultural capital is the assets such as “buildings, structures, sites and locations endowed with cultural significance” (7). I would extend this to include foods or objects commonly engaged in cultural practices worldwide. Tangible cultural capital is engaged when one can be near these objects. One cannot taste the cuisine of a place through virtual reality. However, we can encourage an appreciation of these tangible forms of cultural capital; imagine a student walking through Notre Dame's cathedral in virtual reality and suddenly longing to experience this culturally significant building in person. Intangible cultural capital, for Throsby, “comprises the set of ideas, practices, beliefs, traditions, and values which serve to identify and bind together a given group of people” (7). These intangible forms of cultural capital are represented and discussed through virtual reality composition and experiential learning. To be sure, students who experience a virtual representation of a culturally significant tradition are more likely to desire the experience in conjunction with tangible means of capital, such as foods

or scents. We can use this understanding of cultural capital as part of the proposed scaffolded learning, in which we look to develop intercultural sensitivity that later encourages ICC.

Although Throsby establishes a base definition for cultural capital rooted in economic understandings of capital, I submit an extension of his definition for this study to include viewing people (in this case, students themselves) as a form of cultural capital. A student with intercultural sensitivity who can develop a keen sense of intercultural competence is sure to be a valuable asset to cultures around the world. The more ICC students demonstrate, the more significant their cultural value increases because they can better recognize nuances between cultures and adjust their attitudes and behaviors to engage various cultures effectively. Therefore, a student's ICC becomes their cultural capital or, simply put, their value to the concept of culture itself. As such, cultural capital is the ultimate reason we must develop scaffolded learning to facilitate ICC development better. ICC is crucial to navigating and engaging across cultural boundaries, and it determines a person's cultural capital within a global society.

This positioning may raise Marxist objections about the commodification of culture, with the people being the laborers/assets who create and receive culture (the product) through an exchange not entirely unlike economic processes. Although detailing this point of theoretical intersection is outside this project's scope, it is essential to at least acknowledge that there are clear implications of commodifying that which, to so many people, is sacred to their histories and identities. However, it is the position of this study that the commodification of culture is not uncommon, whether it is for inviting tourism to bolster an economy or the exchange of culture-specific goods (i.e., the Silk Road in which the West coveted products/assets found in Eastern cultures). Rather than ignore or deny this commodification, I propose embracing a less stigmatized view of the word commodity and, instead, consider it an opportunity to refine how

we celebrate and share culture. It is more the intention behind the commodification and the denial of commodification that creates conflict. Here, I openly and respectfully acknowledge that this project does commodify culture, but the intention is not to promote individual profit.

The intention and goals of this project are to promote ICC development to generate a more significant cultural capital in students and society in the hopes that it will create more productive and respectful conversations about and between cultures. Like all other scholars, I cannot guarantee that this same project would not be used by people for selfish intentions or worse, to misappropriate culture. It is likely to happen as it has with many other social experiments (Facebook is an ideal example). This project strives to create a product - the prototype and pedagogical program - designed to present immersive cultural experiences in collaboration with people from within the chosen culture to ensure a responsible representation of public and private cultures to the best of the technological capabilities. People are assets for cultural exchange, whether in academic settings or not. By realizing that culture has long been a commodity and that the cultural capital of people engaging in cultures impacts their values, I posit that adding immersive virtual reality to Study Abroad programs will increase a person's cultural capital before traveling abroad by helping to develop their intercultural competence.

The question then becomes, how does higher education produce graduates with higher degrees of ICC when SA programs suffer potentially long-term setbacks due to unexpected pandemics or other society-altering events? The answer to this question is not easy, as it requires a considerable amount of exploring SA historical and theoretical frameworks and extensive literature reviews on the realities of SA programs and how successful they have been before pandemic-era influences. Likewise, the ubiquity of technological advancements in the 21st Century offers one of the most apparent yet contentious paths forward for ICC development and

learning. After gaining a better understanding of study abroad theory and practices, it is, therefore, essential to scour the literature, theory, and developments of technology as it relates not only to applied methods of international communication but also to how these concepts affect the very foundation of society by blurring the borders of cultural separatism, the definition of distance, and the concept of realness as applied to experiential learning. It becomes clear that technology, specifically Virtual Reality (VR) technology, offers one potential solution to the problem of distance delivery of complex concepts such as culture. The simple reality is that even during pre-pandemic study abroad practices, a tiny percentage of students participated in opportunities offered by schools across the nation. The pandemic focused on exploring options for distance delivery regarding immersive intercultural competence and learning. How can we deliver cultural immersion without physical proximity to a culture; how can it be both immersive and distant? Virtual reality offers a potential solution to the problem of distance cultural immersion as it expands intercultural exposure to students often excluded from study abroad programs due to institutional barriers, promotes a healthier form of internationalization for institutions and student participants, and creates expanded dialogical opportunities for intercultural competence and development.

There are certainly other issues, such as those presented by Mark Salisbury, Michael Paulsen, and Ernest Pascarella in their 2011 essay "Why Do All the Study Abroad Students Look Alike? Applying an Integrated Student Choice Model to Explore Differences in the Factors that Influence White and Minority Students' Intent to Study Abroad" and Markus Lörz, Nicolai Netz, and Heko Quast's essay "Why do Students from Underprivileged Families Less Often Intend to Study Abroad?" Salisbury et al. note that white females are the most commonly represented demographic in study abroad programs. Likewise, Lörz et al. delve into some students perceived

financial barriers. An example of health-related accessibility limitation would be the consideration of medical conditions that do not permit the user to experience virtual reality technologies (conditions such as epilepsy or certain heart conditions). As I look to understand accessibility limitations to studying abroad, I ask, what are the most prevalent barriers to studying abroad?

Traditional Study Abroad programs have problems that prevent students from taking advantage of the benefits of SA programs. John Lipinski identifies one such problem in his article, “Virtual Study Abroad: A Case Study,” explaining that “90 percent of US universities sponsor study abroad programs,” but “students who engage in such programs are a rarity” because “only 1% of US students pursue a study abroad experience each academic year” (102). With so many schools offering these opportunities, it begs the question of why so few students take advantage of studying abroad. Mark Salisbury, Paul Umbach, Michael Paulsen, and Ernest Pascarella ask the same question in their essay “Understanding the Choice Process of the Intent to Study Abroad.” As they make clear, adequate research exists to determine the availability and frequency of participation in study abroad programs; however, there has been “limited research on factors tracing intent to study abroad,” and there is not much evidence to suggest whether commonly perceived barriers are “active barriers or retroactive justification for the decision not to participate” in the programs (102). Some of the perceived barriers that may prohibit participation include finances, lack of awareness, the perception that studying abroad is not essential, familial, or social constraints, programs of study (particularly STEM programs) that require rigid adherence to scheduling demands, and for many minority students, the fear of racism abroad. However, according to Salisbury et al., the research about these barriers does not

explain the degree to which students are not participating in study abroad programs. Salisbury et al. quote a 2006 publication of *The Council on International Educational Exchange*:

While there is a good deal of folk wisdom about what motivates students to go abroad, there is very little hard data...Student decision-making is clearly a rich area for research. The influences in preference selection are so complex that isolating them is challenging - yet it is precisely the complexity of variables and processes that makes the need for data so important. (121)

With so little "hard data" to support definitive barriers to studying abroad, the work of Salisbury et al. becomes critical to understanding student motivations. Their study concludes that students experience several complex factors, most prominently their pre-college socio-economic status and the social and cultural capital accumulated before and during college.

My project will examine and attempt to answer these concerns through a virtual reality interface/program. Through a combined programmatic and pedagogical strategy that promotes the wide-reaching benefits of study abroad and a thrilling and innovative means of experiencing cultures, my project addresses a variety of concerns that have long troubled traditional study abroad programs.

The need to examine accessibility barriers to Study Abroad programs stems from the many benefits students gain from the unique opportunities afforded by these programs. While college campuses may offer a degree of diversity, cultural exchange programs like Study Abroad afford students immersive experiences with cultural and critical literacy skills. In their article "International Student Exchange - Motives, Benefits and Barriers of Participation," Dominika Marciniak and Michal Winnicki highlight the benefits of cultural exchange programs:

Studying abroad brings undoubted benefits. Many students participate in international education exchange programs because they want to acquire knowledge about other cultures, get to know other teaching systems, and languages, or even because of pure curiosity and the desire to experience the adventure. The benefits of completing part of the studies abroad also increase the chances of such an exchange student on the labor market. Moreover, participation in student exchange programs shapes people's personalities and worldviews. (94)

As Marciniak and Winnicki argue, students are motivated by factors regarding interest in studying abroad, such as knowledge, language, increased exposure to diverse systems, and the thrill of adventure. In turn, they write that study abroad offers students several clear benefits; it expands students' potential in the job market and "shapes" their "personality and worldview," which includes the development of critical literacy skills that will aid them in the navigation of a world rife with cultural, social, and economic diversities. Where Marciniak and Winnicki focus on knowledge of other cultures and systems, Salisbury et al., in "Understanding the Choice Process of the Intent to Study Abroad," identify attitude-based benefits by pointing out that students who study abroad develop a more profound respect for other cultures, better attitudes towards other cultures, vital intercultural communication skills, and improved personal and professional self-images (120). However, events such as, but not limited to, COVID-19 have demonstrated that we must address existing concerns about the lack of growth in participation in studying abroad because when such phenomena occur, the loss of opportunity to increase the cultural capital of students diminishes.

By way of a born-digital dissertation, I position this study not as a theoretical possibility only but as a program for application amid current events that have produced a clear picture of



what is at risk when the development of critical literacy and cultural awareness are complicated due to unexpected events and political developments that impact national and global societies. The benefits of studying abroad for students and society are too great to ignore. Therefore, this project looks to the students themselves to understand how virtual reality technology can best help them understand their rhetorical selves amid an increasingly diverse world and how to engage that world.

## RESEARCH STATEMENT

My dissertation project answers pedagogical and practical questions concerning the potential for integrating virtual reality technology into the existing study abroad curriculum in affordable, accessible, and socio-educational ways. At the core of concerns over cost-efficiency are the limits imposed by economic disparities in access to study abroad and its benefits.

Therefore, my dissertation project will answer the following questions:

- What intersections of study abroad, distance education, and virtual reality theory, and what affordances and limitations at those intersections can enhance existing study abroad pedagogies?
- What are the best practices for prototype development and implementation for virtual reality applications designed for pedagogical purposes?
- How feasible is it to create a low-cost prototype using existing and accessible materials, and to what degree would teachers and students need a foundation in programming concepts to use this prototype?

My project will answer these questions by creating a prototype to accompany the pedagogical program I propose for this study. To gather data for developing this prototype, I used IRB-

exempt best practices for qualitative and quantitative research in the field. Using think-aloud protocols standard to user-design studies, I consider both the design of the prototype and the composition of rhetorical strategy best suited for the goals of learning and development of intercultural competency. The pedagogical framework will be based upon widely accepted pedagogical theory and practice while inviting emerging theories to combine traditional learning methods with innovative technologies. By merging tradition with innovation on the pedagogical front of this project, I demonstrate how this project creates a bridge between the physical and virtual worlds and utilizes valued historical learning practices while looking toward the future.

Accessibility to any program, even higher education, is a significant concern. Therefore, I would be remiss if I did not consider the following question: what affordances and barriers exist to accessibility for the program and the technology necessary for it? Throughout my study, I maintain that no program, whether it uses technology or not, can be fully accessible to everyone. Therefore, this supplementary program focuses on expanding access. Because this proposal supplements existing study abroad and cultural studies programs, access to existing programs remains intact and allows the focus of this project to demonstrate how virtual reality supplementation extends accessibility to immersive cultural learning.

I conceptualize this project as an experiment in expanding discursive methods and opportunities that will further enhance communicative practices for students. To turn this concept into practice, what, in this age of technology and information, are the social and educational benefits this program offers that set it apart from other internet-based learning options --- Google, social media, and the like? I will answer this question by identifying the underlying problems with the existing frameworks for learning via open-access, unmoderated information websites and programs. I present this program as one that can, and should, be

produced collaboratively among people from within specific cultures, educators, and the students themselves to create virtual reality spaces in which the immersive experiences and dialogue help students develop the necessary critical literacy skills to navigate a digitally connected world while also encouraging intercultural competency and cultural capital acquisition.

## METHODOLOGY

The research for this project follows standards of practice for user design while engaging theoretical concepts common in composition and rhetorical practices. The written portion of the project adopts a blended approach by addressing theoretical frameworks and avenues of applied practices. All necessary and traditional components for a conventional dissertation will be incorporated, as they are necessary for understanding the application of the digital prototype and pedagogical recommendation. Multimedia repositories ensure that the project is fully capable of housing through video files, hyperlinks, and a digital website. A born-digital dissertation is necessary for this project because it expands the theory into practical applications often elusive in current literature about the potential uses of virtual reality technology in pedagogy. As such, my methodology considers the digital humanities standards of prototyping and user-design (UX) best practices for engaging tests with the prototype that involve human users via IRB-exempt research.

Developing a prototype begins with clearly understanding standard discursive practices within similar fields that produce prototypes. In “A Brief Taxonomy of Prototypes for the Digital Humanities,” Stan Ruecker divides the concept of the prototype into three categories - production-driven, experimental, and provocative. Ruecker writes, “Whereas an experimental prototype embodies an idea for purposes of study, a production or development prototype

embodies an idea for dissemination and use" (7). Because this born-digital dissertation theorizes the concept of using such technology and its actualized application, it is considered a production-driven prototype.

Though the study will go through phases of all three types, the ultimate goal is to encourage the adoption of similar programs and technologies in academia. The research for this application has been decades in the making, and it is upon that research that I establish clear deliverables that my prototype will meet. The deliverables for this project are two-fold: I create a working prototype and a pedagogical application ready for use. The prototype includes an immersive-capable experience, meaning users with the necessary virtual reality tools can feasibly immerse themselves in the spaces I create to demonstrate the potential of the technology. The virtual experience includes a look at what students and teachers can achieve through the technology and a glimpse of possibilities beyond the prototype. I will connect the traditional dissertation text with this prototype through a digital website to allow users to access both the prototype experiences and the text from a singular, connected location. The text also provides access points to the website and the prototype. Course syllabi with functional application potential as-is but also allowing for alterations for educators are another deliverable of this project. Any syllabi created for this course will include standard content for syllabi, including course descriptions, learning objectives, policies and procedures, and a full schedule. These deliverables aim to establish a cohesive program recommendation and demonstrate the quality of virtual learning potential for developing cultural capital and Study Abroad programs.

## CHAPTER OUTLINES

The complexity of my work presents a unique opportunity and challenge in that while I can work within the realm of a born-digital dissertation, allowing greater flexibility for textual and digital design, I recognize the need to explore both theoretical and practical concepts in the limited space of a singular project. Therefore, the project focuses on two halves brought together through technology. Chapters One, Two, and Three are traditional chapters that discuss theoretical concepts that form the study's foundation and explore the data collected through the research practices employed. Chapter Four is a digital chapter that introduces the prototype, and a brief outline of each digital space users will experience as they navigate the digital experiences. Lastly, Chapter Five outlines the pedagogical theory and course design recommendations for applying the technology in the classroom.

Chapter One focuses on the history of Study Abroad as the American-based program in which students travel abroad via their higher-learning institutions. In this chapter, I discuss how American Study Abroad has become what it is today and how its name is separate from travel-based learning outside of an established program via an American collegiate institution. The value of these programs is central to the exigence of my project. I work through the state of the current Study Abroad curriculum and the issues it has faced throughout the past couple of decades, establishing the need for change and how virtual reality can offer a means by which virtual reality can help address many of the preexisting limitations of studying abroad.

Having established the foundational principles of the Study Abroad program and how this project aims to build upon them, I move on to theories of technology in Chapter Two. It is an extensive chapter that considers how technology has historically affected society and how theories about the perception of these effects through the human psyche. By understanding how

humanity views and engages technology, I discuss how we might learn to work with technology rather than simply using it as a tool. I explore theories about the role of technology in society, as well as concepts of virtual reality and, more broadly, the virtual world in a broader context.

While this chapter has a considerable theoretical framework, it also establishes a clear pathway of remediated technology and how remediation works within this project. Creating this foundation in Study Abroad in Chapter One and then extensive theoretical framing in Chapter Two allows for a clear discussion of the empirical evidence within the appropriate context for this study.

Chapter Three is a methodology and data analysis chapter. It opens with a detailed description of the methodology used for this study and a description detailing the standard practices of user-design research. The best way to discover what users of a prototype would want and what would best work for them pedagogically is to go to those users for data. This project received IRB-exemption status, allowing for the use of college-level students who are the target audience for the prototype application. In this chapter, I outline the specific findings of the data before discussing the implications for the design of the prototype. By the end of this chapter, technology is selected based on the study's findings, along with a rationale for choosing one over another. It is after this chapter that the project shifts into a digital dissertation.

In composing Chapter Four, the challenge has been creating an online chapter for the project while keeping in mind that it must, in some way, connect fluidly with the three previous traditional chapters. To do this, I designed each room/space in the digital prototype to correspond with a chapter from the text. In doing so, I have not only created an example of what students can do with the technology used for the prototype, but I have also created a virtual copy of the entire dissertation itself. For example, Chapter One discusses Study Abroad. Therefore, the space

created for this chapter in the prototype focuses on information and examples of studying abroad. Chapter Two's space focuses on tracing the remediation of technology throughout history, offering an immersive experience to that chapter. Aiding in the navigation of Chapter Four's digital component, a traditionally written portion provides a more detailed description of each space within the immersive prototype experience.

With a clear theoretical foundation, valuable data, and a prototype demonstration, Chapter Five moves into the pedagogical application of the technology. In this chapter, I establish the pedagogical history and recognizable practices through a brief overview of learning theory both in traditional classrooms and distance learning. With a firm understanding of the pedagogical processes used in developing the proposed courses, I make recommendations on the practical implementation of this project into an existing Study Abroad program. I outline two complete syllabi, one for pre-travel and one for post-travel abroad, and discuss how these will help increase intercultural competency and appeal to potential study abroad applicants who might otherwise ignore the valuable opportunities afforded by these programs.

## STUDY ABROAD HISTORY, PRACTICES, AND SCHOLARSHIP

Before engaging in a consideration of the historical facets of study abroad and the disparate purposes presented by present-day scholars, it is essential to take a brief moment to consider how this study understands the excavation of the history of the ideas, thoughts, and sciences behind the conceptualization of study abroad as practice and Study Abroad as a program. However, tracing the history of SA is commonly difficult when viewed through the heuristic of historical ruptures introduced by Michel Foucault in *The Archaeology of Knowledge: And the Discourse of Language*. Foucault, a scholar whose theories work within and between structuralism and poststructuralism, offers an interpretation of traditional history as “the great silent, motionless bases” with its “various sedimentary strata; linear successions, which for so long had been the object of research” (3). It is this perspective of history that I originally began exploring the history of Study Abroad. Still, in doing so, I found myself confused about where *the* start of study abroad began versus what point in history applied to the goals of this study.

Foucault’s assessment of history proper is that it has long been “concerned to define relations (of simple causality, of circular determination, of antagonism, of expression) between facts and dated events” (7), which is the type of history I attempt to define for this study. However, Foucault discusses the often ignored ruptures, or discontinuities, of history that “interrupt its slow development, and force it to enter a new time, cut it off from its empirical origins and its original motivations” and pushes the “historical analysis away from the search for silent beginnings, and the never-ending tracing-back to the original precursors, towards the search for a new type of rationality and its various effects” (4). I began to make sense of the “ruptures” that marked the transition in purposes for study abroad and how history has perceived these purposes. When one breaks with the concern of linear history, it is possible to identify



specific points of historical SA development that allow for a better exploration of refined approaches to studying abroad with a sense of deliberate intention rather than the illusion of a forced totalitarian view of studying abroad as a whole, seamlessly connected entity.

Viewing history as a series of ruptures that “is no longer one of lasting tradition, of training a line, but one of divisions, of limits; it is no longer one of lasting foundations but one of transformations that serve as new foundations” (Foucault, 5) allows my research to “move my discourse, opening up underground passages, forcing it to go far from itself, finding overhangs to reduce and deform its itinerary” (Foucault 17). Studying abroad has experienced ruptures as a concept, with new foundations forming as branches of an underlying understanding of traveling abroad for immersive learning. The U.S. formal Study Abroad program development informs this study not to discredit or devalue other interpretations or practices of studying abroad but to move the discourse forward concerning a particular academic-driven program.

SA is still a young educational paradigm compared to many academic programs. As a pedagogical concept, Study Abroad benefits from something other than the centuries-old focus of academic inquiry, as seen with other disciplines such as literature, psychology, science, and more. However, the desire to experience diverse cultures, regardless of purpose, has been a social behavior extending to the far reaches of civilized history. This distinction in long-standing social behavior versus academically focused pedagogical approach is vital because literature concerning studying abroad is varied in that even something as seemingly straightforward as historical tracing is surprisingly complex. The complexity is rooted in how study abroad is defined, and for the context of this research, it is necessary to identify just how nuanced views on SA have been.

The beginning of Study Abroad is hard to pinpoint, depending on how one defines study abroad. According to Gary Rhodes, Lisa Lobert, and Ann Hubbard in “Historical, Philosophical, and Practical Issues in Providing Global Learning Opportunities Through Study Abroad,” the earliest forms of study abroad for academic credit were established at Indiana University in 1879. Still, the development of more expansive, focused programs would not develop until 1923 at the University of Delaware (6). In “Special Issue: Study Abroad in a New Global Century: Renewing the Promise, Refining the Purpose,” Susan Twombly et al. agree that the 1920s brought the first organized, formal applications of study abroad. For many Study Abroad scholars, the programs developed during this interwar period are the beginning of present-day SA programs. However, this is not to be confused with the more philosophical concept of exploring other countries or cultures to learn about global cultures and languages. People have traveled abroad under the banner of learning, education, and personal/social development since Classical Era Greece.

Much of the scholarship related to the developing purposes of studying abroad that related to interwar and Cold War era America conflicted with studies that traced the history of study abroad not just to the late 19th century but as far back as classical antiquity. Part of the confusion rests in historical tendencies toward having clearly defined beginnings or a linear connected history. One of the most widely cited texts concerning the history of SA is William W. Hoffa’s *A History of US Study Abroad: Beginnings to 1965* and *A History of the US Study Abroad: 1965 to Present*. Even today, Hoffa’s work is considered one of the most detailed accounts of the history of study abroad. In the forward of *A History of US Study Abroad: Beginnings to 1965*, Hoffa marks the ancient roots of SA that inform the modern premise for learning through travel. He makes an essential contribution to understanding these ancient

influences by pointing out that before the development of universities during the Medieval period, which would centralize learning, scholars wandered the world with relative freedom to learn from people from various backgrounds (Hoffa 10). Even through the Renaissance, scholars could move across loosely defined borders for learning. When kingdoms and governments started to establish nationalistic boundaries and rules, more familiar forms of learning abroad started to form in the way of policies and expected practices (Hoffa 11). While ancient scholars may or may not have identified their travels as actively studying abroad, their endeavors established a long history of valuing intercultural competence and gaining cultural capital.

Many people might need clarification on what scholarship means when studying abroad is mentioned because the academic consideration - as with the programs from the 1920s - is tied directly to college credit hours and degree program progression. A person can study abroad to immerse themselves in another culture, and they might even do so for many of the purposes discussed later in this study. However, Study Abroad (capital SA) is a specific pedagogically driven approach to intercultural learning and experience. Institutional learning outcomes that require specific pedagogical, social, and cultural intersections that help achieve the aims of various degree programs and produce graduates who have developed intercultural competence and can negotiate this ICC within their given professional fields are the framework for formal Study Abroad experiences. Establishing an agreed-upon definition of academic Study Abroad was necessary to facilitate this specific, organized concept of SA. Susan Twombly et al. discuss the disparate definitions of diverse learning abroad:

Over the twentieth century, the term study abroad has taken on an extremely specific meaning that can be distinguished from the broader term education abroad. The Forum on Education Abroad defines *education abroad* as simply

“education that occurs outside the participant’s home country” (Forum on Education Abroad, 2011). The Forum adds that *study* abroad “results in progress toward an academic degree” (Forum on Education Abroad, 2011). IIE defines study abroad and the individuals who do it even more specifically as “U.S. citizens and permanent residents who received academic credit at their U.S. home institution for study in another country” (Chow, 2010). (10)

Creating this specificity concerning how Study Abroad is a conceptualized academic program helps address the initial confusion of what scholars mean when speaking to SA programs' development, struggles, and benefits. It indicates that people can gain an education abroad simply by being outside of their home country. However, this does not, in academic discourse, equate to studying overseas. Therefore, students enrolled in degree programs outside of their home country are gaining an education abroad but are not considered part of the Study Abroad process or related programs.

When discussing American-based SA programs, Hoffa says that American SA's “beginnings in the 1920s owe much to the unique vision and structure of the American college education, which had evolved by the end of the nineteenth century into something liberal and pedagogically unique” (21). It is with this 1920s beginning where programmatic nomenclature becomes essential. In present-day Europe, the equivalent to a Study Abroad program in which EU member states, and even some non-EU countries, can participate in exchange programs with participating universities worldwide is called the Erasmus Program. While European countries have the Erasmus program, American institutional practices for the same type of program are simply called Study Abroad. Therefore, one must be cautious when considering historical context, as Study Abroad relates to the American-based program in most scholarship. Many

scholars concerned with Study Abroad in America accept the 1920s beginning date established by Hoffa because that is when American institutions began what has become a collective practice of Study Abroad programs.

By limiting the conversation to U.S. students, scholars are better positioned to research trends and propose programmatic developments that meet specified academic goals and disparate learning outcomes that often vary between institutions. While study abroad for program credit did exist in 1879, the primary reason scholars of present-day SA identify the programs of the 1920s as the beginning of Study Abroad is that this is the historical moment where institutions moved from singular experiences for credit abroad to developed programs designed to facilitate broader planning and practices focused on implementing study abroad as part of a more extensive contribution to degree development opportunities. William W. Hoffa, in *A History of US Study Abroad: Beginnings to 1965*, offers what serves as the foundation for all academic variations of defining study abroad, saying, “US study abroad, defined in this volume as an institutional and academic endeavor, taking place in another country and leading to credit toward a student’s home institution” and was established in the 1920s as a “new initiative within American higher education” that sought to “enrich and diversify” undergraduate programs (69). Furthermore, Hoffa emphasizes that the American Study Abroad program was not merely an extracurricular activity; it was instead “an innovative and programmatic attempt...to combine academic and experiential learning modes in a foreign setting..., represent[ing] a departure from anything that had come before” (70). This “departure” of innovations and programmatic developments of the 1920s is at the crux of a Foucauldian historical rupture. That rupture was a shift in the framework for American universities toward focusing on “a broad and general curriculum, living and learning with other students on a residential campus, and earning a degree

via a modular course-credit system with, in general, no cumulative examination” (Hoffa 21). The recognition of an increased social need for cultural exposure created a new and unique university focus that was not purely for scholastic growth but personal and social growth. Now that we have a clearer understanding of the historical context of Study Abroad programs, we must explore the diverse purposes that influence the design of these programs.

Twombly et al. offer a brief yet informative tracing of how diverse and complex the purposes for creating, developing, and supporting formal Study Abroad are. They begin with the earliest formal study abroad trips directed at junior-year female students, designed to develop language skills and explore multiple countries during a shortened visit to learn about multiple cultures (Twombly et al. 15). Programs lasted an entire college year for those sent to learn languages. However, those with increased cultural experience and exposure expanded the locations experienced by sacrificing the time within each culture; the programs are often a few weeks across multiple countries with accompanying faculty. In 1919, however, interest in Study Abroad changed drastically with the establishment of the Institute of International Education (IIE), which “was the first of a series of influential independent, nonprofit, nongovernmental national organizations to play a critical role in promoting study abroad in the United States (Twombly et al. 16). The purpose of promoting study abroad for the IIE was not to expand language or cultural experiential learning. The development of the IIE came at a critical time in US history, a point that Foucault would certainly consider a rupture that would distinguish pre-war studying abroad from interwar programmatic designs for Study Abroad programs. The new foundation, which Foucault indicated was a result of discontinuity and rupture, is seen in the IIE purpose for study abroad, which is the belief that the United States “could not achieve lasting peace without greater understanding between nations — and that international educational

exchange formed the strongest basis for fostering such understanding” (Twombly et al. 16). The rupture of World War I has led many scholars to associate the historical beginning of studying abroad with the early 20th Century rather than preceding interpretations that included individual, or even scholastic, travel abroad. During this volatile period of American and global history, studying abroad became redefined because circumstances warranted breaking away from the totalitarian view that all study abroad history must connect in sequential and causal linearity. However, when viewed through the heuristic of the rupture that war brought, it is possible to see how studying abroad has changed and developed, branching into disparate, equally valuable variations of itself. The IIE was the result of U.S. institutions recognizing “that international consciousness —and study abroad— ought to be part of the formal curriculum” (Twombly et al. 17); for a country fresh out of a world war, schools began to acknowledge the impacts of the international society on domestic societies and the need for a more internationally experienced and prepared populace. It would take another great war before the U.S. government to act.

After the Second World War, the United States government, for the first time, entered into promoting Study Abroad programs in universities nationwide. Hoffa notes that programs supported by the government included the Fulbright Program, the Smith-Mund Act of 1948; the National Defense Education Act of 1957; the Foreign Assistance Act, which was responsible for the development of the Peace Corps; and the State Department Bureau of Educational and Cultural Affairs (*A History of US Study Abroad : Beginnings to 1965* 112-126). For the U.S. Federal Government, the purposes for studying abroad and the programs they helped develop to support it had minimal, if anything, to do with academic value and intercultural competence. Twombly et al. explain that despite students’ motives for studying abroad, for the government, “students were ambassadors who could ‘represent the best national interests of American society

and promote international understanding” (17-18). To the government, students were the most valuable and cost-effective resource for international diplomacy and rebuilding international relationships. The foundation for Study Abroad, once again, experienced a rupture and shifted as the American government began to exert influence and promote what are today some of the most popular Study Abroad programs — the Fulbright International Education Exchange Program, the Council on International Exchange (CIEE), and the National Association of Foreign Student Affairs (NAFSA) (Twombly et al. 18). Throughout the subsequent Cold War, the vast majority of U.S. Study Abroad programs across the nation were heavily influenced by the non-academic purposes of the American government.

Although the development of Study Abroad programs and government-supported programs aimed to support and promote Study Abroad for political benefit, at no point did faculty in these universities submit fully to the purposes of the government:

This is not to say that U.S. college faculty readily accepted the often-covert diplomatic purposes of educational exchange and study abroad...especially government-sponsored study abroad has existed in tension between Americanizing others, spreading American values and more honestly pure educational values. Recognizing these tensions, educators have often resisted being used as instruments in the war against Communism or U.W. foreign policy in general (and still do). (18-19)

Understanding the value of this academic resistance to political purposes is imperative.

While forces of government focused on the benefits afforded toward international relationship building, educators recognized the educational value of studying abroad. Regardless of purpose or motivation, the increased interest in a Study Abroad program is evidence of the Foucauldian



understanding of ruptures in history, creating new foundations over and over that are related but diverge at various historical beginnings. Rather than isolating the past to a singular point, it is a branching, a continuation, of what has been. It is worth noting that Twombly et al. clarify that the government's intended purpose for supporting study abroad is the covert use of the academic program itself. It is easy and reasonable to assume that the government utilized rhetorical strategies incorporating languages of learning and promises of expanding academia by helping produce students knowledgeable in cultural diversity and international exchange. Many faculty recognized the government's aims, yet the increased access to exchange and study abroad programs was a welcomed scholastic opportunity. The simple truth is that multiple purposes are at work, even within a singular trip or Study Abroad voyage, indicating little linearity of purpose or motivation. Faculty travel and encourage Study Abroad for educational values. At the same time, the government provides programs and encourages participation to extend American values and promote pro-American connections around the world. As the purposes of government and academia began to work in interconnected ways, the foundation was unknowingly set for Study Abroad programmatic development that would face a flurry of ruptures in the coming decades.

Starting in 1965, America would experience a rapid succession of ruptures that would, once more, pave the way for one of the significant purposes for Study Abroad seen today. According to Twombly et al., this new purpose resulted from "The Vietnam War, the fall of the Berlin Wall, end of the Cold War, 9/11, and globalization" (19); each moment is a rupture in history. More critical to this study, however, is that the period between 1965 and, I would suggest, the COVID-19 pandemic contained this collection of ruptures that resulted in the purpose of studying abroad that aims to develop "competencies for successfully competing in a globalized world" (Twombly et al.19). Global society shifted away from isolationist ideologies

or regimes of old to limitless intersections of culture interactions and exchanges (both cultural and economic). The events that occurred from 1965 onward were all, in fact, explicitly tied to cultural implications, and all represent the expanse to which America does, and must, develop a greater degree of cultural competency in the people matriculating through universities and colleges across the nation. Still, it is essential to note previously existing motivations created by earlier historical ruptures do not simply disappear. All still exist and are evidenced today by the academic purpose of universities and faculty to enhance the quality of education by offering experiential learning opportunities abroad, by the government's continued support and development of programs that facilitate study abroad access, and, now, the economic ambition of the increasingly cross-cultural nature of a growing number of industries, both in humanities and STEM programs.

Though focused on The Erasmus Program and not American Study Abroad programs, Dominika Marciniak and Michal Winnicki explain in "International Student Exchange - Motives, Benefits and Barriers of Participation" that known benefits of studying abroad lead to a measurable increase in employability for students who participate in such programs, not to mention that "participation in student exchange programs shapes people's personality and worldview" that impacts how they engage in their professional and social lives (94). For the students and their futures, there are many widely accepted - both social and academic - benefits to studying abroad; this is why people have been traveling abroad for educational purposes even before the development of academic programs. However, the American government and a wider swath of institutions have had multiple motivations for supporting Study Abroad as an official programmatic practice for sending students abroad for credit for their degree programs.

Before exploring less common purposes for government and institutional support of study abroad, Twombly et al. explain that SA scholars “Hoffa and DePaul (2010) argue that four main rationales or purposes have been advanced for colleges and universities” which are “the curricular argument, the cross-cultural argument, the career enhancement argument, and the development argument” (13). However, an interesting point Twombly et al. make is that not all scholars agree on these purposes, as some are considered traditionalists who see strictly academic purposes for studying abroad and put far less value on social and professional skill development (14). While there is little argument that the educational benefits are many, I have chosen to take a more inclusive approach in the development of this project because a closer look at disparate purposes behind the development and support of Study Abroad programs suggests that there is a more profound complexity to the value of these programs and sending students abroad as part of their academic, personal, and professional development.

Furthermore, according to Dominika Marciniak and Michal Winnicki, the main reasons students have for studying abroad can be divided between men and women; men are “motivated mainly by fun, having [a] good time, parties, as well as the desire to impress the future employer.” In contrast, women seek to gain “experience by living in another country...and they appreciate the network of contacts resulting from studying abroad more” (102). Students, faculty, the government, and many others have disparate purposes for studying abroad, so while the ruptures of war and a shifting political and economic climate certainly establish a new purpose, it is one of many. The fact that Twombly et al. mention a “tension” between government motivations and that of scholars indicates that faculty have, and continue to, strive to capitalize

on government-backed avenues of Study Abroad and international exchange to achieve their purposes while resisting being the explicit tools of the government and its purpose.<sup>1</sup>

In the interest of situating the proposed program supplementation for existing Study Abroad programs, this study embraces the timeline that focuses specifically on the historical development of broader institutionalized programs because they are that which the prototype and program guidelines created in this research aim to supplement and promote. Education abroad is essential, and the disparate ways of engaging other cultures are necessary as any singular approach cannot hope to encompass all that an increasingly global society has to offer, but to refine the research about careful pedagogical considerations that are directly relevant to higher education's role in promoting intercultural competence is the focus of this work and the work of those who have defined and isolated Study Abroad as a specific pedagogical and institutional entity.

## PRESENT-DAY SA PRACTICES AND OUTCOMES

According to "U.S. Study Abroad for Academic Credit Trends, 1989/90-2019/20," put out by *Open Doors Report on International Educational Exchange*, a reporting system established by the Institute of International Education (IIE), the 2019/2020 academic year saw a 53.1 percent drop in participation relating to Study Abroad programs. Just one year prior, in 2018/19, 347,099 students across America participated in Study Abroad, but the year COVID-19 caused a global pandemic only 162,633 students were involved in any type of Study Abroad. With such a decline in participation, and while considering the existing purposes for studying

---

<sup>1</sup> By participating in Study Abroad or exchange programs, faculty, and students cannot fully eliminate their role in working towards the political goals set forth by the government's clear purpose for Study Abroad. While faculty, and even students, can likely avoid overt participation, and they still achieve the aims of their purposes for SA.

abroad - education, diplomacy, economics, fun, and experience - it becomes evident that there is a need for a new purpose: cultural capital by way of intercultural competence.

Study Abroad curricula will vary from institution to institution, but a look at learning outcomes suggests a common framework for most Study Abroad programs in America today. Though I certainly did not look at the learning outcomes of all schools in the country, I was careful to select schools from different regions; I also chose schools that have varied approaches to SA design. When it comes to the current approach to SA design, Esther O. Ohito et al., in “This Moment is the Curriculum: Equity, Inclusion, and Collectivist Critical Mapping for Study Abroad Programs in the Covid-19 Era,” offer criticism of established SA programs, both pre and post covid, for their lack of detail in planning to promote a more inclusive and beneficial SA practice. Ohito et al. define curricula as “all planned learning outcomes for which the school is responsible’ and ‘the desired consequences of instruction’” (13). Despite minor nuances, a common thread can be observed in the learning outcomes from The University of Hawai’i at Mānoa, Boston University, and Michigan State.

All three universities use language easily recognizable as standard rhetoric to promote nationwide university programs. That said, in some variation, the following five learning outcomes were present for each of the SA programs offered by the schools:

1. Enhance Awareness of one’s culture and how it influences personal beliefs, behaviors, and perceptions.
2. Demonstrate knowledge of the host culture via course design during the SA experience.
3. Demonstrate intellectual abilities to analyze and think critically about various culturally diverse concepts.
4. Understand the professional influence of having a solid background in cultural diversity.

5. To communicate effectively and appropriately with diverse individuals and groups.

The base outcomes create a standard framework for most institutionally specific programs, with the language mirroring most university mission statements and goals. Such a framework is valuable, according to Joanne Smith and Laurence J. Mrozek in “Evaluating the Application of Program Outcomes to Study Abroad Experiences” because “specific, distinct guidelines for all participants and faculty are crucial to creating positive experiences, especially for students who have never traveled abroad” (11). However, while these outcomes do create a base framework for SA programs, they are not sufficient to maximize the opportunity to develop ICC and cultural capital equally for students from diverse demographics.

Disparities in SA participation diversity are well documented, allowing for a closer look at potential programmatic application and design gaps. Because of these broad-sweeping outcomes, Ohito et al. protest current practices, saying, “Inflexible curricula cannot sufficiently prompt equitable responses to the heterogenous teaching and learning needs of individuals with collectivist world views” (44). The fact that very few, if any, SA programs outline a straightforward, extensive program suggests that it is because the learning outcomes are so broad the programs themselves are too inflexible for diverse student participation. When intercultural learning takes place entirely abroad, with little to no pre-travel education and minimal post-travel conversation, it is no wonder that students of similar backgrounds are regularly populating the SA roster. Ohito et al. and this study focus on the need for detailed pre-and-post travel education that offers more flexibility to the learning process. The exigence for this focus is found in the SA demographic data. According to the most recent statistics from the National Center for Education, from 2019 to 2020, the percentage of female to male participants was 67.4 percent female and 32.6 percent male. Out of all participants (male and female) that same year, 70

percent identified themselves as white, with the second highest number of ethnic participants being Hispanic at just 10 percent.

Though these apparent disparities are not the direct result of having only broad learning outcomes that rely on traveling first and then learning while abroad, they do indicate a severe need for refinement of SA programs to include appeals to a variety of students who have a host of reasons for not inquiring about SA opportunities. The unfortunate reality about current SA programs is that the existing outcomes are only achieved once students are abroad. The problem with this, as Ohito et al. point out, is that students currently participating in SA “tend to approach study abroad as neocolonial voyeurs, flattening the richness of interpersonal, intercultural interactions” amounting to what the authors call “modified tourists” (44). This is simply because students are not adequately prepared under the current structure of SA programs. While Virtual Reality technology cannot guarantee participation, it offers a much-needed window of opportunity to more efficiently prepare students abroad to avoid this “neocolonizer” voyeurism while exposing a wider demographic of students to SA possibilities and the value of intercultural learning.

#### POTENTIAL – VIRTUAL REALITY AND CULTURAL EXPOSURE

Virtual reality offers an opportunity to create scaffolded learning experiences sorely lacking in current study abroad programs. Tarchi and Surian are critical that although many authors write about program needs and design, it is still a rarity to see any school-based interventions that would effectively promote internal and external learning outcomes that encompass what it means to develop ICC (126). Not only can we create pre-programmed and AI-responsive intercultural learning environments in virtual reality, but we can also create new ways

for students to articulate the existing degree of their intercultural sensitivity and ICC capabilities. While these capabilities are discussed at length in other chapters, it is important to note here that through virtual reality, it is possible to create the type of scaffolded learning that ICC development necessitates since we must aim for the very clearly defined internal and external aspects of ICC.

As a starting point, Cerulo et al. identify nondeclarative culture as “skills such as bike riding, distinguishing humans from animals, and classifying someone’s gender or race upon first meeting,” which is a type of culture “acquired slowly from repeated exposures or recurrent activities and does not involve conscious awareness” (64-65). This “repeated exposure” is paramount to the goals of the program and prototype set forth by this project. However, I must be clear that while virtual repeated exposure to non-declarative cultural components will help students become more aware of how to identify and interact with another culture, it is not nearly enough exposure to claim that students will in any way adopt a culture or even be fully cognizant of just how meaningful much of what they experience is. That is to say that the pre-travel virtual lessons alone are not sufficient for full ICC development. It does, however, give them the ability to recognize cultural behaviors and practices and to develop a necessary degree of intercultural sensitivity to those cultural displays and expectations when they do travel abroad, thus starting a productive journey towards ICC development and increasing their cultural capital.

This is different from declarative culture, which “involves careful, conscious classifications, justifications, and rationalizations” and is “acquired via explicit, symbolically mediated information” (Cerulo et al. 65). The “mediated information,” according to Omar Lizardo in “Improving Cultural Analysis: Considering Personal Culture in its Declarative and Nondeclarative Modes,” is “usually spoken or written language, although other public non-



linguistic symbolic symbols (e.g., audio-visual codes, iconic symbols, ritual performance) may also serve as a conduit for transmission and internalization of declarative culture” (91). Using virtual reality as a type of “mediated information” platform, it is possible to better prepare students for travel abroad (and to encourage them to travel abroad) by pre-exposing them to the same types of linguistic and non-linguistic information they are likely to encounter when engaging people from and within another culture. In doing so, students are better positioned to discover a deeper understanding of cultural complexities and ask questions about non-declarative and declarative personal cultural nuances. These questions should be asked in early pedagogical frameworks, as is the case with a scaffolded study abroad program, rather than to place students within a culture with little cultural sensitivity, never mind developed ICC.

Virtual reality technology offers a path forward for such scaffolded pedagogical study abroad programs, and it can produce immersive experiences that can produce intercultural sensitivity ahead of study experiences abroad. As recent as 2022, Kelly Torres and Aubrey Statti, in “Learning Across Borders Through Immersive Virtual Technologies,” highlight how the COVID-19 pandemic made clear the value of virtual learning and the many ways in which it can expand learning opportunities, especially when it comes to intercultural/international learning. An essential point that Torres and Statti open with is the fact that even if one were to make the case that many students are already interested in learning about other cultures, the fact remains that many also “question the need for international travel during the pursuit of an academic degree” since the cost of traveling abroad would compound an already costly education (19). However, since the COVID-19 pandemic demonstrated academia’s ability to transition into virtual spaces (even if some transitions were rife with struggles due to the sudden shift online), it

becomes more of a question of whether we can extend virtual learning to intercultural experiential learning and more a matter of how might we do so effectively.

Today, scholarship demonstrates not just virtual reality's capability to provide expansive access but also highlights how technology can achieve the internal and external outcomes of ICC by first focusing on intercultural sensitivity.

Virtual experiences provide a broader range of students access to international education, resulting in an opportunity for contextualized learning through simulated authentic environments. Immersive interactions further promote student curiosity and understanding of diverse cultural, educational, and political structures. Student interactions with virtual technologies have demonstrated increased learning gains and content interest (Markowitz et al., 2018; Mead et al., 2019; Radianti et al., 2020; Wallgrun et al., 2022). (Torres and Statti 19)

I posit that these “learning gains” are the development of intercultural sensitivity, and the fact that scholarship demonstrates a clear increased interest in the content of virtual experiences is promising for study abroad programs. Students gain not just virtual experiences to see sites and hear sounds; additionally, they receive context-based virtual experiential learning opportunities that, paired with opportunities to compose in virtual spaces to represent their thoughts and interpretations, will help students better understand the value of traveling abroad during their studies. The main issue we must address is how to create virtual interventions and programs at the institutional level.

Experiential learning is at the heart of Study Abroad programs, so it is equally essential to create virtual reality experiences that serve as a scaffold to ICC acquisition through study abroad. When discussing the role of experiential learning, Torres and Statti explain that “experiential

learning consists of critical reflection, observation, pragmatic, active experimentation, and contextually rich concrete experiences” and how “cutting-edge technologies deliver unique access for students to develop their learning beyond their classrooms” (20). Not all faculty and students can invest the money or time into traveling abroad; even meeting financial needs, there are personal responsibilities that might limit one’s ability to be away for any extended period. The goal, however, for the immediate virtual reality program I propose is not to somehow replace full travel experiences with the virtual. Instead, it is to try and achieve some form of “cultural awareness” (Torres and Statti 20) that can positively affect how a student engages with a globalized society versus how they might perform without awareness or intercultural sensitivity.

To date, most intercultural learning happens in a lecture classroom setting. While these are useful, traditional lectures cannot meet the type of awareness that this project and Study Abroad programs seek to achieve. Research indicates that “Although learners can acquire some of this knowledge through traditional classroom lectures, Leung et al. (2021) found that the inclusion of interactive technologies in educational environments further fosters students’ development of global perspectives” (Torres and Statti 20). It is important to recall that ICC has both internal and external aspects, both of which are necessary for one to develop a higher degree of cultural capital. That said, a lecture can only provide a small measure of internal ICC but cannot provide the setting necessary for any external practices of what one has learned. Virtual reality technology can provide this. Even if obstacles prevent students from traveling abroad, they can still engage with pre-travel courses that utilize virtual reality to gain intercultural sensitivity, which might eventually develop into quality ICC through personal and professional interactions in the future.

Lastly, in their discussion of where scholars need to focus their considerations of virtual reality implementation in study abroad pedagogy, Torres and Statti recommend a focus on “Reflection activities [that] allow students to apply what they have learned about a new culture or geographical area to their settings, personal beliefs and habits, and professional goals” (20). Virtual reality programs offer opportunities for students to experience cultural nuance and compose and converse within those spaces about what they have learned. Intercultural sensitivity, ICC, and cultural capital can be challenging to measure, but academic learning outcomes need a means of measuring success. Compositions and discourse through virtual reality creation and navigation expand how students can reflect on their ICC development, providing a better understanding of how our study abroad programs perform in conjunction with virtual reality technology.

Not only is virtual reality capable of achieving the learning outcomes of institutions and the outcomes outlined in the definitions of ICC, but it is needed now more than ever. Through “the development of both creative and rigorous immersive virtual field experiences,” higher universities and colleges can bring “the world to students who may be unable to experience a traditional study abroad course” (Torres and Statti 26). While this may sound idealistic, Torres and Statti mean virtual reality can increase intercultural sensitivity and ICC development in more students nationwide. By creating this learning opportunity as a pre-travel course, students will have exposure to study abroad opportunities. Still, even if some aspects of life do not let them travel, we cannot accept that many of our students will not gain valuable cultural capital. Suppose we are to prepare graduates for an increasingly globalized society and to counteract the limitations of social upheavals like COVID-19. In that case, there must be an alternative means

for building a more robust intercultural competence framework in students so that they do not become bankrupt of cultural capital when they need it the most.

## LOOKING TO TECHNOLOGY

Study Abroad is recognized by scholars as a valuable asset for the development of intercultural competence but is not being used to its full potential. To maximize the educational and social benefits of SA programs, it is necessary to turn to technologies that can help facilitate the types of cross-cultural experiences for a wider array of students and people. What many people do not realize is that technology is no stranger to Study Abroad pedagogical considerations; before COVID-19, many educators who engage in intercultural learning opportunities have tried various methods of incorporating virtual spaces as a part of their pedagogical approach. One such approach presented by Philip Appiah-Kubi and Ebenezer Annan in “A Review of a Collaborative Online International Learning” is referred to as COIL or Collaborative Online International Learning. This approach requires that individual faculty members reach across their international network to find teachers from distinct cultures who teach at least one class similar to one of their own (Appah-Kubi and Annan 115). These teachers then provide traditional lecture instruction to their respective classes asynchronously, but students are then assigned groups from the partner class with whom they must collaborate via virtual meeting tools such as Skype, Zoom, or WhatsApp (Appah-Kubi and Annan 117). The data presented by Appah-Kubi and Annan shows that “teams that participated in the COIL program collectively performed better” (119). While this study demonstrates a qualitative example of the academic benefits of using technology and virtual spaces (the meeting rooms of Skype and Zoom), more recent studies are exploring the value of immersive virtual reality technology.

## TRACING CULTURAL, VIRTUAL, AND TECHNOLOGICAL THEORY

Society has a long history of being inextricably connected to concepts of the virtual, even before computer-mediated versions remediated it. Culture is a virtual concept in many regards because it stems from intangible ideologies and social norms. Culture is also extraordinarily complex, with myriad nuances, whether face-to-face or through technological mediation. Study Abroad is recognized as a valuable asset for developing intercultural competence through cultural exposure but has yet to be used to its full potential. Virtual technologies afford opportunities to help facilitate cross-cultural experiences for a more comprehensive array of students and people, which maximizes the educational and social benefits of SA programs. Doing so, however, requires not only the realization of the complexities of culture covered in the introduction but also the historical and theoretical tracing of the virtual and technology separately and jointly.

Yingjie Liu and Thomas Shirley expand in “Without Crossing a Border: Exploring the Impact of Shifting Study Abroad Online on Students’ Learning and Intercultural Competence Development during the Covid-19 Pandemic,” in which they describe the use of immersive virtual reality to create virtual tours for educational purposes. The project conducted by Liu and Shirley used lectures via Zoom and breakout rooms for student discussion. Still, it is the “VR activity [that] was created to encourage cultural exchange” (184) that is of most interest to this project. For the study, Liu and Shirley required students to capture 360-degree images of their homeland that would then use Google Tour Creator so people from other cultures could virtually explore towns and cities (184). What is noteworthy here is that students were asked to capture images not of countries to which they have traveled but to create tours of their towns and cities. Students would then present their virtual experience to the class over Zoom, which “allowed

students to exchange culture and get to know each other” (Liu and Shirley 184). Having students represent their home country is worthwhile because who better would understand culturally significant images and locations with capturing? Still, the program Liu and Shirley used is strictly 360-degree video, with a few points of information provided in pop-ups. While these studies are promising and indicate a clear interest and potential for virtual technologies in academia, they do not interrogate deeper concepts of the virtual or technological theory; rather, the studies take these concepts for granted instead of trying to understand and develop them. These kinds of videos can be found all over YouTube VR and Google. Also, immersive 360-degree VR experiences are limited in their capacity for interactive learning. The study concludes with Liu and Shirley recommending that Study Abroad programs formulate a hybrid approach that utilizes virtual and traditional practices to maximize student benefit (192). The prototype and lesson plans created for this project offer one path to achieving this hybrid approach.

Attempts like Liu and Shirley’s integrated, immersive experiences using 360-degree video footage show the advantages of virtual reality technology for enhancing cross-cultural and intercultural relationships and learning. For this reason, it is prudent to trace the development of virtual and technological theories that have led to and shaped this project's motivation and design to understand the motivation and intentions of the prototype and accompanying pedagogical recommendations. Taking a more sophisticated approach to understanding culture and the virtual might yield more complex ways to supplement SA with technology.

## CULTURE AND THE VIRTUAL

Exploring the potential of the virtual in computer-mediated contexts requires recognizing the virtuality of the very thing the prototype for this project depicts — culture. In the

introduction of this project, I discuss the definitions of culture, its development, and the process for learning it. While some might argue that culture is tangible through objects, audible through traditional sounds, and visual through displays of cultural arts, behaviors, and more, the reality is that all these sensory perceptible aspects of culture rely on virtual conceptualizations. In “Cultural Heritage Objects and Their Context,” Neil Brodie explains, "Cultural objects range in type from paintings or other recently produced works of art at one extreme to natural objects with no human modification at the other. It is the cultural context that affords value, the broader system of beliefs and practices enfolding the object, not the object itself" (1960). These systems of beliefs and practices that inform cultural understanding are themselves virtual. Culture exists in tandem with, and at least partially because of, the virtual. Understanding at least the basic framework of the complex relationship between culture and the virtual and how technology accesses and influences culture is necessary for this project because it serves as a rationale for using the chosen virtual technologies to create the prototype. However, before moving on to those technologies, it is crucial to explore how technology theories discuss the virtual to ensure a well-rounded understanding of the virtual and how the non-technology and technological theories converge to form the framework for this study.

Technological innovations that continuously delve into realms of the virtual can increasingly access and influence culture in ways that it could not before. One of the most adept explanations of this virtual intermingling of culture and technology is found in Sutrisno Sutrisno’s 2023 article “Changes in Media, Consumption Patterns, and Their Implications for People’s Cultural Identities”:

Cultural identity, an intricate tapestry of a society's unique attributes, stands as the foundational bedrock that encompasses a mosaic of values, traditions, language



nuances, norms, and collective worldviews that collectively formulate the distinctive lens through which the world is perceived. The pervasive reach of media intertwines itself within this delicate fabric, often acting as a reflection that has the potential to not only strengthen and perpetuate these components but also to catalyze shifts within them. (19)

Media, he argues, has reached a degree of ubiquity to which it has merged with the “foundational bedrock” (Sutrisno 19) of social interactions, values, and activities. This merger has allowed various technologies to not only reflect or represent culture but also to enact change within cultures. While this might seem a topic of concern for cultural studies, scholars of discourse and new media must take note of this relationship and focus exploration on how technology has become so interwoven into such a sacred concept as culture. I argue that this exploration needs to begin with a consideration of not just the relationship between culture and the virtual but also the relationship between technology and the virtual.

## TECHNOLOGY AND THE VIRTUAL

Structuralist and poststructuralist theorists alike have created the philosophical frameworks from which contemporary theories of virtuality have drawn and diverged to inspire digital theories of virtual reality that are rooted in pre-digital virtuality. Contemporary structuralist theories tend toward definitions of virtuality that highlight the medium — technology — as a means through which the virtual can be understood and accessed. In “The Past, Present, and Future of Virtual and Augmented Reality Research: A Network and Cluster Analysis of Literature,” Pietro Cipresso and his coauthors present three definitions for the virtual that have “common features of VR [Virtual Reality] systems: immersion, perception be present

in an environment, and interaction with that environment” (2). All three of these definitions rely upon technology to understand the virtual. Cipresso et al. claim virtual reality started in the 1960s with Ivan Sutherland, who “described VR as a window through which a user perceives the virtual world as if [sic] looked, felt, sounded real and in which the user could act realistically (2). Subsequent definitions through 1993 include languages such as graphics, display technology, and synthetic environment (Cipresso et al. 2). The same is true for Jay David Bolter and Richard Grusin’s view on virtual reality, as they write that it is “a label for digital revolution” (161) in which digital representations of reality are what define what it means for an experience to be virtual. In “The Aesthetics of Reality Media,” Maria Engberg and Jay David Bolter explain this perspective held by Cipresso, and Bolter and Grusin, by pointing out that “The VR community does not think in philosophical terms about reality but simply assumes that the perfect sensory reproduction of reality is desirable and theoretically possible” (84). By excluding the philosophical, the VR community can focus only on that created by people using computer capabilities, thus making *the virtual* a concept dependent upon computer mediation. Though helpful for understanding the virtual strictly within computer-based disciplines and inquiry, the singular view of the virtual by way of computer technology has the potential to create discursive and scholastic limitations.

While the definitions from Cipresso and Bolter and Grusin are beneficial for discussing the digital virtual spaces engaged through computers, such a narrow focus on the virtual alone can limit the possibilities of applying virtual technology. A more comprehensive understanding of the virtual is necessary to allow for the representation of something as complicated and diverse as cultures. To be clear, the limitations that arise from such a techno-focused perception of the virtual have nothing to do with the technology itself. Seeing the virtual as only a

computer-generated concept threatens to limit how potential users envision the possibilities of virtual technology. When one recognizes the complexity of concepts such as culture and how it is shaped as a non-technological construct of an equally complex definition of the virtual, pathways between myriad social ideologies, communications, and interactions can take shape through the shared intersection of the virtual.

Technological theories and understandings of virtual spaces are just as integral to this project and academic discussions of virtual reality within learning as the philosophical perceptions of the virtual because the perspective of technology shapes this intersection between the physical and the virtual, creating a more inclusive understanding of the virtual that benefits society and extends the potential for application of virtual reality technology. The prototype for this project and how it composes culture and encourages complex discourse is just one example of many potential ways to apply this more inclusive framework of the virtual. With this framework, this project affords students and academics more opportunities to shape the rhetoric of essential conversations, of which discussions of culture are among many.

The interwoven complexities of culture and technology through the conceptualization of the virtual is just one critical foundational framework to fully understand this project's value and how it fits within a much larger conversation of discourse, technology, culture, and learning. It is well beyond this project's scope to enter a deep dive into all aspects of technology theory that shape my motivations, understandings, and design. However, it is crucial to situate the use of virtual reality technology within a theoretical and historical context that helps situate the research and subsequent prototype and course designs as a rationale continuation of technological theory and developmental processes that have been happening for generations through the process of

remediation. Before discussing the remediation of technology, we must first understand the theories behind how technology and society interact and affect each other.

Many people view technology as a mere instrument for use instead of the socially influential points of rupture that change how people complete tasks or interact with the world around them. This perception of technology as an instrument only is a central tenant of Marshall McLuhan's theory known as "the medium is the message," which he discusses in *Understanding Media: The Extension of Man*. In the context of "the medium is the message," McLuhan aptly explains that a technological item was defined merely by its content - i.e., the content of a painting is that which the painting represents, or the content of the railway is simply a continuation of transportation. None of these mediums contributed anything additional; the abstract thoughts of the painter could be written, spoken, or otherwise contained in any other medium in much the same way the railway offered an alternative means of transportation that has long been contained in other modes of movement. According to McLuhan, society's concern with the content of a medium is what "blinds us to the character of the medium" (9), which is to say it prohibits us from seeing the integral role of technology in sociological development. Before we can fully realize the value of technology, we as a society must recognize this limitation and break through these self-imposed barriers between our understanding and the realities of technology's role within and impact on society.

McLuhan is concerned with society's inclination to view technology as a mere tool, neutral in any effects beyond the task for which it exists. In his explanation of "the medium is the message," McLuhan writes, "This is merely to say that the personal and social consequences of any medium – that is, of any extension of ourselves– result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology" (7). This concept of

the medium is the message is another way of framing how people might better understand the difference between technology as an instrument versus how technology changes society. When considering the content of a medium and technology's constant acts of remediation, it is possible to strip away the illusion of the human creator and exchange the image with that of a less dominating constructor. McLuhan explains that it is a reality of media "that the 'content' of any medium is always another medium" (8), meaning the content is that which is represented by the media; McLuhan gives the example of speech being the content of writing (8). However, when one is purely focused on the "content" of any type of media, they fail to see the character of the medium" (9). As a piece of technology, the pen captures speech in print; the content of written composition is the language that would be spoken. The pen's character, however, changed how society communicated by affording a new and unique way of discourse that did not require the immediacy of spoken language through speeches. Despite the clear historical evidence that technology has and does impact human behaviors, we must ask why so many people still deny, or at least gloss over, the social impacts of technology. Answering why people resist technological influences helps clarify why many students and scholars are still hesitant to embrace emerging technologies in academia, similar to what this project proposes.

One starting point for understanding the human tendency to hesitate when presented with emerging technologies is through the work of Kenneth Burke. In *Permanence and Change*, Burke outlines the concept of technological psychosis, or patterns of thought, that he says "is the one psychosis which is in its basic patterns, contributing a new principle to the world. It is at the center of our glories and our distress" (44). His use of the word "glories," in this case, refers to the moments when people exercise power and control over technology, and he uses the word "distresses" to describe failures to do so. Burke continues that human history has traditionally

employed three distinct rationalizations for the human desire for control over the world around them. The first is that of magic, which was once used to explain natural phenomena. Then, there is religion that is used to control and govern humanity through social norms and various policies that control human behaviors. Finally, and more specific to this study, is the rationalization of science. Burke defines science, especially technological sciences, as the human “attempt to control for our purposes the forces of technology, or machinery” (44). One of the best ways to exert dominance over technology is to diminish the role of technology’s influence on social constructs. To be the power in the dynamic of humans and machines, humans must establish the machine as nothing more than a convenience for human activity when deemed necessary. Highlighting the clear social impacts of technology on society is a threat to this technological psychosis of human overseers. While Burke’s theory presents one rationale for the resistance to innovations in technology, we must use this understanding to combat technological psychosis to reap the full benefits that virtual reality technology has to offer. Burke’s contributions to tech theory introduce an especially important question: What is humankind’s role in the relationship between technology and innovation? Further inquiry into this question leads me to Martin Heidegger, who explores the multifaceted qualities of technology creation (or what he calls *presencing*) and development. Starting with the understanding of Burkean technological psychosis, we are able to approach the research of human influence on technology with, at the very least, a basic framework for understanding.

Although there is no evidence that Kenneth Burke influenced the work of Martin Heidegger, and there is ample evidence that Burke was a strong critic of Marshall McLuhan, the intersections of their ideas concerning humanity’s inclination to exact power and control over technology and how that influences humanity’s relationship with technology is worth exploring

to demonstrate just how impactful the technology in this project can be. In *The Question Concerning Technology*, Martin Heidegger responds to the idea that humans create or improve technology to be more helpful to people and society. People certainly play an essential role in the development of technology; in fact, to facilitate the type of prototype this dissertation project needs requires human involvement. However, Heidegger's point is that while technology is not created — or revealed — “beyond all human doing,” it also does not “happen exclusively in man, or decisively through man” (24). To best understand what Heidegger means by technology not being revealed exclusively through man, it is important to delve deeper into his concepts of the essence of technology.

The most important foundation upon which to build this understanding is the recognition that technology is anything but neutral. Too often discussions about technology focus exclusively on the physical, manufactured devices created by tech companies. In fact, this perspective is nothing new as is evident when Heidegger writes, “the instrumental conception of technology conditions” human perception and engagement with technology by way of prioritizing a need to master it, with that need becoming “all the more urgent the more technology threatens to slip from human control” (5). It is a need to control, to be that “lord of the earth” (Heidegger 5) that drives humans. Simply put, technology is about power — the ability to control. Offering an apt interpretive summary of Heidegger's position on technology in “A Field Guide to Heidegger: Understanding ‘The Question Concerning Technology,’” David Waddington explains that “Most essays on technology focus primarily on practical issues surrounding the *use of particular technologies*. Heidegger's essay, however, does not—instead, it focuses on the *ways of thinking that lie behind technology*” (568). Heidegger's criticism of humanity is rooted in his view that too many people miss the value of technological development

when they view themselves as always acting upon technology but ignore the broader concepts behind the development of technology. If more people, according to Heidegger, could expand their understanding of technology to include “ways of thinking, humans [could] enter into a ‘free relationship’ with technology” (Waddington 568). Before a free relationship can be established, we must first recognize that humans and technology do exist in a type of relationship in which both have clear impacts on each other.

Heidegger speaks extensively about how humanity “exalts himself to the posture of lord of the earth” to create the illusion that “everything man encountered exists insofar as it is his construct” (Heidegger 27). This exaltation closely parallels what Burke refers to as moments of glory, which is to say that humans often consider not the essence of technology but only that over which they can claim power. What Burke, nor any scholar, does not suggest is that technology is in some way autonomously manipulating humanity. Burke and Heidegger are instead urging us to shift our focus away from the perspective that technology serves only the immediate needs of humans and toward a perspective that considers the co-responsibility of all aspects of technological understanding - including humans, material, thoughts, and more.

In this project, a prototype for virtual reality application in education is meant to capture technology's essence, or character, by realizing key contributing factors that take base materials and form them into objects, which in turn have the meaning applied to them (as in the case of culturally significant objects). Martin Heidegger provides a foundation for how a virtual reality prototype is conceived and created in historical-theoretical contexts while also providing a pathway to understanding how the interaction between humans and technology is far more complex than user and tool. The prototype is designed to be used as an expansive means of developing critical thoughts and conversations surrounding the complex construct of cultures.



With such an ambitious and essential goal, it would be imprudent to overlook at least the theories that bind the complex virtual and technological components together.

Necessary for perceiving the essence of technology is the ability to realize that every technology is developed not merely out of materials but also out of a cause. Still, for many people, it is better to understand the “current conception of technology, according to which it is a means and a human activity...[as]...the instrumental and anthropological definition of technology” (Heidegger 5). Students engaging in the program designed in this project will benefit from understanding the flaws in this perspective; otherwise, it is plausible that they might see only the fun of the technology and not the more profound value of the conversations it affords. The question to be answered here is, what causes the creation of a new object (in the case of this project, technology)?<sup>2</sup>

Heidegger’s position is rooted in the four traditional philosophical causes: *causa materialis*, the material that makes a thing; *causa formalis*, the shape the thing takes; *causa finalis*, or the final purpose; and *causa efficiens*, the doer or the maker of the thing (6). These four causes are central to the creation of objects and technologies. To facilitate a better understanding of how these causes are seen in this project, a closer look at each of these philosophical causes will aid in establishing a clear framework moving forward.

Heidegger derives his four causes from principles that philosophers since Aristotle have used to discuss the instrumentality of objects. Heidegger uses the example of a silver chalice to explain the relevance of each of the four causes; the use of a chalice is appropriate to this project

---

<sup>2</sup> Heidegger calls the act of bringing an object into being by two terms: bringing forth and/or presencing. He argues that the object exists but requires all causes mentioned in this chapter to be brought forth or presenced. For the sake of clarity, I shall refer to this function as the creation of an object both in form and purpose. However, the use of the word creation should be noted as one that would be deeply contrary to Heidegger’s desire to separate humans from the creator concept.

as the chalice is a familiar figure of cultural ceremony and practices, thus making it an ideal example of how culture is also created through these causes. *Causa materialis* is quite literally the material from which an object is made, and in the case of Heidegger's chalice, that material is silver itself. *Causa formalis*, the form an object takes, is decided after the material has been molded. The silver, once molded into a chalice, can be said to have its *causa formalis* — its shape. *Causa finalis*, in keeping with his chalice example, would be “the sacrificial rite in relation to which the chalice required is determined as to its form and matter” (Heidegger 6). *Causa finalis*, simply put, is the cause of purpose or the end purpose for which the shaped material is meant to serve. In Heidegger's example, the shape of the chalice was designed to contain the contents of a sacrificial rite; therefore, that purpose is its end goal or the cause of its final formation. While Heidegger's previous three causes relate directly to the technology's material, shape, and purpose, *causa efficiens* refers to a component outside of the technology, but one through which it could not have been manufactured at all — the craftsman. In the case of the chalice, this is a silversmith (Heidegger 6). The materials require one through whom they can be shaped, and that person shapes the material based on the object's intended purpose. Every object, Heidegger concludes, includes a trajectory that is always traced back to these four casualties. Nothing can exist without even a single one of these four key components.

It is worth mentioning briefly that Heidegger's understanding of the word cause is complex in that he does not want readers to think of causation in a sense “that the causal character of the four causes is so unifiedly determined that they belong together” (7) as a form of fundamental cause and effect. His concern is that the inclination to think of cause in too fine of terms by asking what these *causa* means threatens to create systematic steps that were never the intention of the four *causa* philosophy (Heidegger 7). Instead, Heidegger wants readers to

understand “the four causes [as] ways, all belonging at once to each other, of being responsible for something else” (7), which is to say each of them is a very separate contributing partner in the creation of the instrument rather than a part in a linear, inflexible process. He returns to his example of the silver chalice, saying that silver — material — is not merely a step to bear toward shaping rather, “it is co-responsible for the chalice. The chalice is indebted to, i.e., owes thanks to, the silver for that out of which it consists” (Heidegger 7). A chalice is an object that could not exist without silver, nor could it have been shaped into a chalice without first having a crafter shape the object. The crafter, in turn, must understand the final purpose of the material. The final purpose (the sacrificial rite) has no value without the chalice performing its task. Purpose serves a social or cultural need or desire. Therefore, it exists within the virtual realm and acts upon the crafted object to give it meaning or purpose. The point here is that each of the four causes are unified not by their dependence upon each other but by their contributions toward creating the chalice both in form and purpose. Therefore, not even the human factor of the silversmith is the creator, or “lord of earth” (Heidegger 5), of the chalice. The crafter, as well as the virtual-born purpose, are components that are necessary for creating what has come into being. The prototype for this project also employs these four causes.

To best see the four philosophical causes at work, I apply them to the technology chosen for this project. The tracing of these causes in connection to this project is to establish the connection between theory and immediate-use technology; a sacrificial chalice is not the project's goal. The *causa materialis* for virtual devices can be identified by the shapes they eventually take, but that goes beyond the confines of *causa materialis*. For example, a headset that uses a cellular phone and a virtual reality headset designed to work with the mobile phone. However, we must think of materials more naturally to invoke *causa materialis*. To shape the

parts of the headset and cellular device materials such as sand and ash are used to make glass and coal, cellulose, and salt are used to make plastic. These base materials contribute to creating the phone, headset, and many more materials.

When the materials are formed into a design or shape, that shape is considered the *causa formalis*. Recall that *causa formalis* is the ultimate shape that the materials take. Therefore, considerations of design and potential use influence how the plastics and glasses will be shaped to serve the larger purpose. These shapes, however, can vary in the most nuanced of ways. For example, while most VR headsets are similar in shape for wearability, no two are identical, and each has a stylized device. The HTC Vive and Meta Quest II look remarkably similar, yet we can see nuance in the final form of each. The form objects can contribute to their function and serve many other purposes, including market appeal. The form of these technologies is vital to this project because the device's shape must be durable and helpful to various users. The HTC Vive has, as a part of its form, connector cords designed to allow the device to work in conjunction with a PC suitable for virtual reality. Given the fact that most universities and colleges are not willing to, or even able to, invest in high-end virtual reality-capable computers, the form that requires such a connection will not suit the needs of this project. The Meta Quest 2, however, comes as a standalone, cordless device. As such, the form of Meta Quest 2 is quite beneficial because it is not a tethered form, allowing for a broader range of movements and transportation or storage of the device. What is important to realize here is that material and form are vital to developing these devices, which in turn influences the object's *causa finalis* or final purpose.

In the case of the virtual reality prototype designed for this project, the purpose — *causa finalis* — is to generate images, sounds, and movement to create an immersive user experience. The more immediate purpose of this project is to create virtual reality experiences that capture

the complexities of culture and intercultural interactions. The purpose, as mentioned earlier in the chapter, is to bridge between the virtual that technology such as this creates and the virtual concepts that shape our society. When considering this purpose, we must factor in needs such as creating stable virtual environments that will not drop out suddenly, the ability to move freely to some extent while using the devices, and the overall longevity of the device. These systems are an investment for educational purposes and, therefore, must provide quality performance to meet educational outcomes, much like the silver chalice must meet sacrificial ritual requirements. Whatever form the virtual reality system takes for this project it will be the form that best fulfills the purpose. The purpose of virtual reality education is only as valuable as the materials and forms can provide. But materials, form, and purpose are only three of the four causes.

The fourth is *causa efficiens*, which is usually the human manufacturer of the object--the silversmith in the example of Heidegger's chalice. With virtual reality, there are several manufacturers involved in forming the materials so that they might serve their purpose. Collectively, prominent doers can be categorized by suppliers for the makers of popular VR headgear and technology like Facebook Technologies for the Meta Quest, the makers of HTC VIVE, and even the simpler headsets. Just as we had to look beyond the form to see the actual materials of these devices, so must we look beyond these more giant corporations to see the real *causa efficiens* of virtual reality. Every maker, from the glass and plastic makers to the shapers of these components in the headset, and even the program designers and students engaging in the virtual programs are a part of the *causa effects* for virtual devices. This is important because the tendency to see only the corporate names diminishes the Heideggerian concept of coming into being or presencing (creation). It detracts from the force of *causa efficiens*. Instead, these companies are often positioned in the role of that almighty human who has power and authority

over all technology created. They embody human attempts to claim authority and control over technology. Although Heidegger and Karl Marx had many differences, at its core, this is a very Marxist approach in that by removing the human producer at the worker, shaper of the base materials or miners of necessary components, the corporate entities are erasing the *causa efficiens* and diminishing the contribution materials and formalis play in the presencing of the object. Through this erasure, the only power left to whom one can attribute the creation and formation of instruments are those who manage these corporations and control the production and dissemination of it to others. This is a crucial erasure because the project relies upon a clear understanding of how vital every contributing factor is when merging philosophical and technological concepts of the virtual to create valuable experiences that have more value than the power of a singular creator (person or company).

#### FRAMING THE RELATIONSHIP BETWEEN THE REAL AND THE VIRTUAL

It is clear that, separately, the concepts of culture and the virtual are complex. Having discussed some of those complexities, we must now move forward from the theoretical and consider how technology pertains to virtual reality. Establishing the role of technology in virtual reality requires that I first consider a current perspective on the virtual as it is understood in the discipline of technological virtual reality, after which I consider what my understanding of real or existing is for the context of this project.

In *The Virtual*, Rob Shields suggests a definition for the virtual: “The virtual captures the nature of activities and objects which exist but are not tangible, not ‘concrete.’ The virtual is real but not concrete” (2). The virtual “is ideal, but not abstract, real but not actual” (43). Shields means that the virtual exists without an absolute or definable physical form. In scholarship, the

difference between physical form and virtual is stated as actualized (physical existence) and virtual because both are understood as being real despite having different states of existence. He also claims that “The virtual captures the nature of activities and objects which exist but are not tangible, not ‘concrete.’ The virtual is real but not concrete” (Shields 2). The virtual exists but is without a clear, perceptible form. Therefore, objects and perceptible aspects of culture are actualized forms of culture; however, their value stems from the virtual state of the beliefs that inform how these objects are situated within any given cultural norm. Thus, their actualized and virtual components are essential to understanding the culture in which these objects and other cultural manifestations exist and function. For Rob Shields, the best example of this is the Christian Eucharist, in which wine and bread do not bring the divine into actual presence; instead, it is the belief system of faith, or Christian culture, that allows participants in this culture to connect with divinity in spaces of the virtual through these now sacred objects (43).

In the introduction of *Matter and Memory*, Henri Bergson begins by saying “This book affirms the reality of spirit and the reality of matter” (5) and continues to explain that “Matter, in our view, is an aggregate of ‘images.’ And by ‘image’ we mean a certain existence which is more than that which idealist calls a *representation*, but less than that which the realist calls a *thing*” (5). Bergson references spirit similarly to how Heidegger discusses the concept of essence in that it is present and real as an influence that acts upon and within the world in which it exists. In this way, spirit/essence is more than a mere representation which is, inherently, a copy or reflection of something else that is considered more real than that which represents it. On the other hand, the spirit/essence of things not tangible or otherwise perceptible by what Bergson calls common sense leaves perceptible objects to be viewed as existing strictly within themselves and not within the realm of ideas or thought alone. Ralph Barton Perry, in “Notes on the

Philosophy of Bergson” believes that Bergson’s claims are a stance of “anti-intellectualist” (674) thinking. Perry argues that Bergson views intellect as creating divisions between realities and forcing a physicality upon reality that is merely “abstracted and partial aspects” of what constitutes a full or complete understanding of reality (Perry 674). To understand the whole of this concept called reality, one must consider the myriad variations and representations of reality, including physical, psychic, and virtual, to name a few. Though the scope of this project cannot include all perceptions of reality, it is difficult to compose virtual experiences and propose quality pedagogical applications of them if one only considers a singular view of reality; the same is true for understanding culture and the virtual. We need at least a basic realization that one perspective is limiting because no one view can provide a clear understanding of the potential of this project.

Bergson articulates one view of reality by likening it to the ways in which we recall memories, which exist perpetually in a state of being virtual until we actualize them through recollection. He states: “Whenever we are trying to recover a recollection, to call up some period of our history...we detach ourselves from the present in order to replace ourselves, first in the past in general, then in a certain region of the past” (Bergson 73). The “detaching” and “replacing” of self is not in a physical locality but in the mental space of memory recall. The memory itself exists virtually, and Bergson explains that we must shift our attitude and expectations of what is real in order to recognize the memory - also real, though intangible. Bergson argues that the virtual can cross into the actual and that memories can become actualized. This actualization occurs through the nervous system and the brain’s physical capacities to manifest clear images of a memory. Keith Ansell Pearson explains in his article “The Reality of the Virtual: Bergson and Deleuze” that the matter of differentiation for Bergson



is the difference between the “independence of a living system [the individual] in relation to matter...between brute matter and the reflective mind there are all possible intensities of memory and degrees of freedom” (1114). In the case of memory, the nervous system is the material and the virtual is, what Pearson calls, energy. It is through this “difference between matter and memory that we can best appreciate the ‘sense’ of the virtual” (Pearson 1114). Much of Bergsonism is based upon the perception that the universe is entirely driven by the discontinuity within matter; in fact, Bergson goes to great lengths to establish this discontinuity as he argues that time itself, particularly the idea of a present, is an effort to apply concreteness to that which cannot be put into matter because “the real, concrete, live present...must be a perception of the immediate past and a determination of the immediate future” (75). As such, for one to engage the concept of present, it must be through the virtual memory of the past and virtual determination of the future.

In this case of common sense, materiality is integral to what is considered reality. However, Bolter and Grusin write that the reality transformation taking place through virtual reality insists that the world created within the digital framework of the technology is the “locus of presence and meaning for us [users, people, society]” (19). Kenneth Burke issues a similar definition for reality in *Permanence and Change*, saying that “Reality is what things will do to us or for us. It is expectation” (22). If, as Bergson claims, existence is not subject to the concepts of representation or thing-ness only, then we must consider how the virtual, both as a concept and as a techno-mediated locus of presence, is simply reality, because it has meaning for the user and is serving an expectation, or purpose, for society.

In his book aptly titled *Bergsonism*, Gilles Deleuze analyzes, critiques, responds to, builds upon, and diverges from the work of Henri Bergson. Deleuze draws upon a common

criticism that Bergson's theory of differentiation between matter and memory had moved "from dualism to monism, from the idea of differences in kind to that of levels of expansion and contraction" (91). Deleuze explains that the underlying concern with this movement to monism is not necessarily the distinction of varying degrees of expansion and contraction, but it is that they happened simultaneously rather than two moments in time (such as recalling a memory from the past in the present). What Deleuze argues is that the expansion and contraction of a moment or its temporal placement, is not always used as a means of identifying experience; therefore, neither can be a requirement for differentiation alone. He expands on Bergsonism, arguing that there are instead "different moments of the method [dualism and monism], with the emphasis sometimes on one, sometimes on another, but all coexisting in a dimension of depth" (Deleuze 92). He is suggesting a multilayered perception of existence, one with infinite dimensions of differences occurring in diverse ways at all times. From this, Deleuze develops his theory on virtuality: "All the degrees coexist in a single Nature that is expressed, on the one hand, in differences in kind, and on the other, in differences in degree," and that monism occurs when "All the degrees coexist in a single time, which is nature in itself" and "The coexistence of all the degrees, of all the levels is virtual, only virtual" (93). To Deleuze, all moments of differentiation are individually present, but the monism occurs in the fact that all of these moments exist simultaneously. Though one enacts a specific differentiation at a given point in time does not negate the existence of the other differences. Deleuze's position is similar to Bergson's theory on memory as virtual in that all of our memories exist simultaneously, though we do not recall them all at the same moment to the same degree. Monism is their collective, virtual existence. Rob Shields demonstrates the collective existence when he discusses how "computer-based media have generally been considered in terms of how they encode 'reality,'

understood as concrete” (69) and how the virtual is autonomous from the concrete, though there is a clear “choreographed interweaving of the...virtual and concrete in everyday language and action” (73). The virtual and the concrete exhibit the same varying degrees of differentiation at different moments, but they both exist at all times. How can a thing that is virtual and a concrete thing be understood as being real when, most of the time, the virtual is imperceptible?

Friedrich Nietzsche and Jean Baudrillard discuss the concepts of dissimulation and simulation in their consideration of realness and how the *real* is created and perceived. Nietzsche, in “Truth and Lies in a Nonmoral Sense,” says of dissimulation and simulation that “The liar is a person who uses the valid designations, the words, to make something which is unreal appear to be real.” He argues that all human knowing is limited; therefore, any claims of intellect or knowing are simply presentations of dissimulations that have no connection to reality. For a person to establish individuality, they must engage in dissimulation to create a sense of being and Truth, of which Nietzsche says, “Truths are illusions which we have forgotten are illusions.” Jean Baudrillard, in “The Precession of Simulacra,” indicates this dissimulation is the essence of simulacrum. Simulacra is the sense of simultaneous presence that leads to the theory of simulation. Baudrillard identifies the difference between dissimulation and simulation through the example of a person who may or may not have an illness, explaining that a person who dissimulates claims to be ill and can pretend without having any symptoms, but a person who simulates the illness is able to produce actual symptoms. He clarifies that “pretending, or dissimulating, leaves the principle of reality intact: the difference is always clear, it is simply masked, whereas simulation threatens the difference between the ‘true’ and the ‘false,’ the ‘real’ and the ‘imaginary’” (Baudrillard). When one dissimulates to mask reality, they establish that there is a real and a fake. However, when one dissimulates to mask the absence of reality, it

indicates that there is nothing “to separate the false from the true, the real from its artificial” (Baudrillard). At this point, when an image or representation has no relation to reality at all, it has become a simulacrum. Simulation is not a case of “false representation of reality ... but of concealing the fact that the real is no longer real, and thus saving the reality principle” (Baudrillard). This reality principle is the need that people have to establish a context for that which they can call real, or reality. However, Baudrillard argues that this perceived reality of the real world is only real because it is set in differentiation to the imaginary. Reality can only be defined by the differences; therefore, the differences are constructed. Baudrillard continues to explain that “The imaginary of Disneyland is neither true nor false, it is a deterrence machine set up in order to rejuvenate the fiction of the real in the opposite camp” and is meant to be “childish in order to make us believe that the adults are elsewhere in the ‘real’ world, and to conceal the fact that true childishness is everywhere.” Simulation is a theory of virtuality in which all spaces, virtual and actual, are equally real and unreal. When considering the Truth of reality, it is a simulation, an illusion. Baudrillard and Nietzsche build from the established history of virtuality that the virtual exists, but they do so through the theory of simulation that suggests all worlds are based upon the illusion that there is a truth of the reality principle.

While it might be regularly believed that the difference between the virtual and reality is that the latter is real and the former is not, the framing of this project situates both as real with the primary point of difference between them being materiality. Oliver Laas discusses the use of materiality as a divider in “Contemporary Philosophical Theories of Virtuality: A Critical Examination and a Nominalist Alternative.” Laas identifies reductivist realists, saying, “Reductivist realists do not admit virtuality as a basic constituent of reality. Instead, they seek to provide reductivist analysis that explains virtual entities in terms of some other class of existent

entities” (10). Types of reductivist realism include intentionalist reductivism, which “interprets ‘virtual’ as a modal term that attributes a certain mode of existence to entities” (10). The underlying assumption is that when the virtual is compared to concrete reality, it might be the case that there are similarities to the concrete world, but the degree of *realness* is determined by physicality. Truth, however, for intentionalist reductivism, is acquired only when the person engaging the virtual and the creator of the space agree to pretend the realness of virtuality, despite recognizing the material construction of the technology and not the space itself. This agreement between user and creator is important to this study because research must be conducted to discern the willingness of users and the capabilities of creators to construct virtual spaces that produce a willingness to enter into an agreement. Users must be willing and able to orient themselves to the virtual as a temporary reality that serves the purpose of the user. This harkens back to Kenneth Burke’s definition of reality as being “what things will do to us or for us. It is expectation” (22). Intentional reductivism sees the virtual as real only in as much as it temporarily serves the purpose of the user, and it requires a degree of suspended disbelief to facilitate the realness of the experience. However, in this study, I posit that intentionalist reductivism engages Burkean technological psychosis in which humans are still the center of reality and experience and prohibits the recognition of reality as the complex collaboration between virtual, actualized, existing, and present that are navigable through understandings of dissimulation and simulation - everything being real and unreal all at once, despite materiality.

## ESTABLISHING MEASURES OF STRUCTURE

As technology has continued to develop, expanding the possibilities of application, some scholars have started to pull back from the absolute relativism of post-structuralist approaches to

reinstates the notion that some degree of structure must be considered if one hopes to shape and utilize virtual reality for specified purposes. Caroline Levine is one such scholar, introducing ideas she calls new formalism that engages the concept of plurality in how objects and theories are organized.<sup>3</sup> In her book *Forms: Whole, Rhythm, Hierarchy, Network*, Levine introduces bounded wholes, that with discernable boundaries, calling upon the work of Jacques Derrida. She explains that “Derrida argued famously that no work of literature can ever achieve a closed unity” since a thing is only known “through its relation to other traces or marks that are not contained in any given object but unfold in the unending process he calls *differance*” (Levine 25). Derrida is necessary for Levine’s position because structuralism holds that meaning is only ascertained when one understands that which creates it. Julie Rivken and Michael Ryan detail Jacques Derrida’s contributions in *Literary Theory: An Anthology* by considering the concept of “*differance*” which represents the “simultaneous process of deferment in time and difference in space,” which means “One present moment assumes past-present moments as well as future-present moments; to be ‘present,’ a present moment presupposes its difference from other presents” (258). This indicates that “the difference between the two concepts must preexist the concepts themselves” (Rivkin and Ryan 258). In developing a virtual reality experience for study abroad, the recognition of *differance* between actual travel and virtual travel are different moments and methods of presence but each is its reality as presence is understood. The difference that makes one actual and the other virtual (using the term as Engberg and Bolter indicate is common within the VR community), is merely the physicality of presence, not reality.

Levine adheres to this Derridean approach but introduces the possibility that through bounded wholes one can better engage a plurality of wholes that connect and collide. While she

---

<sup>3</sup> Levine is a formalist, which aligns her most closely with structuralism.

acknowledges that poststructuralists like Derrida reject the “artificial” boundaries and “totalities that exclude and imprison,” Levin argues that “we cannot do without bounded wholes; their power to hold things together is what makes” them valuable (26-27). His point is that to be rid of bounded wholes entirely is not possible because they are “simply too common, too pervasive, too constitutive of social relations, thought, and material structures across cultures and time periods to be disregarded or left behind” (11). The Levinian approach posits that in discussing virtuality one is engaging in a form, a bounded whole through the identification of the concept in question; identifying digital virtuality as opposed to its predecessor is an example of boundaries of virtuality. Levine proposes the consideration of plural wholes because “an attention to the multiple bounded wholes at work in social situations helps us to rethink historical contexts...organized not by single, powerful ideologies, but by numerous contending and colliding forms” (Levine 39-40).

Lev Manovich, in *The Language of New Media*, is an example of how this theory of bounded wholes can be applied to digital virtuality.<sup>4</sup> Manovich argues for a “similar genealogy for the language of computer media at the moment when it was just coming into being” (7). He continues by saying that his “aim [is] to describe and understand the logic driving the development of the language of new media” (Manovich 7). He aims to construct the bounded whole of new media and virtuality by way of the components — technology — that create it. Still, Manovich expands upon the bounded whole theory, creating a similar yet diverging theoretical method called mapping new media. Manovich posits that the goal is to “offer alternatives to the existing language of computer media” (10) and virtuality. This mapping

---

<sup>4</sup> Manovich in the same text claims a desire to avoid a return to structuralism, but his ideas aim at what is very much structuralist practices. More specifically, as argued here, he is demonstrating a means of creating bounded wholes with virtuality through the technology that composes it. Making him structuralist.

provides a “theory of how ‘mainstream’ language is now structured and how it might evolve over time” and places “new media within a larger historical theory of how new media will develop” (Manovich 10). This theory draws upon the Levinian new-formalist theory to map the language of new media, the structuralist material for virtual spaces. Manovich explicitly states that his aim is “to contribute to the emerging field of new media studies...by providing one potential map of what the field can be” (11), and that he plans to do so in a structuralist order by “advancing from the level of binary code to the level of the computer program, and then move on to consider the logic of new media objects [including virtuality] driven by these programs” (11). The map that Manovich proposes allows one to create the plural bounded wholes that Caroline Levine describes and then map the potential courses of collaboration and collision of each mapped whole.

## MERGING IDEAS - REMEDIATION

Having established the theoretical framework and how technology pertains to virtual reality through our understanding of realness and by providing a means of creating structure for the virtual, I now merge these interwoven ideas through the concept of remediation. Manovich is a scholar concerned about a narrow focus on one possibility when many abound. On digital composing, he says in *The Language of New Media*, “Although digital composing is usually used to create a seamless virtual space, this does not have to be its only goal. Borders between different spaces do not have to be erased” (Manovich 5). When virtual reality technology is assumed to be a completely novel production that exists to eliminate boundaries between the virtual and actualized worlds, it is more likely that developers and users alike will fail to see the history of technological development at work within the VR systems. These systems are not



products thought up recently. Instead, they are a continuation of the process of remediation. Like Manovich, other contemporary scholars are starting to highlight the reality of remediation not to diminish innovations but to highlight it as part of a complex process of continuously expanding ideas, designs, and development.

*In Remediation: Understanding New Media*, Jay David Bolter and Richard Grusin explain remediation as borrowing content from one medium from another, usually without acknowledgment (44). A written composition does not acknowledge the spoken language from which it borrows, no more than the virtual reality that remediates television (Bolter and Grusin 48). The essence of technology is the drive, the motivation inspired by the technologies and content of old to push forward the construction of newer technologies that will, inevitably, remediate the old. Bolter and Grusin establish their framework for remediation upon McLuhan's theories, explaining, "Marshall McLuhan remarked that 'the content' of any medium is always another medium," but "McLuhan was not thinking of simple repurposing, but perhaps a more complex kind of borrowing in which one medium is itself incorporated or represented in another medium" (45). If technology were in the discipline of organic biology, one might call remediation the evolution of technology. Technologies, whether as means of travel, communication, or more recent forms of digital media, are always acting on society by way of use and benefit, to be sure, which in turn leads people to act out of necessity for more immediate and effective forms of engagement.

A combination of history and societal evolution initiates technology remediation by constantly creating the drive and need for humans to develop newer tech that builds from previous innovations. In the case of this project, we have the technological means to travel and learn and/or communicate with other cultures across the internet in chat rooms, via email, and

even through real-time video chats using Zoom or Google Teams. However, the remediation of these forms was being initiated even as they remediated previous forms of international dialogue (the telephone, letters, and so on). Bolter and Grusin aptly capture this continuous state of remediation: “What remains strong in our culture today is the conviction that technology itself progresses through reform: that technology reforms itself” (19). The whims of humanity are not the “conviction;” humanity is the tool of remediation prompted by the very essence of technology or, more simply, the changing technology brings and inspires. A complex relationship between humanity and technology requires remediation and development, just as technologies remediate towards an increasingly innovative future.

Just as technology is remediated, culture itself is remediated as well. As societies develop and change over time, cultural practices and values also shift. Extensive research was conducted by Andrew Whiten et al., on what they call the evolution of culture for their article “Culture Evolves.” Through their research, they determined that cultural “processes have been shaped, sometimes very severely, by interactions between demographic and environmental factors” and that there is a “linkage between demographic factors and culture” (Whiten et al. 944). As early humans began to venture across the continents and encounter other cultures, the contact between cultures would eventually create new cultural practices that often built upon those already observed. Most cultures present in the Twenty-First Century did not exist as we know them in previous centuries. Rather, they are the product of remediation. Consider the concept the Christmas Tree, the origins of which stem from pagan cultures where evergreens were believed to ward off evil spirits at the winter solstice (*History of the Christmas Tree: Symbolism, Traditions, and Trivia*). Today, it finds its way into many Christian homes where it has significantly impacted Christian culture and is now tied to the celebration of the birth of Christ.

This change in cultural practice is, at its core, remediation. No one cultural appropriation or practice is superior to another, just as no innovative technology is superior to that which came before. They are, quite simply, products of remediation fueled by imagination and conversation.

## APPLYING THEORY

To redefine reality as Bolter and Grusin say we must realize not only this history of virtuality and concepts of reality but also the complexities of interweaving theories of structuralists and post-structuralists. In this project, the development of a virtual reality supplementation for Study Abroad requires the understanding that virtual experiences, whether computer-mediated or otherwise, are real in their ways just as travel to actual locations is real. The materiality of each experience is quite different, which makes them uniquely diverse ways of engaging cultures and learning. Each expression of experience is a bounded whole that is structured to form the experience but also capable of intersecting with other bounded wholes (in this case other ways of experiential learning for intercultural competencies and capital). Through recognizing technological essences as more than just the technology and more than just what technology creates, it is possible to see the vast untapped potential that does already exist — thanks to this essence of technology — but is waiting to be created (or presented) through the continual remediation of previous technologies as well as ideologies (i.e. what virtuality and reality are when understood as being equal parts of *realness*).

One of the core aims of this project is to establish the realization that our society is already working within and through virtual reality in myriad ways and that we must start viewing these virtual spaces as equally valuable and real as our actualized spaces if we are to benefit fully from the technology. Having situated the role of humanity as being important to the essence of

technology as an equal contributor to the presencing of this essence, and having expanded the understanding of reality to include the intangible aspects of virtuality that exist simultaneously with the materiality of the actualized world, one is better positioned to see the ever-present influence that technology has had, and continues to have, on society. Technology's impact on society is central to Marshall McLuhan's "The Medium is the Message." Martin Heidegger's conceptualization of the essence of technology is predicated upon how technology acts upon society to sustain itself through remediation and development. Kenneth Burke speaks about the ability of humanity to orient and then reorient to circumstances, which we see regularly as innovative technologies find their way onto the mass market.

These scholars, and others like them, set the framework for more contemporary considerations for how we see technology steading acting upon society. Steve Woolgar, editor of *Virtual Society? Technology, Cyberbole, Reality* brings together literature specifically focused on how electronic technology has created a virtual society, which is that "all aspects of social, cultural, economic, and political life ...stand to be affected by the continued massive growth in electronic technologies" (1). Woolgar expands by pointing to common tropes in early alarmist conversations about a virtual society, which suggest a world in which "the onset of virtuality" leads to people spending "as much, if not more time in an imaginary virtual world as their real world" (2). Another position on the influence of technology on society is much more enthusiastic as it views the virtual world as "a concept that provides the natural precondition for an inevitable technological future" (2).

Opposing perspectives, though not individually within this project's scope, do point to one critical truth - society is influenced by technology. A common claim might be that technology is the sum of its parts, and an inanimate object has no influence. However, in this

study the essence of technology is far more impactful and far-reaching than the material parts of any technological device. Woolgar demonstrates the very basics of technology changing society by highlighting the very way we refer to emerging technologies:

Of course, ‘virtual society’ is just one summary term used to describe the upshot of the new technologies. It is just one vision of the world transformed by technology, which sits alongside, for example, information society, network society, and global society. In particular, it is worth noting that ‘virtual society’ is one of a class of what we might call ‘epithetized phenomena’ (Woolgar, 2000a), descriptions used to conjure a future consequence upon the effects of electronic technologies. In this usage, ‘virtual,’ like ‘interactive,’ ‘information,’ ‘global,’ ‘remote,’ ‘digital,’ ‘electronic’ (or ‘e-’), ‘cyber-,’ ‘network,’ ‘tele-,’ and so on, appears as an epithet applied to various existing activities and social institutions. (3).

In the explanation of these epithetized designations of technologically influenced social activities and institutions, Woolgar points out that it is not necessarily the role of the epithet to actually identify the modification of the chosen activity or institution, rather it is to generate a “claim to novelty” (3) to suggest something new, different, and better than that which lacks technology. What is clear from the emergence of this “epithetized phenomena” (Woolgar 3) is that society is so affected by the integration of emerging technologies that there is, in fact, a need for that which is created to be distinctly identified from that which it has remediated. The epithetization of activities and institutions serves as a nomenclatural indicator of the difference that society recognizes between the tangible manifestations of the actualized world (what Woolgar still calls

the real) from the virtual (digital) manifestations that are increasingly generated by the ever-expanding electronic and digital technologies.

Woolgar's work intersects with the aims of this project because it is a project that, in many ways, remediates studying abroad but does not strive to replace or in any way suggest a level of superiority to traveling abroad for pedagogical advancement. Applied to this project, Study Abroad is recognized as the physical traveling to another country in order to experience aspects of diverse cultures through immersion. What this project proposes would require an epithetic alteration to Virtual-Study Abroad, not to suggest it as superior or inferior to Study Abroad, but to recognize the differences between the experiences so that both can be valued more effectively for what they offer instead of being compared to determine which is 'best.' Rob Shields explains in his book *The Virtual* that virtual reality is "broadly defined as a computer-generated simulation or presentation of an environment in which the user experiences a sense of phenomenological presence or immersion in the environment" (54), meaning virtual reality, in many ways, is a remediation of reality. However, this does not mean it replaces reality, instead offering a different means of engaging in similar experiences in a digitally created virtual environment. Ben Hillis in *Digital Sensations: Space, Identity, and Embodiment in Virtual Reality* goes as far as to suggest alternative nomenclature for what most know as Virtual Reality (VR), explaining that "our lived worlds are plural, inflected by conceptions of space and time specifically segregated from one another. Segregated spaces and times require means to communicate among them; their mutual compartmentalization enhances and extends wide cultural acceptance of communications and information technologies, or IT, as necessary and natural" (xv). Because the experiences created through virtual reality are a part of the plurality of our lived (or actualized) world, they are better understood as Virtual Experiences (VE) than VR

because in the epithetic senses suggested by Woolgar, VR suggests a separate (better according to developers) form of reality. However, virtual experiences are a part of the greater collaboration of lived life in a world that is constantly expanding and changing, in large part because of the technology that is acting upon it. In this project, though the virtual spaces created are in many ways separate, distinct spaces because they are virtual and not actualized, the aim is not the realistic creation of another space that is better than the previous or original. The aim is to capture the essence of cultures around the world through the realness of virtual experiences. Allowing students to be exposed to cultures through virtual experience is an attempt to promote inquiry and discourse, and the desire to travel abroad to the locations represented.

In Chapter Four, I create a representation of the application of theories previously discussed in this chapter. Though I go more in-depth about design choices in that chapter, the theory of this chapter is ever-present through the design of both the spaces and the pedagogical recommendations in Chapter Five. Thinking through the design process, I am reminded that these virtual spaces that I have created, and the ones that students will create, are indeed virtual. There is a difference between the virtual and actualized (real) worlds, as discussed earlier in the chapter within the work of Derrida via Caroline Levine. It is the difference between them, however, that makes virtual reality so valuable. This technology can create experiences that, as we have seen in our discussion of Shields, Bergson, and Deleuze, are just as real and educational as lessons that take place in the *real world*. I propose no illusion of removing the borders between virtual and actual worlds because, as Lev Manovich points out, there is no reason to ignore or remove boundaries. The boundaries, for this study, are an asset because they allow me to create and frame pedagogical practices and educational virtual reality experiences with

deliberacy — something I could not do if the boundaries, and awareness of these boundaries, were removed.

Though the theoretical discussions of this chapter are often complex, and the scope of this project allows for a cursory engagement with them, the theoretical goals for the virtual experiences and pedagogical framework are comparatively straightforward. The theoretical aims are, in no certain order, as follows:

- To capitalize on the virtualness and realness of virtual spaces, allowing for experiences to be real and educational without the immediate demands of expensive travel with minimal training.
- To draw attention to the technological boundaries rather than attempt to hide them, further offering students an opportunity to understand the experience in VR versus an experiences going abroad. This project does not want students confusing the virtual with actual travel abroad; that would defeat the overall aims of the project.
- To remediate pedagogical approaches by recognizing the ways in which technology is already firmly woven into the fabric of society, including cultures, and using it as an access point to that which is otherwise inaccessible, for a variety of reasons, to 98 to 99 percent of students in university across America.<sup>5</sup>

These three key theoretical aims are central to all design decisions that arise and are discussed in future chapters. Without offering clarity on the theory that informs this project, it is not possible to fully appreciate the value of this program and its goals for cultural exposure and education.

Seeing the underlying theory behind the prototype and pedagogical designs highlights the logic

---

<sup>5</sup> In Chapter 1 I discuss the rate at which students in America are engaging with Study Abroad programs. Roughly 1% to 2% (at the most) participate, leaving 98% to 99% unable or unwilling to participate.



and exigence of this project, further underscoring the need to traverse between the virtual and actualized worlds if we hope to achieve long-lasting learning outcomes.

## METHODOLOGY AND RESEARCH

When I began this project, I envisioned a mobile capable prototype, given their ubiquity, and standard 3D-video cameras to create immersive virtual experiences at the time. The specific criteria require collaboration between American and international universities to develop culturally motivated video experiences that appeal to potential Study Abroad participants and expose those students to diverse cultures. The benefit of these collaborative efforts is to ensure a fair and honest representation of cultures based on input and decisions by people from within a given culture. The broad plan initially focused on creating an extremely affordable means by which educators could encourage interest in cultures worldwide and demonstrate to students how rich and rewarding cultural experiences could be. In my enthusiasm for virtual reality technology and desire to expand cultural discourse and learning, I assumed the most effective approach would be capitalizing on the cheapest technology available with the most straightforward creation of virtual reality possible. I realized very quickly through my studies of theory and background research that there was an urgency for this project but that my understanding of virtual reality, both theoretically and technologically, was flawed. I realized that my project has the potential to create much more than what amounts to cultural videos that one watches in 360 degrees. Still, I had to embrace greater complexity concerning the theory and technology. This realization, in turn, meant creating a more expansive project requiring careful consideration of how best to create a prototype that could serve as the centerpiece of an instructive lesson that allowed students to interact with and experience culture in virtual reality rather than have them be mere spectators.

Deciding on an appropriate method of research for this project proved to be a complicated task, as I faced expected and unexpected difficulties. One of the most apparent

difficulties I anticipated was finding a methodology that allowed me to account for the multiple conceptual contributors to this project, including pedagogical considerations, technological capabilities, and academic administrative policies. As I began early drafts of the project, before establishing a clear framework for data collection, I realized that traditional pedagogical practices could be adjusted to meet existing administrative expectations while promoting innovative uses of virtual reality in SA program designs. This allowed me to focus my research efforts on prototype planning and design while developing pedagogical practices based on established theory and customary practice. Since literary review and theory crafting serve as the methodology for pedagogical design, data collection, and IRB-approved studies could focus solely on virtual reality technology. With a comprehensive methodological plan in place, I could direct my attention to uncovering standard practices in digital humanities and prototyping design to determine what source of data would best serve the goals of my project.

## DEFINING KEY TERMS

While taking note of design possibilities, it became clear that the more apparent matters of graphics, mobility, and sound were undoubtedly important; however, immersiveness and interactivity are two foundational concepts I must define. One cannot consider issues of graphic quality, preferred mobility, and the role of sound if the role of immersiveness is not understood. In their 2020 article “Defining Immersion: Literature Review and Implications for Research on Audiovisual Experiences,” Sarvesh Agrewal and his coauthors argue that there are two primary perspectives when it comes to understanding immersion, which is a user’s psychological state and the objective property of the technology being used (405). The authors use Janet H.

Murray's *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* to establish the foundational framework for the dual perspectives on immersion:

Immersion is a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from a psychological immersive experience that we do from a plunge in the ocean or a swimming pool: the sensation of being surrounded by a completely other reality, as different as the water is from the air, that takes over our whole attention, our whole perceptual apparatus. (Murray 99)

First, the critical point from this definition is the understanding that immersion in virtual reality is a metaphor for the sensation that users seek during an experience. This desire for sensation indicates that, according to Murray, is a psychological state that is less about whether or not a virtual experience is accurate enough to erase the physicality of the technology and more about how effectively the participants' psyches can be engaged. Lastly, Agrewal's definition speaks to users' attention, which suggests that immersion is a matter of suspending disbelief enough to maintain users' attention on the virtual experience. To be more precise, "it is the shift of attention along with the construction of mental representation in the brain that leads to an immersive experience" (Agrewal et al. 405). Through a variety of cues, which do require attention to graphics, mobility, and sound (the objective property of the technology), immersion is achieved when the user's attention shifts from the wearing of the headset in a physical space to the happenings within a virtual experience (the psychological state).

Interactivity is equally crucial to this project because students must be able to interact with the cultural virtual experience to engage with cultural concepts rather than simply view them effectively. Minjun Park and Jungmin Yoo consider various perspectives on defining

interactivity in their 2020 article “Effects of Perceived Interactivity of Augmented Reality on Consumer Responses: A Mental Imagery Perspective.” Although they discuss many definitions of interactivity, Park and Yoo conclude that “Interactivity can be categorized into three different types: user-to-user, user-to-content, and user-to-system” (2). User-to-user deals with users' ability to interact with other users, much like during Zoom meetings. Virtual reality, too, has the capacity for such interactions, usually through the physical representation of avatars. User-to-content interactivity focuses on how much users can interact with components within their environment. This would include being able to pick up a book lying on the floor or using a camera within the experience to take photographs of the virtual landscape. User-to-system focuses on a specific interaction within the environment that engages system functions, such as clicking on a video link or hyperlink within an experience to open a video or transport to another location. These three types of interactivities are used to frame this project’s approach to creating interactive experiences. It allows for a necessary inclusion of interactive capabilities without being overly demanding of the designers who, for this project, are not coders or digital design experts. With a clear understanding of immersion and interactivity, we can not only explore their roles within the design of this project but also how they influence graphics, mobility, and sound choices.

Immersion in virtual reality is a significant factor that makes the entire experience novel compared to other computerized engagement methods, such as standard gaming practices or video chats. At a 2019 conference, iConference, Angela Cisneros et al. presented a paper called “Defining Virtual Reality: Insights from Research and Practice,” in which they shared the results of extensive research that sought to define virtual reality based on a comparative analysis of the multitude of definitions and ideologies surrounding the concept. The results presented less of a

definition and more of a categorial view of primary functionalities and qualities that make an experience one of virtual reality. The three categories that dominated the results are VR as an environment, VR as a form of interaction, and VR as Immersion (Cisneros et al. 4). In the case of environment, Cisneros and her co-authors concluded that VR is “a technology that can create a complete environment or world for the user to experience” that contains specific “technological components, for example to be 3D or to be interactive in different types of ways” (4).

Speaking to the interactive components of these digital environments, Cisneros et al. explain that “VR does provide a unique interaction space where users can perceive a different reality” and moves them “away from the gamepad interface” and makes “controls more intuitive” (4). Stefan Weber, David Weibel, and Fred Mast echo a similar sentiment in their article “How to Get There When You Are There Already? Defining Presence in Perceived Virtual Reality and the Importance of Perceived Realism,” saying that presence in a virtual environment “is the extent to which one's attention is allocated to the mediated environment rather than to the immediate physical environment” (2). The environment, whether physical or computer-generated virtual reality, is still an environment because both are spaces where the user's attention exists and functions. Weber et al. take it further than Cisneros by explaining that the sense of presence within the environment does not rely on absolute realism; in fact, the environment need only be perceived as realistic to the user, which can be achieved through less-than-perfect graphics. What affected immersion more than anything was whether or not the mobility caused disorientation or frustration and whether the audio components of the design impeded the users' ability to keep their attention within the space to remain present or immersed. All five participants remained cognizant of their levels of immersion and, as we shall discuss

later, were able to articulate the rationale behind their ability to be immersed and what might impede immersion.

Participants were very aware of the intuitive control systems with Meta Quest II, and much of their feedback was based upon the quality of these controls and interactivity that affected the level of immersion. The fact that immersion, to Cisnero et al., is identified as one of three primary tenets of virtual reality is essential because understanding immersion is critical to the efficacy of any virtual reality experience. Immersion is viewed as allowing “users to feel as though they are ‘cut off from reality and detachment to such an extent that the game was all that mattered’” and that the “goal of a VR headset is to ‘allow the user to feel as though they are someone they are not’” (Cisnero et al. 4). It is important to note that these identifiers of immersion do not require the absolute invisibility of the headset or other interface components. Unlike Bolter and Grusin’s definitions covered in Chapter 2, in which virtual reality devices are meant to disappear to provide actual immersive, virtual experiences, the results of Cisnero et al.’s study “yielded that there are many different levels to immersion” (4). However, their study did not explore those levels at the time of the presentation. The results of this think-aloud usability study support the findings of Cisnero et al. as participants regularly referenced aspects of their chosen experiences that align with the three major components of defining virtual reality.

## DESIGN APPROACH

Because my area of expertise is deeply rooted in the humanities and not digital design, I did experience initial concerns about whether my project could meet the objectives of incorporating technology that did not require a more direct STEM focus. I conducted a literature review of other studies for early ideas for data collection, but this did not suffice since none of

the studies shared my specific aims. I then considered using widespread surveys to collect data on students' views about SA programs and VR separately before engaging questions that would inform design parameters. In hindsight, this approach was rife with issues because not only would it produce an excessive amount of unusable data, but it would also be hard to predict participation and manage any constant variable against which to compare more intricate design aspects. Due to the uncertainty of conducting such a broad survey, I considered using 360-degree videos for all experiences and omitting IRB-approved research entirely. However, upon speaking with Dr. Noah Glaser, who is an expert in virtual reality and design in pedagogical applications, it became clear that design data would be necessary, as would obtaining IRB exemption, as both are the fundamental standards in the field of digital design (as well as digital humanities).

Taking Dr. Glaser's advice, I began researching user-based research methods that would allow me to engage users in a controlled setting while still gaining insight into their design feedback. Their feedback provides the data for my project and the design of not just the digital components of the study but also the pedagogical direction. I discovered that the user-based studies I conducted would serve far more purpose than other methodologies often employed within the digital design field; this approach also helped to solidify my vision of the project by proving to have its uses technologically and pedagogically. Having student-based user data also helps to situate each student's response in the context of disparate ideologies on virtual reality technology and study abroad. All participants were asked about their interest in virtual reality despite their diverse majors and interests of study. Most had a clear interest in studying abroad and stated a value for learning about other cultures. Their views on why so few students study abroad proved interesting because most involved some consideration of fiscal responsibility. In



contrast, others suggest less discussed matters such as homesickness, fear of the unknown, and lack of adequate preparation, most of which this project aims to provide a potential solution.

Before conducting the think-aloud sessions, I also conducted research on various virtual reality experiences that might be similar to the goals of this study to determine 1) if a new prototype was even necessary and 2) if there were a variety of experiences from which participants could choose to ensure maximum data productivity for the study. My findings were surprising. When searching for apps on an Apple iPhone, there were no immersive experiences that would serve the purpose of this study. Most of the experiences were 360-degree experiences with no interactive components at all. The most exciting options I could uncover were *VR-Virtual Reality 360-degree videos*, *Within VR - Cinematic VR*, *Rec Room*, *Google Cardboard*, and *VR Movie Players*. Movement, let alone interaction, within most of these applications is minimal to non-existent. *Rec Room*, for example, is an immersive experience across multiple platforms - Meta Quest, HTC Vive, PlayStation VR, iOS, and Android operating systems. When downloading the experience on iOS, I quickly realized there was no way of navigating through the experience if attempting to use any headset device. A quick trip to the *Wiki Fandom* site for *Rec Room* uncovers the reality that “Android, iOS, and Xbox support only screen mode. Thus, when you start Re Room, it will always be in screen mode” (“Screen Mode”). Screen mode means no immersive opportunities for this experience; using the application is just like playing a video game on your phone. The other experiences could be used with a headset. Still, they entirely rely upon 360-degree videos where a user sits stationary and experiences the video as it plays around them. It quickly became clear that the existing experiences on smartphone devices were not adequate for use in the usability testing because they simply would not provide enough variety for participants to offer commentary on essential factors such as how interactive they

wanted the experience to be or how much they willing to forego realism of surroundings for interactivity.

The Meta Quest II, however, offered a breadth of immersive experiences that, though unrelated to study abroad or travel, did offer access to a wide array of immersiveness and interactivity for participants to compare better and speak to what they do or do not prefer. Therefore, using Meta Quest II is the most logical option for obtaining the data necessary for designing/planning an immersive experience. It is clear from the study that Meta Quest II is a suitable and reliable system for potential use by any application/prototype designed by this study. This does not entirely preclude future considerations for mobile device development. Still, it is clear that when considering costs and efficacy, smart devices simply cannot compete with the potential of Meta Quest II. Because the Meta Quest II includes the necessary controls for active interaction (i.e., experiences like *Sword and Sorcery*, *Beat Saber*, and others), it allows for increased opportunities for this project to provide a higher level of mobility and interaction that, for now, would require additional tools and resources from users themselves to be able to engage via their smartphone devices; it also eliminates concerns of accessibility if students interested in the program do not have smartphones or necessary devices. With the Meta Quest II, which ranges from \$350.00 on [Amazon](#) as of April 2023 to \$399.00 on the [Meta](#) website directly<sup>6</sup>, not only can quality experiences be developed and utilized on campuses around the world, but it provides a reasonably economical solution for concerns of accessibility.

---

<sup>6</sup> Amazon is based on older iterations of the Oculus Quest II, which is nearly identical to the Meta Quest II but was put on the market before the company changed its branding. Meta prices are based on the 128GB option, but there is a 256GB option for \$499. However, since the project proposes the use of school funds, it is very likely that the 128GB device will suffice since it will not be for personal/casual use, but rather for educational purposes in which content is regulated by faculty.

Since this project proposes the use of virtual reality experiences as supplemental resources for existing Study Abroad and other academic programs, it is more economical to allocate technology funds for the acquisition of even just a handful of these devices (for example, 5) for potential Study Abroad participants. With the Meta Quest II, existing university funds are used to acquire devices, which increases the chances that students will not have to worry about purchasing or accessing hardware to learn and engage in these educational virtual experiences; thus, it increases access rather than limits it to those with economic capabilities that simply cannot be assumed. As of this study, the Meta Quest II is the most affordable, high-quality, cordless device. For as low as approximately \$2,000, an institution the size of Francis Marion University could purchase five devices to implement learning programs for study abroad and cultural learning potential. Participant feedback and the fact that this study was completed on university Wi-Fi using this high-quality device suggest that the Meta Quest II is a superior and more economically sustainable option than mobile devices for individual students. The reality is that any hardware used would come at some cost. Since part of the goal of this study is to minimize those costs while creating the most effective experiences, logic dictates that allocating what amounts to minimal funding needed to purchase these devices is far more equitable and economical overall.

## METHODOLOGY

The methodologies used for this project engage in standard practices for user-centered usability testing. According to "Methods of User-Centered Design and Evaluation for Learning Designers" by Matthew Schmidt et al. (2017), "prototyping [is a] frequently used method from UX design and rapid prototyping" that focuses on "(a) identifying user needs, (b) requirements

gathering, (c) prototyping, and (d) wireframing." By identifying user interests, preferences, comforts/discomforts, and other concerns while using existing immersive virtual reality technology, this study aims to construct an educational prototype that can be applied in pedagogically beneficial ways while appealing to the needs and expectations of the users who will engage the program.

I used a combination of concurrent and think-aloud and concurrent probing usability testing to facilitate this type of user-centered design. Schmidt et al. note that "think-aloud user testing is the most widely used method of usability evaluation" and has "long been recognized as a useful method in the design of interactive learning systems." Think-aloud usability tests are designed to generate qualitative information that informs the prototype's design. Concurrent think-aloud protocols, according to Jennifer Romano Bergstrom in "Moderating Usability Tests," provide the benefit of understanding "participants' thoughts as they occur and as they attempt to work through issues they encounter" while also providing "real-time feedback and emotional responses." As Bergstrom notes, however, the downside to concurrent think-aloud protocols is that they can complicate the researcher's ability to gain valuable information for design planning, as data collection depends entirely on participant statements during the session. Therefore, in this study, I employed a degree of concurrent probing, in which the researcher typically asks questions as the user engages in the experience. However, according to Bergstrom, the primary drawback to concurrent probing is that it "interferes with natural thought processes and progression that participants would make on their own, if uninterrupted." To allow for natural, fluid thought without interrupting the experience, I have composed a list of primary areas of interest for the participants to review before starting their 30-minute immersive experience. Reviewing this list beforehand will encourage them to consider certain qualities of the

experience while avoiding any interrupting questions while they are immersed. Though researcher interference with the experience of study participants is a concern, the prompts are minimal and deliberately designed to avoid extensive influence on the data. Concurrent probing, however, is the most effective means by which the necessary data can be obtained while still gaining exposure to natural responses from the participants.

The sample size of my study is based on research concerning similar usability tests and the limited complexity of this particular study. The study aims to determine what aspects of existing virtual reality interfaces are problematic for users; thus, the aim is to identify the problem and potential solutions. Because the study relies on off-the-shelf technology, it is not necessary to explore complex design questions at the level of master-level coding. According to Ritch Macefield in "How to Specify Participant Group Size for Usability Studies: A Practitioner's Guide," because this is problem-discovery research with limited levels of complexity, a baseline of 5 to 10 participants is a sensible measure because any more significant number of participants would provide diminishing returns on problems discovered at the existing level of complexity (39). More participants would only be necessary in the case of digital programming design, which is well beyond the scope of this study. To obtain reliable data within the framework outlined by Macefield, I obtained an IRB exemption for a maximum size of ten participants, with five being the minimum necessary for the data to be viable for the project.

To locate participants, I asked faculty in the Honors Department at Francis Marion University to distribute a letter describing the study to their students. Students interested in participating voluntarily contacted me, at which point I supplied details about the survey in full, as outlined in the document in Appendix F.

Students enrolled in any classes with the researcher were excluded from participating.

Table 1 (also see Appendix A) indicates the demographic data of each participant as well as their pre-existing experience with virtual reality technology.

*Table 1: Participant Demographics*

	<b>AGE &amp; SEX</b>	<b>MAJOR</b>	<b>VR EXPERIENCE</b>
<b>P1</b>	20 F	Computer Science	None
<b>P2</b>	19 F	History	Minimal
<b>P3</b>	22 F	Digital Marketing	Moderate
<b>P4</b>	18 M	Biology	Moderate
<b>P5</b>	18 M	Business	High

The following outline describes the process of the concurrent think-aloud study in which participants engaged with virtual reality experiences during individual sessions:

- Participants engage in two 30-minute sessions in a pre-determined location on the Francis Marion University campus.
- The first session lets participants choose any available immersive experiences from a menu of applications loaded on the headsets. Before the start of the experience, participants will review with the researcher prompts that indicate examples of the type of information desired; this is the standard scripted practice in think-aloud methodologies to ensure valuable data collection with minimal interruption by the researcher.
- The participants engage in the virtual reality experience and speak aloud their thoughts on the experience while the researcher observes and makes written records of the participants' behaviors.

- After the session, an audio recording device will record the spoken data for coding.
- After the 30-minute virtual experience, the participants are asked to complete a brief Likert Scale survey on the experience and asked to offer any retroactive reactions to the experience; this is customary practice in think-aloud usability tests to ensure maximum problem discovery.

Participants were asked various questions designed to better understand their familiarity with broader concepts of virtual reality, study abroad, and their attitude towards the potential value of VR in education. Students were asked explicit questions about virtual reality technology and its potential application in the classroom and about study abroad knowledge and interest. The individual questions, which are located in Appendix B, focused on student experience and interests in using virtual reality technology to establish a base for understanding their responses to the technology. Student participants were also asked about their general views on incorporating innovative technology into their classrooms. Student participants were then asked questions specifically relating to study abroad programs to determine their existing level of interest in studying abroad at some point. Questions about why so few students study abroad were asked to provide student-based responses to compare against the literature concerning a lack of student participation in SA programs.

During a second 30-minute session, participants engaged in a virtual reality experience chosen by the researcher to serve as a constant for variables for data analysis. The same procedures outlined above will be followed, from the pre-experience preparation through the concurrent written and audio-recorded data collection to the post-experience survey. Data is then

coded by identification of problems and potential solutions to allow for a more significant analysis of potential and necessary design features for the prototype being developed.

All participants were undergraduate students at Francis Marion University, a four-year public institution located in Florence, South Carolina, with a total student body of approximately 4,000. While students from multiple course levels were asked, the Honors program provided four out of five participants in this study. This demographic breakdown did pose a limitation to the study in that the study cannot adequately differentiate whether a student's academic level of study (specifically honors versus standard or remedial studies) impacts student VR preferences and/or VR and SA interests<sup>7</sup>. However, to establish a working framework for this project and its pedagogical possibilities, I concluded that the pool of participants was adequate for determining its potential because honors students, according to the English department chair and Honors director, are the pool of students at FMU who will most reliably provide the type of detailed feedback necessary to inform a design. Another limitation is that students are self-selected, having chosen to volunteer for this project. This raises the possibility that these students chose to participate for the opportunity to engage with virtual reality technology or are already interested in doing so.

## INITIAL DATA

The process for choosing immersive experiences was simple yet informative. In their first session, participants were permitted to select any available experiences that seemed interesting to them; before their first experience, participants were provided a link to the Metaverse store and

---

<sup>7</sup> I acknowledge the likelihood that students in non-honors courses may be influenced by factors not considered explicitly in this study, such as economic status, disabilities, or other factors that might otherwise prevent or discourager honors-level course work.



encouraged to choose any experience within the range of fifty US dollars that might interest them. This allowed participants to locate experiences they might enjoy and offered an opportunity for this study to evaluate the types of experiences toward which participants seemed drawn. Interestingly, only two participants requested experiences not already loaded on the headsets. One participant had minor experience with VR and stated they simply wanted to offer an idea for a game, though they did not seem invested in whether it was played. The other student who requested *Resident Evil 4* had the most experience with VR out of all participants and listed immersiveness and sound effects as the most influential motivators for the request. The other students, with minimal to no VR experience, did not make suggestions, which could be due to their inexperience. Students with less experience expressed curiosity about trying out a variety of experiences, while the users with more experience had preexisting expectations of what interested them. I pre-selected two VR experiences to establish a constant variable to provide a framework for evaluating participant responses.

*National Geographic VR* and *Brinks Traveler* were the two experiences the researcher chose as the constant variable against which other comments on experiences might be measured. These experiences directly involve concepts of travel to diverse locations, offering the closest approximation to a potential Study Abroad experience. This video from [VR Shop](#) (“National Geographic Explorer...”) demonstrates the mobility and gameplay of *National Geographic Explore VR*. The first experience shown is the Antarctica option, which integrates full-motion movement while seated in a kayak and comfort mode movement when walking around.

Table 2, also found in Appendix C, identifies all experiences engaged throughout this study; they have also been identified as chosen from the existing library of the system, requested

by participants, or chosen as a constant variable by the researcher, as well as information about how many participants selected each experience.

*Table 2: VR Experiences*

<b>Name of Experience</b>	<b>Selection Status</b>	<b>Number of Participants</b>
<i>Puzzle Places</i>	Requested by Participant	2
<i>Beat Saber</i>	Chosen from Library	4
<i>Blade and Sorcery</i>	Chosen from Library/Requested by Participant	4
<i>Resident Evil 4</i>	Requested by Participant	1
<i>Job Simulator</i>	Chosen from Library	1
<i>Echo VR.</i>	Chosen from Library	1
<i>Racket VR</i>	Chosen from Library	1
<i>Vader Immortal Episode 1</i>	Chosen from Library	1
<i>Hand Physics Lab</i>	Chosen from Library	1
<i>Bone Lab</i>	Chosen from Library	1
<i>National Geographic VR</i>	Constant Variable	5
<i>Brinks Traveler</i>	Constant Variable	4

Outside of the control application, participants were encouraged to switch experiences at any point, which allowed the researcher to observe interest levels of any given experience and to maximize the opportunity for participants to state reasons for continued immersion in a given experience as well as reasons for switching. The two VR experiences most participants chose

were *Beat Saber* and *Blade and Sorcery*. This is not surprising because according to Harry Baker's "25 Best Oculus Quest Games - 2023," *Beat Saber* is still one of the top ten games played by Quest users despite being released five years prior in 2018. The appeal seems to be predicated upon the developers' ability to keep the content of the experience current, as Baker explains, "It was a hit when it released in 2018 and since then it's gone from strength-to-strength, now offering a bunch of paid DLC music packs that include hits from massive artists, such as Queen, Billie Eilish, Lizzo, The Weeknd, Green Day, Lady Gaga, Fall Out Boy and many more." By incorporating popular music and being used for fitness and fun, *Beat Saber* is on the radar of even the most amateur VR users. *Blade and Sorcery* was also initially released in 2018 on PC-based VR systems and released on Meta Quest in 2021 (Lang). Despite that delay, *Sword and Sorcery* became the game with the second-highest user reviews, surpassing other popular games such as *Resident Evil 4* and *Vader Immortal* (Lang). Most of these reviews were positive because the game "is one of the few VR games blessed to have a high replay potential and retention value" (Lang). *Sword and Sorcery* offers open-world, or sandbox, experiences that allow players to explore large expanses of virtual territory. The only Quest game with more user reviews was *Beat Saber*, considered the most significant Quest VR success and provides close-world experiences that offer containment, limiting mobility to a specific area with clear boundaries that usually take the form of a building wall.

It is important to note that all participants were educated on the goals of this research and understood the type of information sought in this study. Two participants were more inclined to switch experiences simply to provide more data for the study rather than basing the changes on interest level. For example, *Beat Saber*, *Blade and Sorcery*, *Echo VR*, *Racket VR*, and *Hand Physics Lab* were all engaged by a single participant in one thirty-minute session because the

participant wanted to have as many immersive experiences as possible in the hopes of providing helpful commentary for the study. This desire to assist with information is a valuable data point as it suggests that some students consider VR an educational opportunity worth putting in the extra effort.

A Likert Scale survey was used post-experience for participants to rank their overall views of six main usability points: Immersion, hardware used, interaction, graphics, mobility, and audio. Table 3, also found in Appendix D, indicates the responses from this survey. The rankings ranged from 1 to 5 with respective designations of strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree with the survey statements.

*Table 3: Likert Scale Results*

	<b>Immersion</b>	<b>Hardware (Meta Quest II)</b>	<b>Interactivity</b>	<b>Graphics</b>	<b>Mobility</b>	<b>Audio</b>
<b>P1</b>	3	4	5	4	4	5
<b>P2</b>	4	5	4	4	5	4
<b>P3</b>	5	4	5	4	4	5
<b>P4</b>	2	4	4	4	4	2
<b>P5</b>	5	4	4	4	4	5

The data from Table 2 and Table 3, also Appendices C and D, provide the framework for analyzing the more nuanced commentary from the think-aloud sessions. Participants offered a variety of perspectives that speak to the general aspects of the usability points found on the Likert Scale while also providing unique perspectives that offer insight into what the target audience of undergraduate college students would find most appealing and beneficial in a program that engaged similar aspects of immersive virtual reality.

## CHOOSING HARDWARE

This study initially intended to focus on technological solutions allowing virtual reality experiences to be designed for smartphone devices with a separate, low-cost headset such as Google Cardboard. Through game engines such as Unity, it is possible to develop and design experiences that can be transferred for use on smart devices. However, it quickly became apparent that while the technology exists to create smartphone experiences, it is not yet feasible to develop the type of experiences users would want for such a project, as outlined in this study.

While my initial goal was to use technology requiring little to no programming knowledge or highly technical skills, creating interactive and immersive virtual environments (not just 360-degree videos) involves collaboration with digital design departments. Although certain aspects of this project's prototype and course design can be achieved without programming training, a well-rounded and high-quality learning experience requires programs that exceed my technical skill set and that of the average educator and student outside of programming studies. The requirement for more advanced technology raised questions about immersion, interactivity, and primary considerations of bandwidth capabilities to determine what technology has the most potential at the lowest costs and produce the type of cultural learning experiences necessary.

After completing the think-aloud usability tests, participant comments were collated using all material relating to design features and comments of interest about the chosen experiences. This data has provided a helpful perspective that helped me identify design aspects for a potential prototype for this dissertation project, suggesting a high possibility of designing and creating a functional and affordable program that can feasibly be integrated into a Study Abroad pedagogical program. Here, we will discuss the design concepts uncovered throughout

the usability study and identify critical components that the participants found enjoyable and potentially interesting, as well as the design aspects they found most troubling. This information helped demonstrate why using Meta Quest II is preferable over the smartphone-based VR experiences I initially considered when planning this study.

My primary concern with using the Meta Quest II was whether or not university broadband could handle a more advanced device, let alone deliver smooth virtual reality experiences. University Wi-Fi capabilities vary, with many smaller colleges and universities working on broadband systems that are regularly overworked or experiencing limitations in essential services, such as sustaining Wi-Fi connectivity with laptops or smartphones. Fortunately for this study, Francis Marion University has semi-reliable internet connectivity. While it is more than adequate for basic needs, it has a propensity for dropping connections in various locations or when using programs requiring more bandwidth. Since the program this study aims to design would require access to and use of school Wi-Fi, I decided to test the limitations of the internet systems by using the Meta Quest II rather than mobile devices because it is common practice that systems such as the Meta Quest II are unable to access and utilize the Wi-Fi of the university effectively; this is not to mention whether the immersive experience would be fluid or 'laggy' for the participants.

Initially, I worried whether the university Wi-Fi could handle the Meta Quest II device. Still, only two out of five participants noted any experience with lag or interruptions to gameplay. Many participants wanted to engage in an experience called *Population: One* and a game called *Real VR Fishing*. Of all the experiences chosen by all participants, these were the only two on the system that would not load using the university's Wi-Fi. P5 noted some lagging issues only with the *Sword and Sorcery* experience, stating that "the streaming on this thing

sucks. I am not going to like it. Well, like, I do not know. I guess it depends on the Wi-Fi because when I tried this game with my friends, it was always relaying stuff. The Wi-Fi here [on campus] is pretty bad.” Four out of the five participants engaged in this experience, but no others noted any issues with lagging on the system. The lag cleared up as P5 continued the *Sword and Sorcery* experience. P3 also engaged *Sword and Sorcery* without any problems of lag but did notice some lagging issues in the *Racket VR* experience, saying, “I will say, I don’t know if it’s normally like this, but the lag is kind of a turnoff because if it gets too eventful, it’ll start lagging.” The user did not remain in this experience long enough to determine if this was a momentary lag spike experienced by P5. While I can only hypothesize about the cause of these momentary lag experiences, I believe that these minimal instances of interruption were the result of accepted lag experiences associated with online gaming and virtual reality engagement; it is not uncommon to experience *lag spikes* even on high-quality internet services that are handling only a handful of systems.

The decision to use Meta Quest II proved to be fruitful in other ways as well. The device itself was popular with all five participants. Participant 1 (P1) noted that once the headset was adjusted correctly, they felt only slight pressure on their face, but the headset was otherwise comfortable. As an observational note, this participant did have to remove their glasses due to having larger frames. All other participants who wore glasses were able to use the device comfortably. Sound also proved to be a popular feature of Meta Quest II, as Participant 3 (P3) said, “...a general comment on the Quest. I love how they did the speakers to where you don’t have anything over your ears, but you can still hear the sound and it’s very directional. I like that.” This observation was supported by Participant 5 (P5), who said, “These sound effects, man...this headset has good sound.” The ability to hear the sounds of the experience without the

requirement of additional equipment was appealing to users. Even though external sounds might invade the experience, when presented with the opportunity for quality sound without additional headphones, participants unanimously agreed that fewer devices are preferred. It is worth mentioning that these participants were not allowed to engage in an experience with external headphones. They only had sound via the Quest device, which does not dampen external sounds. Therefore, there is no concrete point of comparison.

## INTERACTIVITY AND IMMERSION

Participants in this study echoed the way that Cisneros et. al frame immersiveness in VR, as discussed earlier. Participants remarked that VR is “an experience where you are completely removed from tangible life” or “an experience involving placing a ‘subject’ within a 3D-rendered world they can interact with using technology.” While these are examples from just two participants, others provided similar descriptions that highlighted the need for a digital world separate from the “tangible” world while also requiring some form of interactive capabilities.

Based on the Likert Scale results in Table 2, three out of five participants concluded that the immersiveness of the experiences as a whole was what was expected or better, with one participant having no previous experience upon which to base expectations and one disagreeing that the experiences met or surpassed expectations.<sup>8</sup>

As discussed earlier, I used *National Geographic VR* and *Brinks Traveler* as control applications against which to measure the interactivity of other applications. All participants started their second session with *National Geographic VR*, followed by *Brinks Travels* for four participants. Initial reactions to the immersiveness of the experience were primarily positive,

---

<sup>8</sup> Full Likert Scale data found in Appendix D.



with only one out of five participants finding the experience inadequately immersive. The *National Geographic VR* experience puts the user in the role of a photographer for *National Geographic*. The user can choose two experiences — Machu Pichu or Antarctica — to explore and capture pictures of pre-determined subjects/objects, with each photo providing information about the subject/object in question. All participants immediately noted using the “floating hands” approach to the first-person avatar (or lack thereof). Having floating hands, which are blue by default, did not ruin the immersion, but it certainly put constraints on how far the participants could suspend their disbelief, which I will discuss in more detail the role of the avatar. Regarding the quality of the graphics and overall atmosphere of the experience relating to immersion, P1 stated that “it looks like you’re...in the house, just like the *Sword and Sorcery* one, but it isn’t as pixelated as that one.” P3 found the ambient features of the environment very immersive, saying, “I like the little ambient guys flying around. You can hear the birds, and this one guy is circling to make it look like he’s found something. I like those touches.” While P1 also indicated a desire for more non-player characters (NPCs) to be present so the experience felt more like traveling with a tour group, they did not think the lack of other human images compromised the immersion. P4 had a more technological basis for immersion with *National Geographic Explore VR*, noting that while they “can still tell it is a computer, [they felt] like it doesn’t matter how realistic it is,” suggesting that the computer-generated (CG) world lacking high levels of realism is perfectly acceptable for immersive experiences; this aligns with Cisneros et al.’s findings in the categorical definition of virtual reality and immersion as well as the perspectives of Agrewal et al. Because the properties of the technology, specifically the application’s graphics, have adequately demonstrated a representation of their intended purpose, the participants were able to experience the psychological sense of immersion.

P5 did note with *National Geographic Explore VR* that they only felt a sense of immersion when the movement switched to full motion (fluid movement) from the comfort motion (intermittent movement/jumping to locations). Once the experience placed them on a kayak that could be paddled, the immersiveness increased versus the walking within the experience based on comfort rather than full motion. The only user to find the experience inadequately immersive was P2, who stated that they “expected better graphics” from National Geographic and that the combination of “jump movement” (comfort motion) with the mission-based aspect of the experience made it seem very disconnected from the experience itself because it was too much like “experiencing life and events through your phone.” With this singular exception, the participants determined that *National Geographic Explore VR* was adequately immersive despite being a fully computer-generated experience with clearly computer-based graphics.

*Brinks Travel* was less popular than *National Geographic Explore VR*, which was interesting because the graphics are, on the surface, superior regarding the crispness of the images. In *National Geographic Explore VR* and *Brinks Travel VR*, there are obvious CG graphics in the former and a higher definition of the latter. All four participants who engaged in this experience initially noted that the graphics were much better in *Brinks Travel VR*, with P3 stating they were unaware that VR could produce such graphics. However, P1 and P4 did notice the nuance of how images appeared at a distance versus up close, with P4 saying, “The visuals look nice, but when you look closer, it just looks like a JPEG picture...Looking at this water, even though it looks realistic, if you pay attention, it just looks like a still image.” This sentiment was shared by P1, who noticed that the further away the image, the crisper it was. However, the further away, the more it looked like a picture, not something in which one could engage. Still,

the graphics held less sway over immersion than the minimal interaction with the environment; one could throw a rock off the side of the Grand Canyon in *Brinks Travel VR*, but that was all. The movement was also an issue as, according to P3, it felt more like zooming in and out rather than moving.

Therefore, in the case of the two VR applications used as controls, it is clear that heightened realism is not necessary for immersion. This finding correlates with the way that Mark Wolf addresses the concept of realism in his chapter “Abstraction in the Video Game,” arguing that as technology has improved, “‘realism’ of the games was the simplest and quickest way that consumers could compare systems, and the complexity of the graphic detail and gameplay became the main areas in which the home games would compete for players” (58). This marketing approach led consumers of video games to equate elevated levels of immersion, or overall quality, with more realistic graphics. However, Wolf argues that abstraction offers valuable perspectives and opportunities for different experiences. For the virtual reality applications I tested, the less-than-realistic graphics seemed to allow students to accept the virtual experience as computer-generated, which enhanced their willingness to suspend disbelief to engage their surroundings. Given the participants’ definitions of immersive virtual reality, it is clear that there is a definite understanding of what is *real* and virtual, as discussed in the previous chapter. Therefore, the need to eliminate or minimize the presence of the headset and other components of the interface, including graphics that might appear more *real*, is unnecessary when it comes to whether or not users find the experience immersive.

*INTERACTIVE — ENGAGING THE EXPERIENCE*

Interactivity, as discussed at the start of this chapter, is crucial for most participants to feel a greater sense of immersion. One of the detracting factors of *Brinks Travel* is that the player interaction was minimal, leading participants to conclude that higher graphics are not a fair exchange for decreased interaction. This means that experiences that are purely 360-degree experiences are unlikely to prove engaging for long. However, participants did like the idea of including them as features; most did not think they were interactive enough to garner prolonged interest or learning. The Likert survey indicated that all five participants found their experiences to meet or exceed their expectations. The VR applications that received the most positive feedback relating to interactivity were *Beat Saber*, *Blade and Sorcery*, *Hand Physics Lab*, *Job Simulator*, and *Resident Evil VR*. *Beat Saber* is a commercially popular game that many people use for physical workouts within their home spaces. Users use the equivalent of lightsabers to slice through blocks that steadily come toward them to the pace and beat of music. While most of the participants who engaged in this experience had previously played on other systems, P1 offered the best insight as someone who had never engaged in a virtual reality experience until this study. *Beat Saber* was their second choice for the first session, making it one of their first experiences. Immediately, P1 stated, “This is a good one for considering the physicality of an app” because “I like how everything is coming, and it’s kind of cool that I can change speeds because I’m pretty sure I would’ve lost by now.” What is most interesting, however, is that the user both praised the physicality of the experience but also articulated a fondness for the fact that the overall motion (i.e., walking capabilities) was non-existent, saying, “I like that it doesn’t require that much movement, either, because I’m standing in the same spot, but I do also like that it’s interactive, though.” Later, during the experience, the participant clarified that, because of

their inexperience with VR, they were initially nervous about becoming disoriented, so they were happy that this experience did not push them into too much movement but still allowed them to feel immersed through interaction. It is essential to mention that this participant's first experience was with *Puzzle Places*, which can be completed from an entirely seated position as the user simply takes hold of puzzle pieces and puts together a puzzle in a virtual space. P1 became quickly bored with that experience and left it after only 5 minutes in favor of *Beat Saber*.

Concerns for interactivity took diverging paths when participants started engaging in *Sword and Sorcery*, one of the most interactive experiences available for Meta Quest 2. Four out of five participants tested *Blade and Sorcery*; P2 was the only one who did not want to try this experience, preferring the minimal interaction provided by *Puzzle Places*. Three out of the four who engaged *Blade and Sorcery* did eventually experience dizziness and feelings of nausea that forced them to end their experience. A closer look at feedback during the *Blade and Sorcery* experience offers a deeper understanding of interactivity and mobility, indicating that too much or poorly designed interactivity can be just as detrimental to the experience as too little.

All four users of the *Blade and Sorcery* experience initially expressed fascination and admiration for the number of interactive components of this game. Every object in *Blade and Sorcery* can be picked up or moved. P1 noticed as they walked that even walking into a bench at a table caused the bench to fall over, which the participant noted is uncommon in many standard games as avatars/characters usually just pass through objects like benches or tables that might be in the way of the objective. P3 said that although there were plenty of aspects of *Blade and Sorcery* that they found problematic, they did find it interesting that everything in the experience could be grabbed with the avatar's hands. One of the problems with interactivity that this participant noted occurred when the avatar's hands did not entirely move the way the player

anticipated all of the time, especially when performing actions like climbing a ladder. P3 did clarify that their experience with the *Hand Physics Lab* was preferable over the *Blade and Sorcery* experience in regard to interaction, saying, “The most important thing that I’ve found through this whole thirty minutes or so is that I like when things have not necessarily realistic graphics, but realistic physics and realistic sensory reactions.” Still, the most important thing to take away from comments on interactivity from *Blade and Sorcery* is that all four participants stated that they did not mind the computer-generated, or “cartoony,” graphics since they were able to interact with the environment. While *Blade and Sorcery* did provide a more extensive, open-world experience with multiple avenues for interaction, the *Hand Physics Lab* had fewer visual components with better attention to hand motions and other interactive actions. This participant, who was the only one to engage with *Hand Physics Lab* and utilized more experience than the others, concluded that too much interaction was almost distracting and preferred quality interactive abilities with fewer interactions or wider-world mobility/graphics to distract from the action.

#### SENSORY FACTORS – VISUAL, MOBILITY, AUDIO

Visual (graphics), mobility, and auditory aspects are all sensory components of any virtual reality experience, and considering these aspects takes this analysis across multiple games to consider the variety in participant feedback. What is most interesting about considering these three sensory components is just how much one can override/affect the perception of the other. For example, despite the high quality of graphics, the wrong sound can completely ruin the immersion for users. If mobility is problematic, distracting, or disorienting, it also does not

matter how interactive an experience might be. In the end, these three components must find balance, but achieving this will not be an easy feat.

Issues related to graphics and mobility were the topics most discussed by participants after using the *National Geographic Explore VR* and *Blade and Sorcery* experiences, with additional comments on other experiences usually tied back to these two games. Their data offers exciting insights into what users would like to be able to do in virtual reality. Still, it also provides a sense of conflict about what users can handle while engaging in VR. At the start of the *Blade and Sorcery* experience, all four participants who chose the experience indicated that the pixelation/computer-generated graphics were not a complication to immersion because they could walk around and interact freely with the world. P1 stated that they felt like they were in the log cabin at the start of the experience, and the digital appearance did not affect their sense of presence in space. This sentiment was shared by the other three users as well. However, P3 did engage in more experiences than any other participant. When comparing the graphics of *Echo VR* to those of *Blade and Sorcery*, P3 offered some helpful commentary:

Even now, I can tell the difference between the graphics because even though there's less visible stuff, they [Echo VR] have a distinct style that doesn't look copied. In the other game [*Blade and Sorcery*], it is like they tried to copy and paste a version of what you'd see in real life, whereas here, they created their own kind of textures. I like these graphics a lot better.

P3 openly spoke about their perception of what happens when developers try to make the virtual world experiences too realistic or life-like. Although *Blade and Sorcery's* graphics did not detract from the experience, the lower quality was noted compared to more streamlined designs. In *Echo VR*, the graphics are sleek and less pixelated. P3 shared why they believe that both

experiences are perfectly immersive and engaging but why the less realistic theme of *Echo VR* was able to focus on graphic quality:

I notice the graphics [in *Blade and Sorcery*] step down from the customization screen, which makes sense when trying to render a whole world in interactive 360 degrees. I'm not surprised because that would be really laggy if you tried to make a carbon copy of life. One thing I appreciate about *Sims* games is that they embrace that it is not real life; they don't try to be anything else. I think these experiences should embrace the cartoony 3D style because the harder they try to look too real in VR, the weirder it comes out, which is more likely to break the immersion for me.

In *Echo VR*, the avatars for users are space robots that float around in zero gravity. Graphics in *Blade and Sorcery* and *Echo VR* provide a good example of diverse levels of avatars and design clarity. The avatars and environment in *Echo VR* are far sleeker compared to *Blade and Sorcery*. While the avatar in *Blade and Sorcery* is more realistically human, the quality of the graphics is superior in *Echo VR* when one considers just how CG something appears<sup>9</sup>. We can infer from P3's statements on both experiences that they prefer the cleaner lines and images on something unrealistic versus something attempting to capture too much while trying to make it a "carbon copy of life." Although only one participant engaged in *Echo VR*, the assessment made by this participant concerning their perspective on the role of graphics is essential because it allows for a clear understanding of why all participants did not seem deterred by lower-definition graphics. This information is helpful because any technology used by students and teachers with little to

---

<sup>9</sup> While all of the VR experiences are clearly CG, this study is concerned with how participants view CG. Common terms used by the five participants in this study are "pixelated" for *Blade and Sorcery* but "cartoony" for *Echo VR*, with the latter being the preferred graphics due to cleaner edges and design.



no design experience will have low-definition graphics; they will not be able to perform the higher-level coding for smoother displays. Based on the data gathered in this study and the rationale provided by P3, we can conclude that there is an acceptable level of variation in the graphics demands.

Juxtaposing P3's comments with those provided by other participants indicates that graphics, when considered alone, should focus primarily on the purpose of the experience (learning, fun, adventure, and so on) and less on making experiences life-like or overly realistic. For this study, this finding is certainly in keeping with the goals of supplementing study abroad with virtual representations/aspects of culture and international travel. Virtual reality experiences, as I argued in the previous chapter, are real experiences in themselves. Still, they are not identical or a replacement for actualized interaction. That said, graphics become a more critical factor when combined with mobility and sound.

Mobility, or player movement, produced exciting findings. Four out of five participants initially stated they preferred the full-motion method of walking over the comfort mode style<sup>10</sup>. However, three of the four who played *Blade and Sorcery* and ventured into the game's open world became disoriented and nauseated to the point of having to stop the experience entirely. P1 stated that they "didn't feel [the disorientation] at first," but when they started to move around "outside in the game, it started to get weird" because they felt a "disconnect, like how am I moving but I'm not moving?" P3 became disoriented, again once outside of the confines of the cabin setting, when they started to attempt the climbing feature on ladders. This took P3 by surprise, as they explained, "I didn't pin myself as like a motion-sick person, but I think I

---

<sup>10</sup> Full-motion means using the joystick to fluidly move about an experience to give the illusion that the avatar/player is walking in the larger space. This does not mean that the user is actually moving/walking in physical space. Comfort mode uses the controller to select a destination to which the avatar "jumps" or "teleports" rather than fluidly walking.

understand.” Both users immediately ended the experience, with P1 unable to continue the last few minutes of their thirty-minute session and instead preferring to discuss the experience.

P4 offered commentary that allowed more direct analysis of how quickly perceived preferences could change once the experience was underway. Initially, P4 said, “Even if it looks a little wonky, I prefer this over jumping forward. Although, at a slightly slower pace.” The more the experience continued, and once the participants entered the outside world of the experience, their ability to orient themselves with the movement began to deteriorate. The comments became less about being happy with the full motion despite lessened graphics and more about while the game looks fantastic, the walking motion should not be so quickly paced. P4 expanded on the experience, saying, “It is a disorienting feeling when the character turns, but you haven’t turned your head,” and when the character is moving at realistic paces while the user is not moving, thus creating a conflict in the perception for the user. After P4 was forced to remove the headset to sit for a moment, they said, “It might just be the best option to do the jumping around thing.” P4 could also not continue the remainder of the session due to disorientation. The only participant in *Blade and Sorcery* who did not experience any dizziness or disorientation was P5, who, as we can see from their intake form, is the most experienced with virtual reality movements. This participant also indicated that they had engaged in this game before, meaning there had been more time to adjust to what one could expect from the movement. It is also imperative to recall that this user only participated in the arena setting, which does engage players in full-motion mobility albeit in a much smaller navigable world, thus eliminating the open-world component that created the vast majority of issues the other participants reported. However, it might be the case that this participant’s experience with this specific game and mobility impacted their ability to adapt to the movement style.

When participants engaged in the *National Geographic Explore VR* experience, four out of five found this experience to be more balanced and tolerable regarding graphics and mobility. Interestingly, P4, who struggled with the speed of *Blade and Sorcery*, initially complained about the comfort mode movement of *National Geographic Explore VR* when walking. Only when the participants chose the Antarctica experience and got in the kayak did they find the movement satisfactory. P5 also concurred with this sentiment and initially intensely disliked the experience overall. However, when they entered the kayak and started to explore more fluidly, they stayed in the experience for far longer than they intended, saying, “Can I just do this one the entire time? I feel like I might look a little silly doing this rowing motion, but in my eyes, it looks perfectly natural.” This statement is important because, though the participants recognized the interface and physical world in which they were engaging the experience, there was immersion enough to create the desire to continue onward. This is primarily due to the kayak's mobility, which created a situation in which the participant was willing to suspend disbelief and accept the “silliness” of their physical performance to allow for an immersive experience in the virtual moment. The kayak also provided a mock boundary and removed the illusion of walking; this smaller boundary of the kayak, despite moving through open-world waters, appears to have been enough to address some of the motion-sickness issues for other users.

In the *National Geographic Explore VR* experience, three out of five participants did not prefer the comfort mode walking style. P1 and P3 were the only participants with a preference for comfort mode movement, respectively saying, “I feel like the jumping is not that bad because you kind of get a quick flash, then it’s just a matter of repositioning your perspective the once because I did not like the feeling I got in the sorcery game” and “I prefer just pointing where I want to go instead of just shuffling over there. I don’t care about the walk somewhere...just

seems like a waste of time when I can point and go.” P2, having not engaged with the *Blade and Sorcery* experience, disliked the graphics and comfort mode of walking of *National Geographic Explore VR*, saying, “I wish I didn’t have to jump to go places. Like, instead of walking, if like the joystick just walked.” This comment is critical because this participant only engaged in *Puzzle Places* and *Job Simulator* as their only chosen/requested experiences outside of the control applications. *Puzzle Places* is strictly a non-walking/non-mobile experience, allowing users to sit throughout the experience. The participant did stand for *Job Simulator*, but this experience was strictly stationary, with the only mobility being reaching and turning in place. Therefore, those participants who did interact with the higher mobility VR experiences that offered varying levels of graphics did experience high levels of disorientation with open-world full-motion mobility, leaving them to conclude that they do not mind lower graphics or less interaction if the experience can be accomplished without feeling disoriented and featured at least some interactive components. Only P5, who had the most experience with full-mobility virtual reality, maintained a preference for it, agreeing that *National Geographic Explore VR* is more balanced between graphics and mobility when they could move fluidly in a boat rather than jumping around. P4 recommended including options for full-motion or comfort mode, which only *Resident Evil 4* offered.

While graphics and mobility are essential factors, sound also played an interesting role in the immersion of the experiences. Meta Quest II provided more than adequate sound quality for the participants. However, the sound design of specific components within the various VR experiences studied enhanced or detracted the participants’ ability to suspend disbelief and be immersed in the virtual world. As noted earlier, P2 spent most of their sessions engaging *Puzzle Places*, preferring simplicity over interactivity. This participant enjoyed this immersive

experience but reported a loss of immersion when the game's sound effects conflicted with what they were doing in the experience. For example, while completing a puzzle of a church in a snow scene, the participant commented that they "don't get the ocean noises. I'm building a snowy-looking church, and I'm confused about why it's making ocean noises on it." At other random points, a bell would ring, which the participant thought was due to the church image, but another puzzle later also included this as a feature for completing a portion of the puzzle. Ultimately, most of the sound effects, according to P2, felt as if they were randomly added just to provide some sound, but they did not make sense. This randomized sound integration was a distraction to what was otherwise an enjoyable and immersive experience for the participant. Conversely, one sound effect initially seemed minor to P2 but quickly became a favorite was the noticeable click of puzzle pieces successfully joining together; the participant stated, "I think there's just something rewarding, though, when that piece clicks in." P3 reported the same when engaging in *Racket VR*, commenting twice, "I do like when there is some form of music to set the tone and the music fits with what I'm doing."

At the other end of the scale, P5 left the *Bone Lab* experience after only six minutes because of the music. The participant noticed the music within the first few minutes, saying, "There's some EDM (electronic dance music) going on. I might have to go to another game." However, they continued out of a desire to comment on the graphics and other aspects of the experience that they did find compelling. Still, the conflict between the sound and the experience proved too much when P5 noticed that they were traveling through a tunnel that should be "creepy." Still, the happier dance music made it less so and helped them feel better about being in the scary tunnel. Because of the sound, the participant was pulled out of a cathartic, suspenseful, immersive experience.

P5 found the sound effects of *Sword and Sorcery* and *Resident Evil VR*, P5 extremely appropriate and even commented excitedly, saying, “These sound effects are so good;” as the zombies roamed the area in *Resident Evil VR*, their moaning and shuffling sounds tangled with anticipatory, but subtle, music. These comments suggest that sounds do not need to be overly exploited just for the sake of noise; rather, they need to be fitting and applicable to experience so users do have a sense of being rewarded for the suspension of disbelief. When trying to invoke or represent cultures, this information is invaluable to avoid overwhelming an experience with music with specific uses within given cultures. I also want to avoid the pitfall of overreliance on music to the point of becoming offensive; cultures are far more than sounds. It is clear from this data that sound must have balance and focused consideration. All participants who commented on sound conflicts decided to end the given experience rather than continue with sounds that simply did not allow them to be in the experience fully.

Participants also remarked on other features of the experiences that I did not expect but which bear mentioning. One of the most interesting was the desire for a visible avatar. As discussed earlier, *Blade and Sorcery* had the highest level of avatar customization out of all experiences chosen, allowing for the most significant degree of feedback on the importance of an avatar.

Three out of the four users found full-body avatars to be one of the highlights of this experience. P1 stated that making the avatar is their “favorite part of any game” and that they were impressed that they could change sex, skin color, hairstyle, and more of the avatar. P4 echoed this sentiment and expanded by saying that “even just a female and male preset body type” with only a few minor customizable options is plenty. Both participants concluded that the customization in *Blade and Sorcery* was never too much since the game uses just one face and

shifts only body type (sex), color, and hair styles/color. Even if the avatar does not have a face, and if the experience does not include reflective surfaces, P4 stated, "It is nice to look down to see that body, like arms and legs." P5 was more familiar with this feature and enjoyed having a body instead of the "floating hands" because the body allowed for more opportunities to feel immersed. *National Geographic Explore VR* makes use of blue, translucent, floating hands in which the user has no other *body* or sense of *presence* in the virtual space. Only P3 was unhappy with the customization feature, stating, "I just want to get into the game and not customize the character" because "I like to have direction without too many options or objectives to distract me." It does seem like having a form of avatar is something all users prefer, despite the degree to which people may or may not want to customize that avatar. *Blade and Sorcery* is not the only experience to use a body for the avatar, but it provides the most customization options. Avatars present an opportunity to capture cultural identity if options are expansive enough to include culturally distinct traits. However, a degree of caution must be observed because in trying to capture cultural identity through an avatar, one risks the inclusion of offensive stereotypes.

While using *Vader Immortale Episode I*, P4 made a surprising claim that they wished there were subtitles to accompany the experience. It is important to mention that P4 also had the lowest ranking of audio for all overall experiences, so the desire for subtitles could stem from an inability to hear the experience adequately while providing their commentary on what they were seeing. Still, it raises the question of whether subtitles would be a beneficial or intrusive component of the design, as they could prove useful in bridging language barriers or accents that might be difficult to understand. Initially, I thought the preference for subtitles would be a singular interest to one participant, but P1, P3, and P5 all made mention of the fact that *National Geographic Explore VR* actually does incorporate subtitles that are located at the feet of the

user's avatar. All three of these participants and P4 verbalized that they appreciated the presence of the subtitles because, as P3 stated, "I'm so busy looking at everything around me and trying to interact that sometimes I don't listen very well, so it is nice to have it where I can read it as I look." P1 explained that the subtitles helped in *National Geographic Explore VR* because the person *speaking* to them was usually the disembodied voice of the narrator or a figure of an NPC that was positioned at a distance and location that was obviously not meant to be engaged outside of the audio. The visual of the NPC, because of the distance from the user, decreased the illusion of interaction, resulting in the participants preferring the use of subtitles since they had no interest or pathway actually to interact with the NPC. P5 took the position that while they liked the audio, it did help to have subtitles to ensure a clear understanding of information and objectives, just in case of distraction inside or outside the experience.

P1, P3, and P4 all indicated they wanted some means of responding to/talking with any NPCs. However, all three were quite clear that they did not need to be able to vocalize their responses, such as would be the case with an existing VR experience called *Mondly*<sup>11</sup>. The participants all wanted to be able to choose responses in the way of text in the experience that could be selected and result in different outcomes. Although the use of subtitles and textual components within the experience was not a part of the original expectations from the data, the amount of interest in having them was surprising. After the VR experiences ended, I specifically asked if subtitles felt intrusive in *National Geographic Explore VR*, to which all participants responded that they were not at all intrusive and were considered a bonus asset. When considering all other aspects of immersion and the definitions of immersive virtual reality provided by the participants and scholarly considerations, I hypothesize that subtitles do not

---

<sup>11</sup> *Mondly* is a VR language practice/learning experience. Participants were made aware of it, but none chose the experience due to the required vocal conversation.



interfere with the immersion of the experience because participants are already aware that the experience is a computer-generated one, and that they are willingly choosing to suspend disbelief to allow the experience to educate them while producing very real learning opportunities and experiential activities. The subtitles are, quite simply, one aspect that seems to fit within the realm of allowable suspension of disbelief without breaking the level of immersion necessary for a quality experience. They also address accessibility concerns for a variety of learning needs.

Another key component that participants noted in the more educational experiences, such as *Brinks Travel* and *National Geographic Explore VR*, is the level of learning opportunities. Because this study provides an educational experience with culture and intercultural discourse, it was encouraging to hear participants offer feedback on how educational and valuable they thought these existing experiences were. For example, P1 and P2 commented that they felt *National Geographic Explore VR* simply did not provide enough information about the locations being explored. While the app possessed a greater sense of mobility than *Brinks Travel*, the latter provided more information about sites and locations, which translated into helpful design data when considering prototype features. P2 even suggested that “if we could take the amount of information from *Brinks* and put it into the world of *National Geographic*, then that would be much better.” P1 and P3 enjoyed the atmosphere of *National Geographic*, but they, too, commented about wanting to be able to point to more sites and objects to learn more about the area; P1 suggested creating more NPC people to form a tour group in which a tour guide could offer more detailed information based on user input. Neither P1 nor P2 engaged the *National Geographic* experience long enough to try both available locations, but P5 did and found an experience that offered increased educational experiences. P5 provided an interesting observational experience because, while they almost logged off quickly due to the comfort mode

of walking, once they entered the kayak and smoother movement, they became captivated by the learning experience provided by the Antarctica option in *National Geographic*. Once the movement met P5's expectations, they said, "I could do this all day. I like learning new things, and it even makes me wish I still needed more science classes." This is evidence that not only do students want to learn, but they are open to learning through virtual reality. It also provides promising commentary on whether VR would be able to provide an immersive, educational experience enough to encourage students to seek out study abroad options. If a participant finds they want to take another science class simply based on this single experience that provided learning opportunities, then it is a realistic hypothesis that virtual reality rooted in study abroad pedagogy would encourage students to seek out study abroad opportunities.

While these additional points of interest are quite telling, the conclusion to be drawn when it comes to broader considerations of graphics, mobility, and sound is clear. In keeping with the definition relating to the category of the environment presented by Cisneros et al, participants were not at all deterred or distracted by the digital appearance of the virtual spaces, even when those worlds were quite "pixelated," as the participants remarked.

## PROTOTYPE DESIGN, PROCESS, AND CONCLUSIONS

The information gathered from the think-aloud usability tests of existing virtual reality experiences provided quality data that can be designated as high-priority to low-priority expectations for the prototype design of this dissertation project. High priority simply means the features that are imperative to be incorporated into the design of the prototype; these are the features that were agreed upon by the majority of participants. Low-priority features are those

that would be interesting to include, but they are not vital to the efficacy of the design. Table 4 identifies feature priorities as a base for the design.

Table 4: Design Priority

	<b>High Priority</b>	<b>Low Priority</b>
<b>Graphics</b>	Keep the experience running smoothly, not bogged down with high-def graphics. Avatar presence	Realism - it does not have to look <i>real</i> compared to the actualized world, just realistic enough for purposes.
<b>Movement</b>	Choice between full motion and comfort mode.	Option to sit or stand in one's physical space while moving in the virtual.
<b>Sound</b>	Ambiance over fun soundtracks. Audio must match the visual content.	
<b>Interaction</b>	Interactive components with the environment. May include pointing, grabbing, or moving objects/texts.	Full-body movement. Real-time conversations.
<b>Content</b>	Must achieve the educational objective that is understood from the outset.	Does not need to be extremely expansive. More learning is great, but achieving the objective lesson is a priority.
<b>Text-based</b>	Instructions that can be read when learning an experience or navigating content.	Subtitles were beneficial, but they did not seem to be necessary.

This design process begins by identifying these designated characteristics and then walking through the testing of existing programs that allow users to create virtual reality experiences with prefabricated components, which would require little to no coding or digital design experience. The goal of this project is not to focus on digital design as theory. It is to attempt to use the basics of design capabilities to facilitate a pedagogically beneficial virtual reality experience that can be used to enhance communication and intercultural discourse of

students in American universities. The program, ideally, will do this by exposing students to representations of cultural interaction and information, which will encourage them to study/travel abroad and increase their intercultural competencies and cultural capital to allow them more opportunities to function in our increasingly globalized world.

Based on the data collected from this study, it is clear that it is possible to create the framework for digital demonstrations of the proposed program of study. Each virtual presentation of this project is based on participant feedback and a careful examination of how to merge that feedback with pedagogical expectations and value. It is also clear from this data that we do, in fact, possess the technology today to move beyond theoretical considerations of potential VR applications within classrooms previously considered ill-suited for VR engagement. This project proposes potential steps and designs for one such field of study - Study Abroad. Though certainly not the only academic concentration for which the research data gathered here could be used to develop beneficial VR programs, it is a complex field that can show off a greater potential for a wide array of possibilities.

## VIRTUAL REALITY AND THE DIGITAL DISSERTATION

In the introduction and first two chapters, I have established the importance of this project by first establishing the value and complexity of culture, the importance of Study Abroad programs to the development of intercultural competency and capital, and the need to expand our understanding of the virtual to maximize the potential of virtual reality technology. In those chapters, the focus has been on establishing historical and theoretical frameworks that make clear the exigence and goals for the prototype and course designs. Chapter three traced the research methodologies used to gather user-design data and discussed the study's findings. In this chapter, I present a digital demonstration of the technology suggested for the program while outlining this digital chapter using traditional methods of discourse.

Having established the theoretical foundations for this project, it is time to discuss the application potential for virtual reality technology in Study Abroad pedagogy. Demonstrating the chosen technologies through a prototypical design is one of the promised deliverables for this project, and it serves as an example of technological capabilities and potential. Chapter 3 discussed the Meta Quest II as the chosen hardware for the project, so in this chapter, I discuss briefly the thought processes behind my selection of software to incorporate into the lesson plans. However, the bulk of this chapter is presented in digital format to create a chapter of demonstration.

### SOFTWARE AND CHOICE

The initial goals for this project were to use smartphone technology to develop immersive experiences at little to no cost, using software that required no coding experience that would be easy for educators and students to use. As explained in Chapter 3, the Meta Quest II is far more

suitable to the educational needs of this study, which requires more expense than initially projected. While my initial plans sought to use the least complicated technology possible, meaning little to no coding or digital design capabilities, I realized throughout my study that this was not only unlikely given the goals for the prototype, but it was also contrary to the collaborative nature of this type of work. The goal to create cultural experiences within virtual reality that aid in developing intercultural competency far outweighs any ambitions to prove that a single individual can do it with limited skills in dealing with technology. To represent a culture, we must work across cultural boundaries within Study Abroad programs and invite input from diverse cultures for input on the designs representing their cultures. Students and teachers must collaborate within the classroom using the technology I discuss and demonstrate in the digital portion of this chapter if they hope to achieve the goals of learning about intercultural discourse and dynamics. Therefore, it is only reasonable for some aspects of this project to invite digital design specialists to create more complex learning experiences to enhance the value of cultural learning discussed in previous chapters. Therefore, as I examine the considerations and demonstrations of software, it is necessary to note that the virtual spaces designed for this chapter are a person's work. While they are functional prototypes for demonstrating the possibilities, the possibilities of these technologies only grow with intercultural and interdisciplinary collaboration.

The six software applications initially considered for this project were Mozilla Hubs, Frame VR, VRChat, Google Cardboard, Unity, Spatial, and SketchUp. These systems were considered based on a variety of factors. Mozilla Hubs and Frame VR were considered on the recommendation of Dr. Noah Glaser, a specialist in user-experience design focusing on emerging technologies and learning analytics. Spatial was recommended by Dr. Kevin Moberly, who uses

the program in his gaming studies program and courses. VRChat was chosen based on recommendations by participants in the user-design study conducted for this research, as P3 was familiar with this system despite minimal experience in VR. Lastly, Google Cardboard, Unity, and SketchUp are recognized names in conversations surrounding virtual reality development and deserve consideration as viable, recognizable brands. While all considered software applications presented viable options for creating the types of virtual reality experiences desired for this project, only two aligned with necessities identified in the research data while remaining low-cost and user-friendly — Spatial and VRChat. Still, even these required that I re-envision aspects of the program to achieve the program's desired quality in my original research questions.

Spatial and VRChat are open-source virtual reality systems that allow users to develop their immersive worlds using established, pre-programmed, pre-designed, modular content. I have incorporated each of these applications into the pedagogical design of this project in particular ways, and through the digital prototypes I developed as part of this chapter, I demonstrate both their potential and limitations. Spatial and VRChat, as free-to-use platforms, offer the most benefits for the lowest cost, which is essential when navigating administrative considerations for this type of project. Both allow dual access between immersive virtual reality via the Meta Quest II system and computer-based interaction. While the latter is less immersive, it will enable the spaces to be engaged and experienced if a VR system is unavailable or fails to function. This means that education can continue in the event of unexpected limitations to VR access. What both programs offer, their cost and usability, were the primary reasons they were chosen for this project. The syllabi in the next chapter offer examples of how these programs

would be utilized within a course design, demonstrating their value as a means of discursive learning and expression.

### FIRST STEPS: SPATIAL

I selected Spatial for the initial prototype of this dissertation project, using it to construct representative spaces that highlight the potential for the VR Study Abroad program when considered concurrently with the proposed syllabi samples presented in Chapter 5. I chose Spatial not only because it is free to use while still meeting the needs of the course program assignments but also because it provides access to prefabricated digital components that do not require coding at all. Students and teachers can create virtual representations of cultural experiences by searching the Sketchfab archive associated with Spatial. For this reason, Spatial makes for a great resource that will allow students to think critically about their perceptions of international travel or their past travel to create virtual experiences that best represent what they want to express about their perceptions and experiences. Video games already use visual and model-based composition methods rather than textual ones. In “Composition, Computer Games, and the Absence of Writing,” Kevin Moberly argues that although video games are missing text, they depend upon complex reading and writing levels (290). The environments of video games are created by writing that systems and creators must read and respond to, just as with any other method of composition. Regarding game players, their reading and writing are measured by how they “compose themselves in relationship to the reality on the screen” or “how they read and write (compose) themselves in relationship the game” (Moberly 291). Spatial is a similar type of space that allows students to reflect (read) their knowledge and experiences from studying abroad and then compose those experiences by designing environments that are “symbolic



elements” that engage “the narratives around which they are constructed, and the larger cultural expectations of the society that produces them” (Moberly 291). The ability to compose using pre-selected models broadens how students can compose their thoughts beyond the limitations of words alone, which offers opportunities for them to think through the more profound implications of how they feel and interpret cultural concepts.

Although Spatial does open many avenues of representational potential, it has limitations without at least some knowledge of designing through a game engine called Unity. Unity allows participants to customize interactive environments; however, it requires the willingness to self-teach and work with deeper design capabilities than simply finding an object and resizing it. What separates Unity from Spatial is that Unity is a game engine that can create larger, more interactive environments, such as games using 3D modeling software like Spatial. Without it, all objects within Spatial are stationary and can only contain links to outside information. Therefore, the interactivity of spaces created through Spatial without Unity is extremely limited unless a student and/or teacher is willing to engage in necessary practice and research to learn how to incorporate Unity. For this project, however, I deliberately created sample spaces that do not use the Unity feature, as I found the need for research to learn Unity exceeded the expectations that I wanted this project to place on an average teacher or student.

Despite the limitations regarding customization and interactivity, Spatial allows students to create immersive experiences based on their visions of other cultures, which serves as a steppingstone to broader conversations about their perspectives and culture. For the proposed classroom application, the Spatial VR experiences created by students need not be extensively interactive at first, as their primary goal is to produce an interactive means of communicating

their experiences and perspectives. For this, Spatial is suitable as a free, easy-to-use platform for composing these virtual experiences.

To demonstrate the potential of Spatial, I have created a multiroom Spatial experience to accompany this dissertation. At the [Introduction Space](#) of my Spatial experience, users are presented with a room designed to represent the essence of this project. There are portals to a new space for chapters one, two, three, and five in this space. There is also a portal to a sample space meant to reflect the cultural space a student in a class could create. These spaces demonstrate how immersive virtual reality composition can enhance traditional modes of composition, thus allowing for a deeper understanding and increased opportunities for dialogue. The sample space is based on my travels abroad, using images and videos I created in an environment generated strictly from the Sketchfab database. Through trial and error and many adjustments along the way, I express the essence of what I experienced from my travels, much like students will be able to under the direction of an organized course.

#### ADDING COMPLEXITY: VR CHAT

VRChat is the other software I propose using for in-class use to create predesigned cultural experiences to educate and prepare students for travel abroad. While I had initially hoped to feature VRChat more extensively in the virtual prototype of this project, there were unexpected limitations that simply could not be avoided for this specific study; however, accommodations can be made for future use in the classroom.

VRChat offers users a far more fluid experience than Spatial. From a more extensive avatar design system to increased interactivity, VRChat is ideal for generating more in-depth and interactive cultural experiences, which previous chapters explain is a vital component for

creating an immersive experience. Spatial cannot generate the level of interactivity students need to practice intercultural dialogue and interaction, but VRChat does. Not only can spaces be created using a greater degree of graphics and interactive components, all of which meet the standards of immersiveness identified by the participants in this study, but they can also be used for real-time and preprogrammed learning and interaction. Additionally, research into the capabilities of VRChat uncovered the ability to utilize AI, such as ChatGPT, to create intuitive responses from a non-player character (NPC) that could be used for intercultural communication and interaction practice. However, the caveat is that achieving this functionality requires higher technical expertise than Spatial because Unity is necessary for content creation. The complexity of working with Unity for VRChat is also likely more involved as everything ranging from graphics, avatar customization, sound, movement, and interactivity is of a much higher quality than that of Spatial.

VRChat's limitations exist simply because of the higher quality of the experiences. Primarily, participants must become eligible to create on VRChat. The developers have a *trust* system that requires all users to engage in existing experiences for a predetermined amount of time before they are allowed to create their own spaces. The reason given for this is that they want creators first to gain experiences using the VRChat system and interacting with the mechanics, so they have a better grasp on the type of experiences VRChat intends to promote. Since it would take to develop the necessary level of trust to become a creator, it has not been feasible to construct a functional VRChat experience to demonstrate for this project. This trust system is also a limitation for student VRChat creators in the classroom, as they would not have time within a semester to meet the requirements for content creation. However, within the Spatial

room for Chapter 3, I have incorporated detailed videos of VRChat recorded from within the Meta Quest II system to demonstrate the program's potential.

Once a participant earns the creator rank with VRChat, they must download the Unity SDK (software development kit) for content creation. While laypersons could teach themselves to use this SDK if they have the interest, time, and patience, this development method is not conducive to the VR content development I had hoped to achieve for teachers and students in a classroom setting. That said, the opportunities afforded by VRChat are simply too beneficial to ignore. Therefore, I propose a collaborative, interdisciplinary effort to develop a preprogrammed VRChat experience that can be used for pre-travel pedagogical purposes, which I outline in the proposed sample syllabus in Chapter 5.

While I initially viewed VRChat's more complex creation design as a limitation to the goals of this study, I have since come to recognize it as a benefit to the project. Yes, my initial proposal indeed was to utilize technology that could be used easily by teachers and students with near-zero coding or design experience. However, from the conception of this project, I have also argued that this program was always meant to generate intercultural collaborative efforts to ensure accurate and respectful representations of diverse cultures. VRChat has simply presented an opportunity to expand collaboration goals from merely working with natives of other cultures to working with thinkers from different disciplines to create the best possible learning opportunities. By crossing disciplinary boundaries, students campus-wide will benefit from quality virtual reality learning experiences developed with the intercultural planning skills of the Study Abroad faculty/administration, the rhetorical and composition skills of the English department, and the quality design skills of the Digital Design department. Given the expansive

potential of this type of virtual reality learning, meaning not just with study abroad education, the opportunities for increased interdisciplinary collaboration are vast.

## OUTLINING A DIGITAL DISSERTATION

As mentioned, this chapter is meant to serve as a digital dissertation chapter where readers can access the Spatial rooms created for demonstrative purposes. However, to help facilitate a better understanding of these spaces before engagement, I offer a map to clarify what one should expect from each space. Access points to each space are also provided, and an explanation of the website serves as the crossroads between Spatial and the written portion of this project.

Before I discuss each chapter, I want to make sure each space is understood through the perspective of the decisions that informed the design for each space. For the introduction and chapters one through five, I used pre-existing rooms Spatial provides. These rooms are predesigned as environments, thus making the creation of the environment much more accessible and user-friendly than turning a 3D object into an environment. However, to indicate the potential diversity of environments, I used one of the 3D objects for the space designed to demonstrate what students can feasibly achieve in a classroom setting. While it does require more tinkering with scale, and the ratio of the room can be less expansive at times, my goal to demonstrate each style of the environment — premade and 3D object conversion — is achieved. The introduction space is meant to be a foyer for the entire project. I wanted this space to be a small, simple room that could provide access to spaces for each chapter while highlighting the project's intentions in subtle ways. Chapter 1 is meant to be an educational space that includes information about Study Abroad statistics and the possibilities of how one person's international

experiences can be brought into Spatial through photographs, videos, and Spatial-specific objects. Because the theory of remediation, discussed in more detail in Chapter 2, is integral to understanding why and how virtual reality technologies are a rational continuation of integrating technology into pedagogy, I created the Chapter 2 space as a museum tracing composition-technology remediation throughout history. The museum design is familiar to most users, and it also inserts the historical essence of what tracing remediation means; that is to say, it encourages users to see the remediation of this technology in the context of the historical continuation of a study. The space for Chapter 3 captures the discussion about the potential of Spatial and VRChat. Therefore, I wanted the design of this space to be conversational.

To achieve this design goal, I chose a room that has more relaxed seating than an auditorium but has the layout of a luxury business suite. It suggests an invitation to discuss the videos and information provided in the room. Naturally, for Chapter 5, I chose a room with circular seating around a stage. This design creates the illusion of a lecture hall because the content found in Chapter 5, and within the virtual space, relates to pedagogical applications for this project. Lastly, my sample space uses a 3D object converted into an environment. Using such an object takes trial and error to ensure the object can function effectively in a suitable environment. Once I located a functional and appropriate environment, I designed the space to represent what students can achieve within Spatial when sharing their understanding of other cultures or experiences abroad. The choices for each space are deliberate and capture the essence of each dissertation chapter based on the content of the traditional text. The overall design is meant to demonstrate the potential of Spatial for displaying traditional experiences and conversations; it also shows how textual these virtual spaces really can be when applied to various rhetorical frameworks.

In my earlier description of Spatial, I already mentioned the introduction space that starts the journey through the digital manifestation of this dissertation project. From this introduction, a user can view a quick video that outlines the topics of each chapter before choosing a chapter portal to access. When ready, a user only needs to walk to the desired chapter's portal and click the portal to travel. Each chapter space has been designed using pre-existing room designs provided by Spatial. This is not, however, the only means of environment creation, which I will discuss momentarily when we reach the development of the sample study abroad space.

The space for the study abroad information, [Chapter 1](#), is a cross-sectional design with two gallery hallways, one lounge, and one auditorium space. Initially, each of these spaces was empty except for the seating and stage design in the auditorium and the pedestals in the lounge. I chose to leave some outlying walking spaces empty of decoration simply because of the time constraints for this project. However, one could add seating, greenery, statues, and more to enhance the informational experience of the space.

At the spawn point (entry point), users will notice access portals to the Introduction space and to the next chapter. They will also see a clickable access point to the website for the dissertation, where they can read print copies of the chapter in which they are currently immersed. Traveling down either gallery portion of Chapter 1 will bring users to a demonstration of how students could use their images and videos from their travels. All the still photos are from my travels abroad, while Dr. Scott Brown of Francis Marion University donated the videos on display in this space. Dr. Brown regularly oversees student Study Abroad opportunities in South American countries, so he was able to provide videos of celebrations and other cultural events from a variety of places. The auditorium space of Chapter 1 presents a video presentation of Study Abroad data points found in the dissertation's written portion. While using computer-based

navigation, user avatars can be seated as they watch the video. Unfortunately, I have been unable to sit while immersed in the space via the Meta Quest II system.

The lounge presented a unique challenge, as the room is a part of the pre-existing Spatial environment and cannot be removed. I had to think critically and creatively to use the large area to avoid bringing users out of the immersive experience due to space. I added the spinning globe as an aesthetic feature that also represents the intercultural goals of the project. This was a good enhancement for the pedestals in the room upon which I placed objects and uploaded images. On one side of the space, I put recognizable objects readily available through Sketchfab to demonstrate what Spatial has to offer in the way of prefabricated objects and the diverse cultures one can represent with the platform. On the other side of the lounge, I wanted to create a micro-view of university Study Abroad opportunities. The schools in this space are not even a fraction of those available nationwide. Yet, the countries represented as sister schools to the American institutions are noticeably varied.

The most extensively designed space for all digital chapters is Chapter 2, which focuses on technology theory and remediation. For this chapter, I decided to trace the history of technology remediation to highlight the logical inclusion of virtual reality technology into our rhetorical and discursive repertoire. Therefore, I selected a pre-existing museum space provided by Spatial. This space was empty initially, with only walls creating the various sections. All pedestals, posters, and objects had to be added, sized, and arranged as a part of my design.

The spawn point is deliberately situated to place avatars in the space facing the direction they should walk first. To the left of this, again, is a portal to the Introduction space for the project. As users walk the outer portion of the museum, they are met with posters on walls that offer information about the objects in each section, with the first section being the earliest



writing tool in recorded history. From there, avatars make their way through the various timelines of communication history to see how each new era remediated the previous to create new and effective written and spoken communication forms constantly. As users make their way around the space, they will move inward until they reach the center room that contains a brief historical representation of virtual reality technology. The entire layout of this space is meant to spiral inward to this point, which is to say the present state of technological remediation that continues a long tradition of development.

It is important to note that every single object in this space was provided either by Sketchfab within Spatial or by an image upload I provided from research. At no point did I ever have to create any object seen in this space, which indicates a massive library of opportunities, of which students and teachers using the program can take advantage. The placement of every section, every object, and even which objects to use were strategic rhetorical choices. The goal is to communicate the remediation of technology in something other than words, but it is a form of composition, nonetheless. For example, the printing press object was the only one loaded that would appear in the space in a way that allowed me to manipulate the object's location efficiently. That said, I could not be sure it was an accurate representation of the Gutenberg press, so I was able to be creative and locate a statue of Gutenberg himself. That, along with an image of the Gutenberg Bible on the wall obtained from a simple Creative Commons search, has effectively shown what I needed to say rather than simply saying it.

A much simpler design was used for [Chapter 3](#), which is concerned explicitly with Spatial and VRChat. Because the Chapter 3 text is concerned with the data collected during the research for this project, I opted to use this virtual space to present video demonstrations of how Spatial and VRChat can meet the expectations of immersive interactive learning within VR

based on user-based design data collected already. Again, I faced unexpected challenges, as the videos gathered within VRChat through the Meta Quest II headset were too large for Spatial to upload as a singular video. Therefore, I had to find ways to express what I needed to say in ways that worked with the technology available. This led to including a large entertainment center, where I chose to house four smaller videos instead of one large one. Creatively speaking, I imagined a large entertainment center with four small televisions, all playing different sporting events or shows at once. From that imagined image, I found a way to include the information effectively both for the goals of the space and the design limitations. Another minor limitation is that I cannot alter the environment directly, so the curvature of this specific space did not allow for a similar link to the website associated with the project. In another effort to work with the technology, I incorporated a small laptop on the table with an information tab allowing clickable website access.

The pedagogical space created for Spatial is [Chapter 5](#) in the dissertation. Immediately, the design limitations in this chapter were impactful enough to warrant mentioning. I envisioned a classroom for this space where I could post chapter information on videos and posters that are commonly found in various classrooms on many campuses; I imagined a smaller class space with a chalkboard or dry-erase board. While I could have used a 3D object to meet this need, for this space, I opted for a sleeker pre-designed room already available on Spatial to keep with the theme of clean aesthetics for the rooms representing dissertation chapters. Limitations of options also concern students, especially when they have a vision of what they want to create but cannot find the perfect representation. These limitations, however, are common in traditional composition when words fail to capture the essence of what one wants to say. Therefore, what students are presented with in these moments are compositional and rhetorical decisions on how

they can compose what they intend within the limitations of the technology. I decided to find an available, prefabricated space that most closely resembled a lecture hall, a single space, like a classroom, and not attached to any halls or other rooms. This decision allowed me to treat the room like a fancier version of a lecture hall. Since the space did not have the wall design necessary for posters, I had to think creatively and shift the design. Rather than post information on the walls via text, I created a presentation video covering the course's recommended syllabi. The goal was to produce a familiar presentation of a course syllabus that students might experience if the lecture hall were full of students taking the course for the first day of classes. At center stage is a video in which I cover one of the proposed sample syllabi, much like I would in a classroom setting. Not only does this allow for an integration of the syllabus itself, but it shows ways we could create instructional experiences within an immersive virtual classroom. Much the same as it was with the Chapter 1 space, avatars can take seated positions while using computer-based navigation. However, immersive virtual navigation does not appear to allow for this feature, which is quite disappointing as this study has established that even minimal interactivity can enhance the immersiveness of a space. Using video references that can be watched within the space as if they exist within an exhibit creates just enough interactivity to generate immersiveness. As the concluding chapter of the dissertation, Chapter 5's space is the only location where users will find a portal to the sample study abroad space created for this project.

To demonstrate a small sample of what students could achieve with Spatial, I have also created a sample space focused on my travels to Kyoto, Japan. Unlike the environments for the chapters, this space is not a pre-existing room design. Instead, I searched for "Kyoto, Japan" in the Sketchfab objects archives until I found a suitable object for my desired design. As users navigate through my representation of Kyoto, the images and videos are entirely from my

experience and travels. I can better utilize these memories to express what being in Kyoto's culture meant to me through this virtual space. Students will also have the opportunity to create their expressions of their travels in far more meaningful ways than an essay alone could achieve. Moreover, this space does not require any coding; it just requires some of the same traditional rhetorical and compositional choices to ensure the space says what I want.

While each space created for this project presented design limitations and a need for critical and creative thought, the most challenging obstacle was found in the sample space that students themselves would create. There are limits to the types of 3D models that work best as environments and which do not. Some objects, whether used as environments or not, load poorly or not at all. Choosing a working environment requires that the designer works through trial and error in many cases while also thinking critically about what design alterations they can make if and when their first choice of object does not work correctly. There were quite a few potential objects that I would like to have used for the environment, but only some objects are suitable for use as a Spatial environment. A common issue is the loss of clarity in design when the object's size is increased to fill the environment, while other concerns include not loading at all or with your avatar free-falling through open space because the environment conversion resulted in an error placing the avatar on a solid surface.

Another problem is that Spatial will not import objects that are too large, have complex textures, or have high polygon counts. It took a lot of trial and error until I found an object that would work as an environment while also serving the purposes of my goals for the space. Once the environment was set, I had to alter the skybox (the space outside the environment portion). Spatial's skybox is a crucial component because no environment is a fully open world, so it fills in the sky to avoid blank space. For my representation of Kyoto, I had to consider the experience

of my travels to determine what skybox would be most effective. While there were plenty of open, blue-sky options, those were far too basic to capture the essence of Kyoto. Therefore, I sought a cityscape to set against the more traditional images of my immediate environment choice. This, for my space, worked because I chose to present Kyoto as a beautiful place to travel due to the overlapping of traditional Japan with contemporary. The contemporary skybox juxtaposed with my traditional environment captures this far better than a simple sky ever could.

While these struggles significantly informed this project by highlighting the possibilities and limitations of the technology focused on Study Abroad, these issues might prove frustrating and problematic for students in the classroom. Students face a new learning paradigm as they need to learn the best practices for cultural conversation and navigation and new ways of discussing their thoughts and experiences through traditional and virtual reality composition.

#### CROSSROADS – DIGITAL AND TRADITIONAL DISSERTATION

The final component of this digital chapter has been much easier to design, but it is a vital component of this project. It is also one that I did not initially include in the pedagogical design of the courses I propose, but I later realized it is necessary. When looking for a way to combine the digital chapter of this project with the traditional text, I quickly discovered that other than links to Spatial in the text, which I have used, there was no way to connect Spatial to the text. Simply put, I could access Spatial from the text, but I could not access the text through Spatial. The solution to this problem was found when I considered how Spatial and VRChat allow users to walk between realities - physical and virtual - with the technology serving as a crossroads. What I needed was a crossroad between traditional and digital. To achieve this, I created a standard website using Wix.com to bridge the divide between Spatial and traditional text.

By creating a [Wix website](#) for this dissertation, I can use the information tags on objects within Spatial to link to the website where a PDF copy of each chapter can be found without leaving the virtual experience. Within Spatial, each room created has an access point to the website page for the designated chapter. For example, in Chapter 1, users will see a clickable object in the main intersection of the space that will take them to the website page for Chapter 1. On the website, they will have access to a PDF copy of the traditional text for the chapter. The same is true for all Spatial rooms connected to the chapters of this project.

Pedagogically speaking, I realized as I developed the courses for the Study Abroad courses that while students could email Spatial links to the professor, there was no way to house all Spatial experiences for the students as a collection. Creating such a space for student work is imperative for several reasons. The simplest of these reasons is that when it is time to present projects, students would have immediate access to their spaces should the teacher have a website dedicated to house all of them together. An obvious convenience to this immediate access is minimizing setup and transition time between presentations. A far more meaningful reason, however, is that each semester offers new evaluative opportunities for teachers and administrators to see what students are thinking about the possibilities of studying abroad, what they gain from studying abroad, and how this information can help facilitate increased development of Study Abroad programs for the future. A website such as this has extended the potential to disseminate lesson plans, syllabi, and guides for faculty interested in developing their SA experiences. Learning management systems such as Canvas, Moodle, and Blackboard also present opportunities to share information with less work, as there would be fewer design decisions and steps than one has with a website. However, I propose that students collaborate with their professors to design these websites because it promotes collaboration and creates

educationally beneficial resources based on student work. A website also enhances the critical and creative thinking skills that are being developed as students not only design their virtual experiences but also plan and design websites meant to share these experiences.

The website created for this dissertation project has accomplished more than creating a crossroad between this project's traditional and digital forms. It also serves as a sample of what can be achieved by being willing to look for ways to move between the boundaries of the physical and virtual realities. It is a bringing together of tradition and innovation, which is, at its core, the essence of this entire project.

Necessary Access Links:

[Dissertation Website](#)

[Spatial Experience](#)

## PEDAGOGICAL THEORY AND APPLICATION

An essential aspect of this study is the realization that the pedagogical application of the program I recommend is not to replace or improve existing pedagogical practices. The goal is to demonstrate that the educational component of this program is a product of existing pedagogical theories and histories that have developed in response to innovative technologies. Thus, virtual reality as a central tenant of pedagogical practice is one of many logical steps forward in the effort to expand and develop exciting and adequate educational opportunities. In this chapter, I cover a literature review of traditional pedagogical theory, distance learning history, and distance and online learning theory before introducing sample syllabi that can serve as a framework for developing pre- and post-study abroad courses that meet the standards of individual institutions.

### TRADITIONAL PEDAGOGICAL THEORY

My dissertation project establishes a clear connection between the pedagogical approaches necessary for the program I recommend and those pedagogical theories upon which most of our educational institutions are based. The history of pedagogy makes clear is that there have always been developments and shifts in praxis as scholars learned more about learning and as technologies, specifically digital technology, developed and created opportunities for expansive learning. This work continues the efforts of those who have studied and theorized before me, as their scholarship has paved the way.

Scholars from these diverse yet connected learning theory camps contribute to this project's pedagogical framework in many ways. The work of behaviorists like B.F. Skinner informs this study as it observes the behaviors and reactions of students who engage with the study abroad program outlined later in this chapter. The cognitive heuristic, presented by Jean Piaget, contributes to the reminder that the seams between stimuli and responses are just as



critical as the beginning and end; student response to virtual stimuli is at the center of discourse. John Dewey and his social constructivist colleagues inject into the conversation the perspective that education and learning are much like society in that they might develop and change. Still, they are created by interweaving past, present, and future socially connected and ever-changing factors. Other pedagogical theories also contribute nuanced components to this study's approach to pedagogy, such as James Berlin's argument against the current traditional theory and Paulo Freire's Banking theory, both of which advocate for social constructivist approaches to writing and composition. These three conventional pedagogical theories - behaviorism, cognitivism, and social constructivism - create a trifecta of reliable pedagogical literary scholarship upon which my work builds.

B.F. Skinner's *The Technology of Teaching* contributes to this study in many ways, offering early views on developing digital technology and its role in education and understanding the mind from the heuristic of behavior and behavior training. Skinner is particularly interested because his theory of radical behaviorism, which suggests behaviors can be predicted and, thus, altered, has served as the foundation for several pedagogical approaches - some more popular than others. Just because the psychic engagement with virtual reality does not occur in a physical, actualized space does not eliminate behavior considerations from the conversation. This study argues that behaviors — and choices — must be closely observed in virtual spaces as much as, if not more so, than in the physical ones. This claim is based upon the fact that behaviorism is approached via observable behaviors, and what we can see through virtual spaces, regardless of one's awareness of them being virtual spaces, does produce reactions or behaviors from the user. Those reactions, especially when dealing with how students respond in cultural situations in which they feel uncertain of etiquette or expectations, will generate dialogue among

the class that will help that student learn and the others. Therefore, a significant part of this study is to identify ways in which students can be guided and monitored through virtual environments when teachers usually do not have the benefit of proximity.

Although Study Abroad programs have faculty mentors, and students are usually attached to host universities abroad, their behaviors with the culture at large cannot be monitored constantly. A virtual reality study abroad program becomes all the more valuable because it allows students a safe, judgment-free, and consequence-free environment to miss the mark with their behavioral responses to situations. It is preferable to observe undesired or culturally insensitive behaviors in a classroom while engaging in virtual reality programs where discourse can bring learning rather than facing the meaningful and impactful consequences of a student abroad who unconsciously missteps due to a lack of experience or cultural competence. To train students for an in-person SA experience overseas or to train those who might not be able to travel abroad, virtual technology allows for the creation of immersive experiences that place students in everyday situations they might experience abroad and allow the student to navigate, question, and respond based on the immersive experience. Each time a student participates in the experience, it offers an opportunity for dialogue and communication about behavior and cultural expectations. Students who are creating immersive experiences to demonstrate their knowledge or experience of another culture are faced with decisions that must be made about how to share their ideas. These ideas are, in many ways, behavioral as they shape people's reactions and behaviors, especially when it comes to cultural interaction. Behaviorism, therefore, is a necessary pedagogical theory that establishes a clear understanding of this project's goals as they relate to student learning and practice. However, this is just one of three primary approaches influencing this project.

Cognitivism, developed by those who viewed behaviorism as too rigidly focused on stimulus and response, is more concerned with the role of the mechanics of the mind itself; it considers what happens between the occurrence of a stimulus and the response. The literature of Jean Piaget is essential for understanding the cognitivist influences upon the development of this study and the resulting program. In “Cognitive Development in Children: Piaget - Development and Learning,” Piaget makes clear distinctions between development and learning as they relate to knowledge because “the development of knowledge is a spontaneous process, tied to the whole process of embryogenesis” while “situations provoke learning - provoked by a psychological experimenter; or by a teacher, with respect to some didactic point; or by an external situation” (176). Development and learning must be considered carefully in crafting any pedagogical program, no matter how innovative the technology or how virtual the space is. Furthermore, Piaget's cognitive-based views on knowledge and knowing carry similarities to concepts of the virtual that this study engages, as he says, “Knowledge is not a copy of reality. To know an object, to know an event, is not simply to look at it and make a mental copy or image of it,” instead it is “to know is to modify, to transform the object, and to understand the process of this transformation, and as a consequence to understand the way the object is constructed” (176). This is remarkably similar to the Baudrillardian simulacra I discussed in chapter two, in that the information in virtual spaces is transformed into something other than the original that becomes real in its own space and experience.

In my project, virtual reality technology is a means by which we act upon those simulacra — in this case, cultures and people serve as the objects for knowing - as a similar means of transformation for understanding. Cultural experience is transformed into virtual immersive opportunities distinct from physical immersions, which influence knowledge in their own ways.

Through the creation of simulacra, the virtual cultural experience becomes quite real and manifests itself as an experience of a culture in a virtual setting. This is to say, students participating in the program my dissertation proposes are aware of the virtual nature of their experience, but they do have the intellectual capacity to engage in these experiences to learn through, not despite, that awareness. Students consider and understand how the experience is constructed virtually; therefore, they can engage in cognitive processes that provoke those same learning processes that Piaget outlines. Understanding the cognitive components of this project allows us to frame the social constructivist aspects that focus on the core goal of this project - education.

Social constructivists such as John Dewey provide considerable groundwork for this project because it supplements behaviorism and cognitivism by highlighting the imperative social aspects of learning. Two works of John Dewey that heavily influence my pedagogical framework are his 1916 book *Democracy and Education* and his 1938 publication *Experience & Education*. *Democracy and Education* were published just one year after the formation of one of the earliest associations for distance education, the National University Extension Association. This sequence of events is no coincidence, and it sheds light on Dewey's contributions, though less direct, to distance education theories. He expresses the concern that the world of education is moving forward so quickly that proven pedagogical methods and practices would be dispensed with for novelty, arguing that any skill gained without a clear purpose for use is not learning (*Democracy and Education* 116). Learning is not simply knowing how to do something; it is also understanding why and to what ends one does it. Learning is experience. Learning is social and interactive, which many fear is threatened by distance and online learning. Later, in *Experience & Education*, Dewey reiterates that the past cannot be dismissed simply because technology is

moving pedagogy into homes via radio transmissions and more. Dewey argues there is "danger in a new movement that in rejecting the aims and methods of that which it would supplant, it may develop its principles negatively rather than positively and constructively" (*Experience & Education* 20). Dewey's observation is especially relevant to my project, as he reminds us that studying with too great a focus on technology and not enough on learning concepts and pedagogical history might threaten the underlying goal of education. While Dewey reminds us that we must prioritize learning when implementing innovative technologies into our pedagogy, Social Constructivism also encourages considering the relationship between communication, thought, and knowledge, which I argue is a function of culture.

Learning is the purpose of this project. Therefore, understanding how knowledge is constructed influences the design of digital components and pedagogical applications. Dewey discusses the concept of knowledge in his article "The Experimental Theory of Knowledge," in which he declares that knowledge is not simply present but is obtained through social interaction and experiences. He gives a simple yet effective example of a person recognizing a smell, saying, "To be a smell is one thing, to be known as a smell is another" (Dewey 295). Dewey identifies the difference between a smell as a thing versus our acquaintance, or recognition, of the thing. He explains that "to be acquainted with a thing is to be assured (from the standpoint of experience itself) that it is of such and such character" (Dewey 296). Therefore, when a person recognizes a smell, it is not simply that a smell merely exists because the person smells it. Instead, knowing a smell is the recollection of an experience with that smell (Dewey 296). When we smell something, we do not recognize, we ask what smell it is, to which others answer if they have a recollection or acquaintance with the smell. Dewey is trying to emphasize that knowledge does not just exist or come from some random absorption of existence. Knowledge is created

through communication and socialization. In “Collaborative Learning and the ‘Conversations of Mankind,’” Kenneth Bruffee states that understanding “how we think requires us to understand the nature of conversation; and any effort to understand conversation requires us to understand the nature of community life that generates and maintains conversation” (640). Though Bruffee does not mention John Dewey or social constructivism directly, his argument provides a sound framework for understanding the construction of knowledge through socialization and community. Bruffee’s point is that because understanding (knowledge) requires conversation and conversation requires community, then understanding (knowledge) also involves community. Knowledge is gained through socializing, or communicating, within and between communities. Knowledge of a culture is learned through communicative interactions. When a person is born into a given community, they learn through conversations, actions, and other social practices that teach them the nuance of being a member of that given culture. Knowledge, therefore, is a function of culture as it is a product of the social-communicative attributes that form the concept of culture. As such, Social Constructivism becomes integral to how this study approaches learning and how the prototype and courses are designed.

The framework for the sample syllabi in this chapter demonstrates that education and learning are central tenets of this project. Though technology is a vital facet of the pedagogical development of the program, it is used as a means by which we can expand the discursive opportunities for students planning to study abroad and those returning from those studies. These opportunities are vital to educational productivity and serve a much greater purpose than simply implementing an innovative technology. Instead, we can affect the cognitive cues and responses students experience when engaging cultures and shape their behavioral patterns simply by

applying Social Constructivist practices that expand opportunities for conversations between and within various communities.

## EDUCATIONAL HISTORY AND TECHNOLOGICAL INFLUENCE

Pedagogical theories shifted during the twentieth century when distance education started to gain momentum and electronic technologies were introduced. Skinner discusses the relationship between pedagogy and technology in his 1968 book, *The Technology of Teaching*, where he affirms the motivation for distance education programs: “There are more people in the world than ever before, and a far greater part of them want an education. The demand cannot be met simply by building more schools and training more teachers. Education must become more efficient.” This desire/need for efficiency and broader access is at the heart of distance education and online learning pedagogical theory. Skinner recognized the role that technology would play in education, and he stated in his work that “teaching machines will not eliminate the teacher,” but rather a “teacher must have such equipment if they are to work effectively.” Pedagogical shifts have always come with hesitation and reservation, and that is no different for virtual reality technology and the programmatic plans that this study explores.

The historical development of distance education, which eventually gave rise to online education, is connected to the development of technological capabilities. In “History and Heritage in Distance Education,” Bill Anderson and Mary Simpson detail the development of distance education and three generations of distance education and learning: correspondence education, broadcast education, and computer-mediated education. Each of these generations corresponds to a particular technological development in history. Correspondence education, for example, began with the increasing popularity of faster mail services that could convey materials

between institutions and students who lived at a distance (Anderson and Simpson 3). In the 1920s, broadcast education would enter the world of education, with “ten percent of all broadcast radio stations” (Casey 46) being owned by universities. Just a decade later, in 1934, television would initiate a significant surge in distance education; though correspondence and radio were still utilized, neither would match the popularity of televised lectures. In the early 1970s, educators first experimented with email to facilitate distance education through computer-mediated communications between students and teachers.

During the 1990s, there was a noticeable shift away from the term ‘distance education’ as scholars began to utilize ‘online education’ regularly to recognize the immediacy of online spaces and the shifting theoretical views of distance and presence themselves. In Chapter Three and my discussion of Spatial in Chapter Four, I traced the remediation of technologies that made this project possible. Not only can we see the influence of technological development on pedagogical practice, but it is also clear that distance learning has continuously remediated pedagogical theory in response to technological development. Recently, the COVID-19 pandemic forced online distance education to the forefront of pedagogical application as the only means of learning for the duration of school closures and pandemic-related lockdowns. Just as technology is remediated, as I discuss in Chapter Two, education and learning were forced into remediation by the COVID-19 pandemic. Lauren O’Hagan talks about a comparable situation in her field of museum management in her article “Instagram as an Exhibition Space: Reflections on Digital Remediation in the Time of COVID-19.” O’Hagan’s chief argument is that while technological innovations remediate our technology, social influences, such as COVID-19, force a remediation of social practices. In O’Hagan’s case, it is the practice of exhibition. She was able to remediate an exhibition of antique, valuable texts into the digital space of Instagram while



capitalizing on the advantages of a digital exhibit and making affordances for the limitations (O'Hagan 615). The same is valid for education and learning. They, too, underwent remediation in the face of COVID-19. Unfortunately, for education, teachers and administrators were not adequately prepared for the events of the pandemic, nor could they be, so there was little time to reflect upon the best practices, benefits, and limitations of online learning at such a large scale. We have that time now, and this project puts forth the benefits and challenges of learning through virtual technology. The process of technological and social remediation continues, which is what this project builds upon.

Michael G. Moore's Transactional Distance Theory was developed in the 1970s at the same time Lev Vygotsky was bringing social constructivism to the forefront of traditional education; both Moore and Vygotsky lean heavily on the work of John Dewey. While Vygotsky focused more on conventional pedagogy avenues, Moore's theory was developed specifically for distance education and considering the nuanced needs of distance learners. He started with traditional approaches but suggested adjustments to accommodate the reality of transactional distance (not physical) between students and teachers in distance education programs. As this project engages cultural concepts at a distance from the original locations, it is imperative to note that an awareness of and attention to navigating the impacts of transactional distance are vital to the success of this program. As Moore explains, teachers constantly work to bridge transactional distance, even in the traditional face-to-face classroom. When dealing with a topic as complex as cultural representation and learning, educators and students must discuss the implications of transactional distance and how they can use this awareness to facilitate thoughtful and practical knowledge.

Other theories explicitly crafted for online learning include Connectivism, which introduced the work of George Siemens, a Massive Open Online Course (MOOC) pioneer, into the conversation of technology and pedagogy. In chapter 19, aptly titled “Connectivism,” of the book *A Learning Theory for the Digital Age*, George Siemens details the eight principles of connectivism that he developed to recognize that learning in online spaces means access to more information than ever. One consequence of this increase in information is that there have been significant shifts in how knowledge and information flow, grow, and change due to the large networks involved. His learning theory is founded upon an understanding of the effects of online access to information and that "the ability to draw distinctions between important and unimportant information is vital" (Siemens), which is something students in previous iterations of traditional and distance education did not have to consider as educators provided the vital information. Siemens's point is essential when assessing the cross-cultural exchanges that a virtual study abroad application would invite. Study abroad programs are inherently connectivist as they promote connections between people of disparate communities. While traveling abroad, students are still tested by the need to filter the information being presented to them rigorously. Too often, it is assumed that the mere presence of a student in a foreign land will provide some degree of intuitive understanding of culture and cross-cultural interactions, but this is not the case. While they might gain a greater appreciation for the existence of other cultures, can they distinguish between what is a fun and exciting experience versus learning about other people?

Students will not have immediate access to a physical location. Still, they can be taught to develop stronger cultural literacy and competence that would help them better differentiate between various virtual reality environments and experiences. Due to the expansive information brought about by technology, it is only logical that technology be used to expand how students

engage in discourse about that information. By using virtual reality as a means of composition, which provides a multitude of rhetorical considerations, students can utilize and build upon traditional means of communication while discovering new ways to express their interpretations of such a wealth of information that might otherwise be difficult in conventional forms that did not account for such informational access and capabilities. With a virtual reality supplementation before departure, students can be better trained in critical social literacies. Upon return, these same technologies can promote conversations about what students experience through their interpretive representations in the virtual setting.

The possibilities for virtual reality technology only work when the program's application is founded upon the existing pedagogical and distance education theories that precede the technology used in this study. With the framework established by scholars who have come before, the way is paved to create a functional and pedagogically beneficial application for virtual reality technology. At the same time, it is equally important to recognize the nuances that the technology introduces to pedagogies, specifically study abroad pedagogy. The scholars cited in this research built the framework for one of many potential uses for virtual reality tech. Still, their work primarily existed in a world that needed access to the innovations we see today. I approach this research with the understanding that the theoretical, pedagogical, and technological theories work together to build upon the past toward the future. John Dewey feared a world in which technology made us forget past knowledge and accomplishments. Still, my work seeks to bridge the gap between tradition and innovation, with the explicit purpose for use that John Dewey demands, just as virtual reality technology bridges the actual and virtual worlds.

## PUTTING THEORY INTO PRACTICE

Various variables will determine how an actual application of the VR pedagogy this dissertation proposes will look, including but not limited to the proposals I make in this project. It would be up to the university and applicable departments to determine how long in-class pedagogical engagement would be applied, whether they prefer a pre-travel, post-travel, or a combination of both for the desired outcomes of their study abroad programs. A multitude of administrative considerations will need to be considered. Many of these concerns are institutionally dependent and are, therefore, difficult to discuss extensively. However, there are common administrative factors to consider that warrant mentioning.

A fundamental discussion of administrative considerations can be divided into three distinct categories: student-focused concerns, economic concerns, and political concerns. Every educator knows that course development is challenging, with a steady stream of hurdles to clear along the path toward course implementation. While each of these categories has the potential to house any number of hurdles that might arise, there are a few more common and obvious ones to consider that help prepare the program for the rigorous approval process.

Students, for this project, are the primary focus of concern. Most college students are likely to carry anywhere between twelve to eighteen credit hours if they are full-time students, depending on how intensive they wish to make their semester. With that in mind, this course is poised to offer students at least three credit hours to an already hectic academic schedule. A pre-travel and post-travel course would be ideal, making the total number of maximum credits this course offers six. That is two complete courses' worth of credit hours, and students will have to make decisions on what other courses they will not take in exchange for these credit hours if they hope to avoid overextending themselves and taking more credits than required to graduate. While

both sections of the proposed course can be lowered to half-semester classes, taking it would still place a burden of responsibility on the students in addition to their usual course loads. Many programs on college campuses already require hours of dedicated study time and attention, so taking this course would be an investment that students must take seriously. Administrators and advisors would need to factor in a student's program, schedule, and performance before recommending the study abroad program that includes my recommended courses.

Economic concerns are also a factor in any course or program proposal. While I have established in previous chapters that the financial burden of the technology is comparatively minimal, the fact remains that there are additional costs to creating a course. The teacher's immediate cost depends on the educator's rank and status at the institution. Still, the potential need for training might arise as the technology continues to develop, although the program I propose in this project is free of external training. Other professionals that will need to be paid are the digital design specialists who would need to be obtained for the development of the VRChat component of the program. Although these costs may seem simple, the funds must be available, and administrations will require extensive conversations about whether or not to supply the Study Abroad program with additional funds to implement this course. With funds already stretched thin at schools across the country, this decision that seems reasonable to those supporting the program will become an intense matter for administrators to discuss if and how they want to fund it.

I have held the politics category until the end because it is a complex and often divisive administrative factor partially informed by the previous two categories. When it comes to politics in academia, and in the way it is meant here, politics is the discussion of what is reasonable, fair, and necessary among all disciplines at an institution. At Francis Marion University, where the

data for this study was collected, every course and program recommendation eventually found its way to the faculty senate. At this point, faculty from other disciplines debate whether the program is necessary enough to warrant funds and other resources that could otherwise be given to existing departments and programs. There is also the matter of, as I mentioned in the student-focused category, that students will have to discard other potential courses in favor of the study abroad program courses. Understandably, it is expected that any new course or program that has the potential to threaten another course or program is viewed as unnecessary or problematic simply because it intrudes upon the ability of existing courses to enroll students who might choose the SA courses. Thus, the politics of academia, through student-focused concerns and economic questions, demonstrate the administrative concerns that this program is likely to face.

Though I cover administrative concerns broadly, it must be noted that all three categories are significant to conversations surrounding the program I propose; they are essential and reasonable concerns. To address them all in an equally robust fashion, any presentation of this program or one similar to it must be sure to consider these categories of concern and any institutionally specific concerns that arise. This SA program is poised to be an opportunity to draw students not just to study abroad but to our universities and colleges. It is an excellent means of cultural learning and discourse. However, it is also an opportunity to demonstrate innovation and appeal to prospective students. Therefore, the value of this program has the potential to withstand administrative scrutiny and concerns.

## PEDAGOGICAL DESIGN

While I recommend a combination of pre-and post-travel engagement with the virtual capabilities, my project still needs to be updated to include researching the outcomes of actively

deploying the program to determine which approaches would be most effective and to what degree. Therefore, I present one potential solution that could be expanded to an entire semester and/or applied in ways that allow academic credit to be earned during these virtual reality-based courses. However, it is also feasible to use these lessons in ways that require engagement outside of credit-awarding coursework, should the institution deem it necessary. To be clear, I do recommend at least the six-week course outlined here, which can be awarded one to three academic credits before travel and then another six weeks post-travel. This would allow a university to provide three total credit hours for a 12-week pre-and-post-travel course (easily extended to 15) while also awarding necessary credits for studying abroad.

Below, I outline a pre-travel six-week course that can be enacted at any time during the academic semester and provided at various times of the day. A list of recommended PDF texts is supplied after the syllabus and sample schedule. This pre-travel course will allow students slated to travel abroad in the coming semester to engage in vital training and learning opportunities about their impending travels. However, if offered with credits attached, this course could also appeal to students who might be curious about studying abroad but are still determining what options exist and whether it is something they would like to commit to soon. Ideally, this course would be open to all interested students, with students on the schedule to travel abroad in the following two semesters offered priority registration to meet the prerequisite. Still, the opportunity to appeal to students outside the study abroad roster is an essential facet of this project, as it will encourage more students to consider studying abroad and experiencing the world beyond their borders.

While the syllabi described in this study are simply a framework that can and should be shifted to meet the needs of various teachers and the preferences of specific instructors, the goal

of these samples is straightforward. A standard six-week course offers enough in-class opportunities for immersive and communicative expressions that expand how students engage in dialogue about their experiences abroad. I created a six-week schedule to accommodate the possibility that institutions might prefer trial runs of this program over summer semesters. If necessary, this course could be adjusted to fit within the rigorous framework of a four-week course. However, I urge caution when reducing the in-class work for the program because discussion among students while working with the technology is vital to ensure they understand the expansive methods of composition available to them through the technology. Less time in class means less opportunity for students to experience the medium of communication, which limits their potential for increased expression of their travels and/or ideas.

The following syllabi are designed as a means of discursive content for this project. However, readers should understand and be encouraged to alter syllabi content, especially institutional-related policies, and policies specific to an individual educator, to execute the proposed course design effectively.

## PRE-TRAVEL COURSE

The first six-week course is also an ideal opportunity to expose potential study abroad students to the various programs a university offers while starting them to recognize the value of and build their intercultural competence and capital. Even if students still choose not to travel abroad, they have gained exposure to a larger, culturally diverse world through the virtual experiences provided in the course. Appendix G presents a fully designed sample pre-travel syllabus, using policies and procedures from my current institution (Francis Marion University).



Though this course is no substitute for physical immersion, it is certainly preferable to having next to no interaction with culturally complex interactions.

Syllabi for a potential course takes work, so I have had to consider a few essential factors in my efforts to provide a framework for this project. Firstly, the VRChat component for the pre-travel course is not available at the time of this project. However, through collaborative efforts with digital design departments, it is possible to construct VRChat experiences that can be implemented into my proposed framework with only the possibility of minor adjustments required. Therefore, I have assumed a functional VRChat experience to provide a complete course design with the understanding that the design of the immersive experiences would also affect, to some degree, pedagogical framing for individual class sessions.

Each course schedule is designed with Social Constructivist principles, discussed earlier in this chapter, to produce conversation and reflection-based deliverables. The goal of this course is to help facilitate intercultural competence and capital. To achieve this goal, the pedagogical approach must generate conversation. With this in mind, I have developed a research requirement in which students must ask questions and explore a culture they have previously selected. Students are required to keep a research journal, either physical or digital, that can be reviewed and discussed at select intervals throughout the semester. They will also be responsible for planned reflection papers after each VRChat immersive experience, creating opportunities for class discussion based on the knowledge gained or questions raised from their immersive experiences. These assignments allow students to engage in meaningful discourse with their teacher and classmates that will encourage and challenge their understanding of culture.

The major assignment for the semester is the Spatial design that students will create to present to their peers at the end of the semester. Building upon their research, discussions, and

VRChat experiences, students will be tasked with designing a Spatial environment that best represents their view of their chosen culture. These spaces will have low expectations of quality, as students will be newly introduced to the platform. However, given the relative ease of navigating and creating within Spatial, the experiences they generate will invite conversation and reflection about how their perspective of culture has, or has not, changed due to their study and dialogue. This project is the culmination of the course; therefore, students will present their designs to the class, expressing their decision-making process for how they have chosen to represent their chosen culture and how they worked with the limitations of Spatial to be as fair and accurate to their interpretations as possible. What the assignment and subsequent presentation allow is further opportunity for students to think critically about their knowledge and experiences by asking them to tell what they have learned through the process of showing and telling rather than just telling (writing).

Readings for any course are subject to change, but the ones I have selected represent the essence of what students will need to fully understand how to be successful in cultural learning and the class itself. Due to the amount of research students will be expected to conduct within six weeks, the reading assignments are minimal but strategically placed. The first readings are used in this project because they are both informative and written in a way that any upper-class student could comprehend, and I do not think sophomores would struggle with this material. The readings included a chapter from Susan Twombly et al., “History and Purposes of Study Abroad” and “International Student Exchange -- Motives, Benefits and Barriers of Participation” by Dominika Marciniak and Michal Winnicki. It is necessary to open the course with these texts because they are a means to invite students to reflect on their ambitions and motivations for studying abroad. Many students see a chance to travel but do not always grasp the fullness of the

educational opportunity they are afforded through Study Abroad. Encouraging this type of self-reflection early offers the best opportunity for helping students shape their approach to the course and the conversations that await them.

Immediately following the conversations about SA motivations, students are asked to read two pieces focusing on defining virtual worlds and understanding presence and perception within virtual reality. Students must realize the virtual spaces in which they are meant to learn. Otherwise, there is an increased risk that the VRChat experiences will be little more than a bit of fun in VR rather than experiential learning. The very brief text from Ralph Schroeder called “Defining Virtual Worlds and Virtual Environments” helps differentiate the terminology of virtual worlds versus virtual environments; he primarily points to the role of socialization with virtual environments, whereas virtual worlds can have any number of activities as the central focus, i.e., gaming (2). Likewise, Stefan Weber et al. help define (redefine) the concept of presence in “How to Get There When You Are There Already? Defining Presence in Virtual Reality and the Importance of Perceived Realism.” Admittedly, this will be the most complex text of the semester, though, with in-class discussion, the concepts should not prove difficult for students. Though the research conducted for this project, discussed in Chapter Three, indicates that students are, for the most part, willing to immerse themselves into VR experiences and accept a degree of presence within the space, it is pedagogically prudent to provide students with definitions to aid in their recognition of the disparate levels of presence in VR when compared to presence in a host country. Through the first two classes of the semester, students are armed with definitions that help frame the remainder of the course.

Subsequent texts are placed in the schedule to encourage specific research parameters. For example, students will be asked to read texts discussing how culture is learned/obtained,

methods for defining culture, and conducting cultural analysis. These reading assignments are placed at critical research stages when students are asked to look for cultural nuance in their study (i.e., features of the culture that make it stand out or highlight the culture) and how they might engage culture as a learner of culture rather than a mere tourist.

The trajectory of this pre-travel course is designed to establish cognitive frameworks for students that they can apply throughout their potential travels and studies abroad. By encouraging students to think reflectively and engage in conversations about their existing perceptions of culture through the aid of VRChat experiences, the course can facilitate a degree of self-awareness, cultural awareness, and educational awareness that will encourage and enhance learning both for those who will not travel abroad and those who will.

#### POST-TRAVEL COURSE

The second six-week course is strictly designed for students who have traveled abroad with their university to offer them a structured and stable space to reflect on the experience actively. Too often, students returning from travel abroad are simply excited about having gone abroad. However, as Dr. Mark Blackwell at Francis Marion University explains, the most challenging part of students returning from abroad is getting them to provide valuable and thoughtful reflections on the experience. Appendix H presents an example of a post-travel course as it would look if applied, by me, at Francis Marion University. By putting students in a classroom and offering them both traditional and technologically advanced means of communicating about their experiences, students will be more inclined to delve into deeper reflection about their travels to ensure they create quality virtual reality experiences and letters of recommendation to future students.

As a course designed for students returning from SA experiences, this syllabus and schedule afford more opportunities to encourage students to compose their experiences using VR technology to say what words alone cannot. Students will have slightly more reading to encourage this type of composition than in the pre-travel course. This extra reading is possible because students in this course will have already taken the pre-travel class and have a basic understanding of Spatial. This class pushes them further in their compositional and rhetorical skills by asking them to share their experiences in more detail than the pre-travel course requires.

Assignments in this course are designed to form a semi-comprehensive (meaning as comprehensive as possible in six weeks) representation of the students' travels abroad. Weekly readings and in-class workshops contribute to the interactive nature of the course, constantly aiming to promote a social structure that encourages learning through conversation. Students must submit a one-page reflection letter each week based on the readings and conversations from the previous week. These will inform and inspire discussion for the coming week. Reflection writing is also a proven pedagogical method regularly utilized on college campuses to encourage students to explore their thoughts on the material. Teachers also use these reflection responses in class to highlight the diverse ideas among the class and impress upon students the value of sharing and hearing the thoughts of others as a means of learning.

Three larger projects form a trifecta of artifacts that converge to create a well-rounded representation of student experiences and lessons abroad. The Spatial project is the largest of these three assignments and sets rigorous requirements for students to encourage them to explore multiple avenues of cultural representation of their host culture. Students are asked to consider multiple possibilities for demonstrating culture and putting them into a single Spatial experience

that uses different rooms for diverse cultural concepts. These parameters, detailed in the syllabus, push students to think critically and creatively as they attempt to create immersive spaces that highlight their experiences.

Although Spatial may be the centerpiece of the course, it is unwise to devalue the role of traditional composition. In keeping with John Dewey's words of caution regarding over-prioritizing technology, I have carefully constructed this course to allow for the merging of innovation and tradition. Rather than assign a simple essay for students to talk about their experiences, students are expected to craft a recommendation letter to their peers on campus who have not studied abroad, whether or not they are interested in doing so. These letters need to work in conjunction with the Spatial experiences to explain to others why the host country for each student is, or is not, an experience worth having. It is certainly hoped that the experiences will be positive. However, I believe students' perspectives must be their own. If they did not enjoy the experience and do not wish to recommend it, then they should not. A letter explaining why the trip was not beneficial, accompanied by a Spatial experience that shows how the student saw the trip, is surely helpful to administrators of SA programs. It is an opportunity to learn and improve those experiences.

Lastly, students will present their Spatial projects to the class, allowing everyone to learn more about the cultures their peers visited and their experiences. Presentation in this class is essential because it highlights the vastness of our world and gives students a glimpse into myriad experiences outside of their adventures abroad. Understanding that the world, societies, cultures, and people are limitless in their diversity is a core component of intercultural competence, as it establishes an appreciation for cultures yet to be encountered.

Readings for the post-travel course are diverse and deliberate. Immediately, students are asked to read an article by Amanda Lowery on the website for EdOdyssey, a program focused on Study Abroad opportunities, called “Six Helpful Questions to Reflect on Your Experience Abroad.” This page is an effortless start to the semester. It helps students start thinking about their travels reflectively by presenting six questions, such as “Consider the people you met along your journey. What did you take away from them?” Questions like this allow students to shift their cognitive functions to reflection rather than acquiring the latest information, which is what they do in other classes simultaneously with this one. This reading also helps them shape their understanding of what this course will expect.

Once students understand what the course expects, they need to understand further the composition components of telling their SA stories within VR. Because studying abroad is a practice in ethnography, I have included Maud Ceuterick and Chris Ingram’s “Immersive Storytelling and Affective Ethnography in Virtual Reality” as the next reading. Virtual environments are spaces of storytelling. The space itself tells a story to encourage an immersive experience for users. Therefore, students telling stories of their international travels and interactions with another culture must understand how virtual reality can inform the stories of students by way of creating presence (a concept these students will recognize having taken the pre-travel course). Ceuterick and Ingram address the role of VR as storytelling (narratives), and Nirma Sadamali Jayawardena et al. discuss the persuasive qualities of virtual reality in “The Persuasion Effects of Virtual Reality (VR) and Augmented Reality (AR) Video Advertisements: A Conceptual Review.” Though Jayawardena et al.’s piece is too complex for undergraduate students, it can (and should) be segmented for this course. I recommend highlighting the sections that focus on the persuasive rhetorical potential of virtual reality while excluding deeper

discussions of the several types of persuasion that become entrenched in theory and do not serve the purpose of the course. Other texts focus on the collaborative aspects of virtual reality, while others still revisit potential ways of rethinking cultural competence. These texts work together to help the students frame their experiences in ways that allow them to create thought and conversation-provoking immersive spaces and letters of recommendation.

By the end of the post-travel course, students should have a well-rounded presentation of their studies abroad that both informs and shares the students' feelings and perspectives of the experience. Collectively, the reading responses inform the three-part experience narrative comprising a virtual representation, a recommendation letter, and an oral presentation that captures a single student's study abroad experience more effectively than any of these methods could ever achieve alone.

## REFLECTION AND REMARKS

Students already slated to travel abroad will do so with at least a basic understanding of reading and navigating international rhetorical situations. These students will be more inclined to seek out the value of the experience and, to be sure, avoid faux pas that might typically occur the underprepared. Because they have traveled abroad, these same students will be required to take the second six-week course within two semesters of their travels. These students, excited from having just returned from their travels abroad, are more inclined to focus on the fun sites, food, and other experiences in surface-level statements, such as "We went to the Louvre, and it was incredible." In this hypothetical example, it could be that words do not suffice to express the student's meaning, which to a teacher or study abroad coordinator might appear as minimal effort. However, by incorporating virtual reality as a rhetorical means of composing through virtual objects and images, we can offer students a means to try and express the fullness of their



experiences more effectively. At the end of both semesters, students will have produced measurable and meaningful compositions that help them, and the university understand better what each student has gained from their study abroad.

While the pre-travel course does prepare students for impending travel abroad, it also has a dual purpose as a potential opportunity for recruitment to SA programs. This program allows students to gain some measure of intercultural competence regardless of perceived barriers. While it is no guarantee that students will choose to travel abroad, the pre-travel course is an opportunity to appeal to students who have not considered studying abroad or those who once thought it was out of reach for them. What matters is that the opportunity for recruitment is there, as is the opportunity to inspire a broader sense of global community within students who rarely experience the world outside their immediate lives. Some will consider seriously seeking out a study abroad opportunity when they never would have without the course. These students take advantage of an increasingly valuable learning opportunity while the study abroad program and the school see increased participation and interest that bode well for recruitment and retention.

It is often said in writing courses that we must show and not tell. Virtual reality allows students to show us what they experienced rather than simply telling us. When we pair traditional written composition with the composition of their virtual reality experiences, each university will have access to a higher quality of feedback about its study abroad programs and practices using an understanding of the quality of the individual student experience. This, in turn, allows for a closer exploration of what is or is not practical within the existing programmatic framework. With this data, we can help students develop a more profound capacity for intercultural competence by expanding their cultural capital and bolstering our universities' performances within our study abroad programs nationwide.

## CONCLUSION

At the start of this project, I envisioned what the outcome might look like. That vision has changed throughout my research, analysis, and prototyping efforts. While many of my initial goals have been achieved, I must make necessary adjustments and concessions to the technology. In many ways, it is because of these adjustments and concessions that I have been able to address the research questions presented in the introduction of this study, and I can confidently say that I have shown plainly that there are beneficial opportunities for the pedagogical application of virtual reality technology in Study Abroad pedagogy and beyond.

My earlier visions of this project involved the use of mobile device technology, which quickly proved to be inviable for the study's goals. Throughout my project, I have detailed how I discovered that only some VR applications that can be engaged via mobile devices are considered virtual environments or experiences. The vast majority are 3D video experiences, which do not create an immersive, interactive environment; my research determined students need to feel engaged and immersed. Even games and experiences available through VR platforms such as HTC Vive or Meta Quest, experiences that claimed to be iOS and Android compatible, could not be engaged immersively with mobile devices. Users had to take an external player approach rather than an immersive one. While mobile devices would have been far less expensive, considering their ubiquity among college students, the type of immersive interactive virtual environments needed for this project simply is impossible with iOS or Android technology. Once it was clear that I would have to invite more costly options, I realized that in dealing with institutions with technology and educational budgets, the Meta Quest II presents the lowest cost option that offers exceptionally high potential for pedagogical aims.

Through this concession of cost, I was able to expand the possibilities of design potential for the prototype and address the three research questions presented at the start of this project. To recap, those research questions are:

- What are the intersections of study abroad, distance education, and virtual reality theory, and what affordances and limitations are found at those intersections that have the potential to enhance existing study abroad pedagogies?
- What are the best practices for prototype development and implementation for virtual reality applications designed for pedagogical purposes?
- How feasible is it to create a low-cost prototype using existing and accessible materials, and to what degree would teachers and students need a foundation in programming concepts to use this prototype?

The theory outlined in chapters one and two offers the framework through which I have been able to consider the intersections of traditional theories of study abroad and distance education with more contemporary developments, in theory, concerning virtual reality and associated technologies.

Bolter and Gruisn's work on the remediation of technology provided a helpful framework to understand the intersections of previous theories of the virtual and the real, as well as the relationship between these theories and the practice of the virtual, as manifested through VR. intersection of theories as well as theory and practice. Through careful consideration of how technology has been remediated throughout history, I have demonstrated the flow of remediated technology and its impact on Distance Learning and Study Abroad practices. As innovative technologies have emerged through the remediation of previous technology, so have new affordances with distance learning education arisen. From mail-driven education to radio courses

to televised lectures to online learning, distance learning opportunities and theories have been directly influenced by the advent of innovative technology. The more these distance learning methods started to expand, the more traditional scholars of pedagogical theory expanded their understanding of learning. Study Abroad, though a later arrival to the impacts of digital technology, has also seen an increased interest by scholars for ways in which distance learning education practices can be applied to the cultural goals of Study Abroad pedagogy, as seen with video conferences across international borders. The affordances are plentiful, and they have been well-established through the tracing of technology remediation and the corresponding pedagogical developments in Distance Learning and Study Abroad.

The limitations of technology and learning, specifically relating to Study Abroad, is that virtual technology, no matter how immersive, cannot be positioned as a means to replace physical travel abroad. For virtual reality technology to be truly effective, this limitation must be recognized and considered a critical component of virtual reality design for Study Abroad purposes. In Chapter 2, I discuss the essence of technology. If we do not acknowledge and embrace the limitation of VR technology as it relates to what it can achieve versus what one gains from traveling abroad, then we shall fall short of engaging the essence of VR technology; it becomes a mere tool. Instead, this limitation allows me to position this project as a motivator and means to inspire travel abroad by initializing the development of intercultural competence (ICC) and capital.

Research questions two and three are best answered together, as the design of the prototype is what made clear how much costs would be incurred through this proposed program and how much digital design would play a part. First, I established a user-based, IRB-exempt research study to provide user-centered data as a core component of the design program. As

discussed in Chapter 3, this process provided the type of data necessary for virtual reality design planning focused more on the user's experiences rather than just the project's goals. By following these standards of practice and by using the taxonomy provided by Stan Reucker, I was able to ensure that my project meets important expectations of virtual reality theory, digital humanities practices, and English department rhetorical/composition considerations.

The research conducted for this project, both theoretical and empirical, helped me to realize the multitude of affordances and limitations that might enhance study abroad pedagogies. The prototyping process taught me the value of allowing oneself to learn from the technology, as I was forced to reconsider developmental paths and methods for implementing the programs into a pedagogical framework. The best practices became apparent as I considered data sources for the research itself and then explored methods for applying that data within the limitations of the technology and goals of the overall project. This immediate project's final result demonstrates that a low-cost, accessible method for integrating virtual reality technology into Study Abroad technology is certainly feasible. To that end, another vital concession I found myself making is that while much of the virtual experience design can be accomplished by teachers and students in class without any coding or technology training, a whole pedagogical experience will require collaborative efforts between English/Writing departments, Study Abroad educators, and Digital Design departments.

As I have explained, the Meta Quest II is costly by individual income standards. However, it is also highly affordable compared to its computer-bound counterparts, which require high-end computer technology and cost noticeably more than the Meta Quest II. However, when one considers the potential of the pedagogical application of this technology in the plans that I have proposed, it is clear that students motivated to study abroad or even take

these courses to learn more ultimately result in increased intellectual capital for the school, which results in more capable graduates, as well as potential monetary gain through course costs versus comparatively minimal expense to create the course. Implementing the proposed pedagogical program using the recommended technology would pay for itself from a long-term perspective.

One of the most significant issues I faced was whether or not teachers and students could feasibly use this technology and the proposed program with little to no digital design training or coding experience. The vast majority of the pedagogical application of this project can be accomplished within a classroom setting by teachers and students with no digital design or coding experience. Spatial's built-in resources and minimal controls allow even those who do not consider themselves technologically savvy to design a virtual space that represents their thoughts. However, Spatial alone is not enough for a complete education. While I thought I could make the case for a Spatial-only course, it would be a disservice to the program and this project. Instead, it is better to admit that other design-heavy programs must be utilized to produce a complete educational experience that benefits both students and educational institutions.

I propose using VRChat for this project, which allows for less digital design and programming knowledge. However, it is still more than I recommend for the average non-digital design teacher or most students. Therefore, the answer to research question three's concern about whether or not this project can be achieved with little to no involvement with more complicated design components is simply, no, it cannot. However, I do not consider this a study failure but rather a means by which the project is more robust. Because the cultural components of the project will involve discourse with people from other cultures to ensure fair and reasonable virtual representations of those cultures, it makes sense that the technology aspect of the project

should include a collaborative element. Therefore, when using VR Chat, it would be necessary to invite other disciplines, especially digital design, into the conversation as collaborators to maximize the learning potential of the course presented in this project.

Plans for the future include this immediate project and the potential for this same technology and framework to function within other fields of analysis and discussion. Most immediately, my goal is to work with Study Abroad faculty and administrators at Francis Marion University to establish a plan to implement this project, even in a limited capacity. Until the conversation with digital design specialists takes place, either at FMU or externally, to create the VRChat experiences needed for the pre-travel course, I am limited in what can be applied effectively. However, given the accessibility and functionality of Spatial, it is possible to construct a temporary interim program that capitalizes upon the potential of student-designed Spatial spaces.

Not only would this provide an introduction of the program to the university and students, but it would also provide sample student-designed spaces that can further my research regarding student interaction with technology and how they conceptualize culture within virtual spaces. As such, while I am working to build VRChat spaces, the data from these sample Spatial environments created by the student will undoubtedly inform the design of individual VRChat experiences and expand my understanding of pedagogical needs.

Taking a broader look at the potential for this study, my existing evidence suggests that it would be reasonable to explore similar applications in diverse disciplines within the humanities. Since knowledge depends on conversation, the potential to generate deeply analytical conversations from student-created virtual environments representing varied works is vast. The discursive possibilities of programs like Spatial and VRChat abound. I suggest that changes can

be made to the lessons and pedagogy to accommodate the learning outcomes of diverse avenues of scholarship.

The goals of this dissertation project aim to cross boundaries. I have presented ways in which we have navigated back and forth between traditional theory and contemporary practices, between the virtual and physical realities, and even between the often-impermeable boundaries of academic disciplines. This project has answered the challenge of bringing together diverse theories and putting them into practice. The current success is achieved using methods that meet the standards of practice for multiple disciplines while remaining rooted in concerns for generating discourse through rhetorical and compositional frameworks. Though my initial vision of this project has changed throughout its development, it has improved. Virtual reality technology presents a valuable, feasible opportunity to expand the challenging development of Study Abroad pedagogy within many other traditional programs. I have shown throughout this study that innovation, though it might remediate certain concepts, practices, and technology, does not mean the disposal of tradition. By merging tradition and innovation, we can better expand opportunities for conversation and learning.



## WORKS CITED

- Agrewal, Sarvesh, et al., "Defining Immersion: Literature Review and Implications for Research on Audiovisual Experiences." *Journal of Audio Engineering Society*, vol 68, no 6, 2020. DOI: 10.17743/jaes.2020.0039.
- Anderson, Bill. and Mary Simpson. "History and Heritage in Distance Education." *Journal of Open, Flexible and Distance Learning*. Vol 16, no 2, 2012. pp. 1-10.
- Appiah-Kubi, Philip., and Ebenezer Annan. "A Review of a Collaborative Online International Learning." *International Journal of Engineering Pedagogy*, vol. 10, no. 1, 2020. pp. 109-124.
- Baker, Harry. "25 Best Oculus Quest Games & Best Meta Quest VR 2 Games." *UploadVR*, UploadVR, 11 Oct. 2023, [www.uploadvr.com/best-oculus-quest-games/](http://www.uploadvr.com/best-oculus-quest-games/).
- Balarabe, Usman Bello, and Ranjit Kumar. "Perspectives and Impacts of Social Media Fake News and Misinformation Narratives about Coronavirus (Covid-19) in India." *IOSR Journal of Humanities and Social Sciences*, vol 25, no 7, series 8, 2020. Pp. 62-66.
- Baudrillard, J. "Simulation and Simulacra."
- Bennett, Milton. "A Short History of Intercultural Learning in Study Abroad." *Frontiers: The Interdisciplinary Journal of Study Abroad*, Ed. W. Hoffa & S. Depaul, 2010, pp. 419-449.
- Bergson, Henri. *Matter and Memory*. Paul, N. Translated. Digireads.com. 2010.
- Berlin, James. And Robert P. Inkster. "Current-Traditional Rhetoric: Paradigm and Practice." *Freshman English News*, vol 8, no 3, 1980. Pp. 1-4, 13-14.
- Bharat, Dave & John Danahy. "Virtual Study Abroad and Exchange Studio." *Automation in Construction*, vol 9, 2000, pp. 57-71.
- Bolter, Jay D., and Richard Grusin. *Remediation: Understanding New Media*. MIT Press, 2000.

- Braga, Joaquim.” Imagination and Virtuality. On Susanne Langer’s Theory of Artistic Form, Ch. 5.” *Conceiving Virtuality: From Art to Technology*, 2019, pp. 81-93.
- Brodie, Neil. “Cultural Heritage Objects and Their Contexts.” In: Smith, C. (eds) *Encyclopedia of Global Archaeology*. Springer, New York, 2014. Pp. 1960-1966).  
[https://doi.org/10.1007/978-1-4419-0465-2\\_1210](https://doi.org/10.1007/978-1-4419-0465-2_1210)
- Bruffee, Kenneth A. “Collaborative Learning and the ‘Conversation of Mankind.’” *College English*, vol. 46, no. 7, 1984, pp. 635–52. JSTOR, <https://doi.org/10.2307/376924>.  
 Accessed 10 Feb. 2024.
- Burke, Kenneth. *Permanence and Change: An Anatomy of Purpose, third edition*. Berkeley, University of California Press. 1984.
- Casey, Denise M. “The Historical Development of Distance Education through Technology.” *TechTrends*. Vol 52, no 2, 2008. pp. 45-51.
- Cerulo, Karen A., et al. “Rethinking Culture and Cognition.” *Annual Review of Sociology*, vol. 47, no. 1, 2021, pp. 63–85, <https://doi.org/10.1146/annurev-soc-072320-095202>.
- Ceuterick, Maud and Chris Ingraham “Immersive storytelling and affective ethnography in virtual reality.” *Review of Communication*, vol.21, no. 1, 2021, pp. 9-22, DOI: 10.1080/15358593.2021.1881610.
- Cipresso, Pietro et al. “The Past, Present, and Future of Virtual and Augmented Reality Research: A Network and Cluster Analysis of the Literature.” *Frontiers in psychology* vol. 9 2086. 6 Nov. 2018, doi:10.3389/fpsyg.2018.02086
- Cisneros, Angela., Morelia Maravilla, Brian Murray, Desiree Scretching, Alvie Stoddard, and Elissa M. Redmiles. “Defining Virtual Reality: Insights from Research and Practice.” *iConference*, 2019.

Deleuze, Gilles. *Bergsonism*. New York: Zone Books, 1991. Print.

Dewey, John. *Democracy and Education*. New York, McMillan, 1916.

--. *Experience & Education*. New York, Free Press, 1938.

--. "The Experimental Theory of Knowledge." *Mind*, vol. 15, no. 59, 1906, pp. 293–307. JSTOR,

<http://www.jstor.org/stable/2248329>. Accessed 10 Feb. 2024.

"Duration of Study Abroad." *IIE Open Doors / Duration of Study Abroad*, 15 Nov. 2021,

Engberg, Maria., and Jay David Bolter. "The aesthetics of reality media." *Journal of Visual*

*Culture*, vol. 19, no. 1, 2020. pp. 81-95. <https://doi.org/10.1177/1470412920906264>.

Foucault, Michel. *The Archaeology of Knowledge: And Discourse on Language*, Vintage Books

(Random House), New York, 1972.

Freire, Paulo. *Pedagogy of the Oppressed*. New York, Bloomsbury, 2012.

Gall, Robert S. *Journal of the American Academy of Religion*, vol. 58, no. 1, 1990, pp. 152–54.

*JSTOR*, <http://www.jstor.org/stable/1464824>. Accessed 11 Sept. 2023.

Glaser, Noah., and Matthew Schmidt. "Usage Considerations of 3D Collaborative Virtual

Learning Environments to Promote Development and Transfer of Knowledge and Skills

for Individuals with Autism." *Technology, Knowledge, and Learning*, vol. 25. (2020).

315-322.

"Global Programs: Boston University." Global Programs RSS, [www.bu.edu/globalprograms/](http://www.bu.edu/globalprograms/).

Accessed 22 Nov. 2023.

Heidegger, Martin. *The Question Concerning Technology and Other Essays*. New York, Harper

Perennial, 2013.

- Hilliker, Shannon. "Virtual Exchange as a Study Abroad Alternative to Foster Language and Culture Exchange in TESOL Teacher Education." *The Electronic Journal for English as a Second Language*, vol 23, no 4, 2020.
- Hillis, Ben. *Digital Sensations: Space, Identity, and Embodiment in Virtual Reality*. Minneapolis, University of Minnesota Press, 2001
- "History of Christmas Trees - Symbolism, Traditions & Trivia." *History.Com*, A&E Television Networks, 2023, [www.history.com/topics/christmas/history-of-christmas-trees](http://www.history.com/topics/christmas/history-of-christmas-trees).
- Hoffa, William. *A History of US Study Abroad: 1965 to Present*. Forum on Education Abroad, 2010.
- . *A History of US Study Abroad: Beginnings to 1965*. Forum on Education Abroad, 2007.
- "International Studies & Programs." Office for Education Abroad: Education Abroad Basics, [educationabroad.isp.msu.edu/explore/education-abroad-basics/](http://educationabroad.isp.msu.edu/explore/education-abroad-basics/). Accessed 22 Nov. 2023.
- Jayawardena, N.S. et al. "The persuasion effects of virtual reality (VR) and augmented reality (AR) video advertisements: A conceptual review." *Journal of Business Research*, vol. 160, 2023.
- Jenkins, Martin. "Heidegger and Marx: Is a Dialogue Possible." Academia.Edu, 22 June 2016, [www.academia.edu/26408055/Heidegger\\_and\\_Marx\\_Is\\_a\\_Dialogue\\_Possible](http://www.academia.edu/26408055/Heidegger_and_Marx_Is_a_Dialogue_Possible).
- Kubi, Philip Appiah and Ebenezer Annan. "A Review of a Collaborative Online International Learning." *Int. J. Eng. Pedagog.* 10 (2020): 109-124.
- Laas, Oliver. "Contemporary Philosophical Theories of Virtuality: A Critical Examination and a Nominalist Alternative." *Techné: Research in Philosophy and Technology*, 2015.

Lang, Ben. "In Just 7 Months 'Blade & Sorcery' Has the Most Reviews of Any Quest Game, except One." *Road to VR*, 27 June 2022, [www.roadtovr.com/blade-and-sorcery-nomad-quest-sales/](http://www.roadtovr.com/blade-and-sorcery-nomad-quest-sales/).

Levine, Caroline. *Forms: Whole, Rhythm, Hierarchy, Network*, Oxford, Princeton UP, 2015.

Lipinski, John. "Virtual Study Abroad: A Case Study." *Atlantic Marketing Journal*, vol 3, no 3, 2014, pp. 102-113.

Literary Theory: An Anthology. Ed. Julie Rivkin and Michael Ryan, Maiden, Blackwell Publisher, 2004.

Lowrey, Amanda. "Six Helpful Questions to Reflect on Your Experience Abroad." *EdOdyssey*, EdOdyssey, 14 May 2021, [www.edodyssey.com/blog/six-helpful-questions-to-reflect-on-your-experience-abroad#:~:text=Being%20honest%20about%20how%20things,recount%20and%20relieve%20to%20others.](http://www.edodyssey.com/blog/six-helpful-questions-to-reflect-on-your-experience-abroad#:~:text=Being%20honest%20about%20how%20things,recount%20and%20relieve%20to%20others.)

Machete, Paul, and Marita Turpin. "The Use of Critical Thinking to Identify Fake News: A Systematic Literature Review." *Responsible Design, Implementation and Use of Information and Communication Technology*, M. Hattingh et al. (Eds.), 2020, pp. 235–246. [https://doi.org/10.1007/978-3-030-45002-1\\_20](https://doi.org/10.1007/978-3-030-45002-1_20)

Maharaja, Gita. "The Impact of Study Abroad on college Students' Intercultural Competence and Personal Development." *International Research and Review: Journal of Phi Beta Delta Honor Society for International Scholars*, vol 7, no 2, 2018.

Mahoney, Paul. "Sourcing the Un-Sourced: Tracing Baudrillard's References to Nietzsche." *International Journal of Baudrillard Studies*, 30 Mar. 2019,

baudrillardstudies.ubishops.ca/sourcing-the-un-sourced-tracing-baudrillards-references-to-nietzsche/.

Manovich, Lev. *The Language of New Media*. Cambridge, MIT Press, 2001.

Marciniak, Dominika, and Michal Winnicki. “International Student Exchange – Motives, Benefits and Barriers of Participation.” *Scientific Papers of Silesian University of Technology*, no 133, 2019. <http://dx.doi.org/10.29119/1641-3466.2019.133.8>

Matthews, Jay. “Half of the world is Bilingual. What’s our Problem?” *The Washington Post*, 2019.

McLuhan, Marshall. *Understanding Media: The Extension of Man*. New York, McGraw-Hill, 1964.

“Mission.” University of Hawai’i at Mānoa Study Abroad Center, [www.studyabroad.hawaii.edu/about/mission/](http://www.studyabroad.hawaii.edu/about/mission/). Accessed 22 Nov. 2023.

Moore, Michael. “Theory of Transactional Distance.” *Theoretical Principles of Distance Education*. Ed. D. Keegan, Routledge, 1997. Pp. 22-38.

Murray, Janet H. *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, Cambridge, MIT Press, 1997.

“National Geographic Explore | Oculus Quest.” *YouTube*, YouTube, 26 Nov. 2019, [www.youtube.com/watch?v=D1VILv6Db7I](http://www.youtube.com/watch?v=D1VILv6Db7I).

“NCES Fast Facts Tool Provides Quick Answers to Many Education Questions (National Center for Education Statistics), The.” *National Center for Education Statistics (NCES) Home Page, a Part of the U.S. Department of Education*, <https://nces.ed.gov/fastfacts/display.asp?id=98>.

- Nietzsche, Friedrich. "On Truth and Lies in a Nonmoral Sense (1873)." Austin Community College, [www.austincc.edu/adechene/Nietzsche%20on%20truth%20and%20lies.pdf](http://www.austincc.edu/adechene/Nietzsche%20on%20truth%20and%20lies.pdf). Accessed 24 Nov. 2023.
- Ohito, Esther., Jamila Lyiscott, Keisha Green, & Susan Wilcox. "This Moment is the Curriculum: Equity, Inclusion, and Collectivist Critical Curriculum Mapping for Study Abroad Programs in the COVID-19 Era." *Journal of Experiential Education*, vol 44, no 1, 10-30. <https://doi.org/10.1177/1053825920979652>
- Pearson, Keith Ansell. "The Reality of the Virtual: Bergson and Deleuze." *MLN*, vol. 120, no. 5, 2005, pp. 1112–27. JSTOR, <http://www.jstor.org/stable/3840700>. Accessed 24 Nov. 2023.
- Perry, Ralph Barton. "Notes on the Philosophy of Henri Bergson." *The Journal of Philosophy, Psychology and Scientific Methods*, vol. 8, no. 25, 1911, pp. 673–82. JSTOR, <https://doi.org/10.2307/2013706>. Accessed 24 Nov. 2023.
- Piaget, Jean. "Cognitive Development in Children: Piaget - Development and Learning." *Journal of Research in Science Technology*. Vol 2, no 3, 1964.
- Picciano, Anthony. "Theories and Frameworks for Online Education: Seeking an Integrated Model." *Online Learning*, vol 21, no 3, pp. 166-190. Doi: 10.24059/olj.v21i3.1225.
- Rhodes, Gary, Lisa Loberg, Ann Hubbard. "Historical, Philosophical, and Practical Issues in Providing Global Learning Opportunities through Study Abroad." *Special Issue: Undergraduate Global Education: Issues for Faculty, Staff, and Students*, no 146, 2014, pp. 5-13.
- Ruecker, Stan. "A Brief Taxonomy of Prototype for the Digital Humanities." *Scholarly and Research Communication*, vol 5, no 2, 2015.

“Screen Mode.” *Rec Room Wiki*, [https://rec-](https://rec-room.fandom.com/wiki/Screen_Mode#Starting_Screen_Mode)

[room.fandom.com/wiki/Screen\\_Mode#Starting\\_Screen\\_Mode](https://rec-room.fandom.com/wiki/Screen_Mode#Starting_Screen_Mode).

Shields, Rob. *The Virtual*. Routledge, London, 2003.

Siemens, George. “Connectivism: A Learning Theory for the Digital Age.” *International Journal of Instructional Technology and Distance Learning*, 2005.

Skinner, B.F. *The Technology of Teaching*. Epub, B.F. Skinner Foundation, 1968.

Sustrisno, Sustrisno. “Changes in Media Consumption Patterns and their Implications for People’s Cultural Identity.” *Technology and Society Perspectives*, vol 1, no 1, 2023, pp. 18-25.

Tarchi, Christian. And Alessio Surian. “Promoting Intercultural Competence in Study Abroad Students.” *European Journal of Psychology of Education*, vol 337. (2022). 123-140.  
<https://doi.org/10.1007/s10212-0021--00554-0>.

Throsby, David. “Cultural Capital.” *Journal of Cultural Economics*, vol. 23, no. 1/2, 1999, pp. 3–12. JSTOR, <http://www.jstor.org/stable/41810682>. Accessed 22 Nov. 2023.

Torres, Kelly., Aubrey Statti. “Learning Across Borders Through Immersive Virtual Technologies.” *International Research and Review, Journal of Phi Beta Delta Honor Society for International Scholars*, vol 12, no 1, 2022.

Twombly, Susan B., Mark Salisbury, Shannon Tumanut, and Paul Klutl. “Special Issue: Study Abroad in a New Global Century: Renewing the Promise, Refining the Purpose.” *ASHE Higher Education Report*, vol. 38, no. 4, Nov. 2012, pp. 1–152. *EBSCOhost*, [doi.org/10.1002/aehe.20004](https://doi.org/10.1002/aehe.20004).



- “U.S. Study Abroad for Academic Credit Trends.” *IIE Open Doors / U.S. Study Abroad for Academic Credit Trends*, 15 Nov. 2021, <https://opendoorsdata.org/data/us-study-abroad/u-s-study-abroad-for-academic-credit-trends/>.
- Virtual Society? Technology, Cyberbole, Reality*. Ed. Steve Woolgar. Oxford, Oxford UP, 2003.
- Waddington, David. “A Field Guide to Heidegger: Understanding ‘The Question Concerning Technology,’” *Educational Philosophy and Theory*, 37:4, 2005. pp. 567-583, DOI: 10.1111/j.1469-5812.2005.00141.x
- Wanger, Stephen., Michael Breslin, Fred Griffiths, and Tong Wu. “Institutional Barriers to Study Abroad Participation: The Perceptions of Undergraduate African American Students.” *International Research and Review: Journal of Phi Beta Delta Honor Society for International Scholars*, vol 10, no 1, 2020.
- Watkins, Barbara. “A Quiet Radical Idea: The Invention and Elaboration of Collegiate Correspondence Study.” *The Foundations of American Distance Education: A Century of Collegiate Correspondence Study*. Ed. Stephen Wrigh, Dubuque, Kendall/Hunt, 1991
- Weber, Stefan, David Weible, and Fred Mast. “How to Get There When You Are There Already? Defining Presence in Perceived Virtual Reality and the Importance of Perceived Realism.” *Frontiers in Psychology*, vol 12, 2021.
- Wendling, Mike. “The (Almost) Complete History of 'Fake News'.” BBC News, BBC, 22 Jan. 2018, [www.bbc.com/news/blogs-trending-42724320](http://www.bbc.com/news/blogs-trending-42724320).
- Wolf, Mark J. P. “Abstraction in the Video Game.” (2013).
- Wolff, Fabian., and Christoph Borzikowsky. “Intercultural Competence by International Experiences? An Investigation of the Impact of Educational Stays Abroad on

Intercultural Competence and Its Facets.” *Journal of Cross-Cultural Psychology*, vol 49, no 3. (2018). 488-514.

Yilin, Yang., Menggiu Cao, Long Cheng, Keyu Zhai, Xu Zhao, and Jonas De Vos. “Exploring the Relationship Between the COVID-19 Pandemic and Changes in Travel Behaviour: A Qualitative Study”. *Transportation Research Interdisciplinary Perspectives*, vol 11, 2021.

Yingjie, Liu., Thomas Shirley. “Without Crossing a Border: Exploring the Impact of Shifting Study Abroad Online on Students’ Learning and Intercultural Competence Development during the COVID-19 Pandemic.” *Online Learning*, vol. 25, no. 1, 182-194.

**APPENDIX A****PARTICIPANT INTAKE INFORMATION AND DEMOGRAPHICS****PARTICIPANT DEMOGRAPHICS**

	<b>AGE &amp; SEX</b>	<b>MAJOR</b>	<b>VR EXPERIENCE</b>
<b>P1</b>	20 F	Computer Science	None
<b>P2</b>	19 F	History	Minimal
<b>P3</b>	22 F	Digital Marketing	Moderate
<b>P4</b>	18 M	Biology	Moderate
<b>P5</b>	18 M	Business	High

**APPENDIX B**  
**INTAKE SURVEY**

Virtual Reality Questions

- **How would you define immersive virtual reality?**
  - P1- “heightened sensory through an application or software” with the intent to “increase the desired outcome of the experience as it relates to learning, playing a game, etc.”
  - P2 - “An experience where you are completely removed from tangible life.”
  - P3 - “An experience involving placing a ‘subject’ within a 3D-rendered world they can interact with using technology.
  - P4 - “Being able to be first-person in a digital land.”
  - P5 - “...technology that allows us to immerse ourselves in a world that isn’t real.”
  
- **Describe your experience level with immersive virtual reality, including but not limited to gaming, learning, and other entertainment.**
  - P1 - “Novice. No previous experience.”
  - P2 - “Minimal. Play games once in a while.”
  - P3 - “My family has owned an Oculus Quest for a year or two, now. So, I’ve had some experience with the mechanics of it (sadly, this does not mean I’m any more coordinated). I can’t say I’ve learned very much educationally from it, but hey, you can watch Netflix laying down. I also used it as a replacement for the gym during covid, and it certainly did the trick with cardio.
  - P4 - “Not much. Played a few games.”
  - P5 - “Played a few times, about 10 times with about 5 different games.”

- **Describe your level of interest in immersive virtual reality experiences in a learning environment.**
  - P1 - “Useful for job training for those who lack access to certain things needed for training...allows for learning despite where they are and without the risks of using equipment, tools, and such in person.”
  - P2 - “A great new way to learn and can help students have a deeper understanding of the material.”
  - P3 - “I would be psyched if we could use more VR experience to learn. In less formal terms, I think it would prove to be extremely useful to be able to put students into learning scenarios where the main limitations are imagination and virtual design skills.”
  - P4 - “High”
  - P5 - “Pretty interested. It’s the future of an innovative way of learning.”

#### Study Abroad Questions

- **Describe your previous experience with studying abroad, international studies, or intercultural engagement in general.**
  - P1 - “Never before, but plan to study in Germany in 2023 for four months.  
Previous travels to Canada with school programs. Minimal experience interacting with other cultures outside of classmates and teachers from other backgrounds.”
  - P2 - “A friend went abroad before.”
  - P3 - “I have never studied abroad, though I plan to do so in Germany this April [2023].”

- P4 - Never
- P5 - N/A
- **If you have never studied abroad, please describe your level of interest in doing so in the future. If you have, what is your level of interest in having more experiences abroad?**
  - P1 - "...very interested in studying abroad and exploring diverse cultures.""
  - P2 - "...plan to study abroad in fall 2023."
  - P3 - "I'm excited about studying abroad soon, and, assuming all goes well, I'd love to travel to more countries in the future."
  - P4 - "very interested in studying abroad."
  - P5 - "somewhat interested...enjoy leaving my comfort zone and trying new things."
- **How interested are you in studying abroad and exploring diverse cultures?**
  - P1 - Experience has been minimal "due to limited opportunities in immediate community. I realize the need to engage in more diverse situations in the workforce.
  - P2 - "very"
  - P3 - "I love exploring other cultures. Humorously, I feel like I don't even understand American cultures sometimes, so it's good to see what else is out there."
  - P4 - "very interested"
  - P5 - "I would like to learn about other cultures."

- **Studies show that only 1% of students in the United States participate in study abroad programs, which are available at 95% of all universities and colleges. What do you think is the leading cause for such low participation rates?**
  - P1 - “Many times, people do not realize the value associated with learning about another culture because in some parts of society, it seems as if we have made ourselves appear to be superior to many other nations. In addition, I believe that people may also fear how they might be perceived in their travels because they may not speak the local language, so they av traveling altogether.”
  - P2 - “Cost, lack of curiosity, and low levels of encouragement.”
  - P3 - “based on my own struggles and testimony from friends who have considered/studied, I think it comes down to three main factors:
    - Connections to family and friends - people do not want to leave their loved ones for fear of being homesick.
    - Money - While many programs offer tuition abroad, it is steel very costly when factoring in tickets, rent, food, other necessary expenses.
    - Commitment to Uncertainty - “If we could suddenly invent teleportation, I would argue many more would travel abroad. It’s just a polarizing experience...While our faculty do their best to prepare us, it’s extremely difficult to describe in words the experiences one might have abroad, so many just don’t truly grasp the magnitude of the experience until they’re abroad.”
  - P4 - “nervous for new things and maybe money troubles.”

- P5 - “Students are scared to step out of their comfort zones and experience something new. Although most students would say it is interesting to them, only a few take the step to actually study abroad.



## APPENDIX C

### EXPERIENCES AND ENGAGEMENT RATES

#### VR EXPERIENCES

Name of Experience	Selection Status	Number of Participants
<i>Puzzle Places</i>	Requested by Participant	2
<i>Beat Saber</i>	Chosen from Library	4
<i>Blade and Sorcery</i>	Chosen from Library/Requested by Participant	4
<i>Resident Evil 4</i>	Requested by Participant	1
<i>Job Simulator</i>	Chosen from Library	1
<i>Echo VR.</i>	Chosen from Library	1
<i>Racket VR</i>	Chosen from Library	1
<i>Vader Immortal Episode 1</i>	Chosen from Library	1
<i>Hand Physics Lab</i>	Chosen from Library	1
<i>Bone Lab</i>	Chosen from Library	1
<i>National Geographic VR</i>	Constant Variable	5
<i>Brinks Traveler</i>	Constant Variable	4

## APPENDIX D

### LIKERT SCALE SURVEY

#### *Statements*

The overall immersive experience was exactly as I expected.

The headset was an unacceptable level of comfort.

The experience had plenty of interactive components.

The visual graphics met my expectations.

The mobility within the experience was smooth and easy to use.

The audio quality of the experience met my expectations.

#### **Likert Survey Results**

	<b>Immersion</b>	<b>Hardware (Meta Quest II)</b>	<b>Interactivity</b>	<b>Graphics</b>	<b>Mobility</b>	<b>Audio</b>
<b>P1</b>	3	4	5	4	4	5
<b>P2</b>	4	5	4	4	5	4
<b>P3</b>	5	4	5	4	4	5
<b>P4</b>	2	4	4	4	4	2
<b>P5</b>	5	4	4	4	4	5

## APPENDIX E

### HIGH AND LOW DESIGN PRIORITY DATA

#### DESIGN PRIORITY

	<b>High Priority</b>	<b>Low Priority</b>
<b>Graphics</b>	Keep the experience running smoothly, not bogged down with high-def graphics. Avatar presence	Realism - it does not have to look <i>real</i> compared to the actualized world, just realistic enough for purposes.
<b>Movement</b>	Choice between full motion and comfort mode.	Option to sit or stand in one's physical space while moving in the virtual.
<b>Sound</b>	Ambiance over fun soundtracks. Audio must match the visual content.	
<b>Interaction</b>	Interactive components with the environment. May include pointing, grabbing, or moving objects/texts.	Full-body movement. Real-time conversations.
<b>Content</b>	Must achieve the educational objective that is understood from the outset.	Does not need to be extremely expansive. More learning is great, but achieving the objective lesson is a priority.
<b>Text-based</b>	Instructions that can be read when learning an experience or navigating content.	Subtitles were beneficial, but they did not seem to be necessary.

## APPENDIX F

### EMAIL TO FRANCIS MARION UNIVERSITY FACULTY

Greetings,

My name is Jenifer Butler, and I am a doctoral graduate student at Old Dominion University in Norfolk, VA, and an instructor of English at Francis Marion University in Florence, SC. I hope you are doing well and thank you in advance for your time.

I am emailing today to invite you to share an opportunity with your upper-level English and/or Cultural Studies students. For my dissertation project, I am conducting a low-risk usability study to design a prototype for Study Abroad pedagogy. To do this, I require at least five FMU students outside my classes to participate in this problem-discovering, think-aloud usability test.

Briefly, I will describe my dissertation goals. My research aims to explore the potential use of immersive virtual reality technology in study abroad training, education, and experience. The goal is to design both a virtual reality prototype and an educational application for that prototype to prepare students better to interact with diverse cultures domestically and internationally by developing students' intercultural competency and capital.

Participants would be asked to participate in two 30-minute sessions using two types of virtual reality (immersive and interactive video). During these sessions, participants would think aloud through their experience using guided prompts to identify problems and potential solutions for each experience. The process is extremely minimal risk, having received IRB Exemption status. The time constraints are also minimal, as scheduling can be done at the participant's convenience.

There is no compensation or reward for participation. Participants are helping to facilitate the development of promising technology that would enhance the development of intercultural competence and cultural capital.

Please share this opportunity with your students and ask them to email Jenifer Butler at [jenifer.butler @ fmarion.edu](mailto:jenifer.butler@fmarion.edu), I would be happy to explain the project and answer any questions they might have.

**APPENDIX G****PRE-TRAVEL COURSE SYLLABUS AND SCHEDULE***PRE-TRAVEL SIX-WEEK SYLLABUS:***Study Abroad: Virtual Education and Practice (Designation 2XX)****Professor:** XXXX **Office:** XX **Phone:** 123-456-7891**Email:** [xxxx@edu.com](mailto:xxxx@edu.com) **Credit Hours:** 3**Office hours:** XXX **Class Meeting:** M/T/W/Th (1.15-hour class sessions)

Required Text: PDFs Provided by Professor

Required Material: Students need a research notebook or digital folder accessible during class sessions.

**Welcome!**

Welcome to the Virtual Education and Practice course. This course is designed for students planning to travel abroad and those interested in learning more about the study abroad experience. In this course, students will gain a brief history of the Study Abroad programs in America while learning about the value of studying abroad. They will also engage in guided research about diverse cultures while using virtual reality technology to learn about the nuance of traveling and interacting with other cultures.

**Learning Outcomes**

- Students will be able to research and explore cultural nuances.
- Students will learn how to navigate cultural diversity in effective discursive ways.
- Students gain valuable skills in learning and discourse through virtual technology.
- Students can question existing ideologies and engage in reflective dialogue.
- Students will be prepared for SA opportunities, gaining skills necessary for reading and performing within foreign cultures.

**The Expectations**

Virtual reality learning can be fun, to be sure, but students will be expected to prioritize the development of intercultural competence and cultural capital consciously and deliberately. Students are expected to engage in thoughtful discourse with classmates and teachers by asking and responding to complex questions that recognize biases, prejudices, and other controversial attributes regularly arising during discussions of cultural nuance. To do this, awareness of the complexity of the course and respect for others in a learning environment is paramount to one's success in this course.

**The Emphasis**

While the primary goal of this course is to prepare students for international studies and travel, the wider-reaching emphasis of this course is to ensure students begin developing thoughtful and practical intercultural competencies that will serve them academically, personally, and professionally. While focused primarily on immediate opportunities for study abroad, students are encouraged to see the broader picture of this course's social value.

**The Workload**

This course demands that students take seriously the vital role intercultural competence plays in navigating an increasingly diverse and globalized society. Students will be responsible for in-depth research about complex topics such as culture, historical implications, and development of studying abroad, as well as their responsibilities as international travelers within and beyond the academic setting. Due to the short duration of this course, students will have extensive reading and writing workloads that must be completed by the required due dates.

## General Policies

### **Attendance**

Attendance is required for this course. Because this is a 6-week course that meets only twice a week, students are permitted to miss only three classes. Exceeding three absences will result in a failing grade for the course. You must meet the demands for attendance to meet the needs of this course.

### **Participation**

The success of this course depends on student participation. Due to the discursive nature of the course, students must be willing to ask and answer questions through each class meeting. Failure to do so will result in an undesirable grade or an incomplete for the course.

This course relies heavily on technology, so computers, cell phones, and other devices that can be used for projects and research are permitted. However, any abuse of these devices for activities not relating to the course will result in a penalty to student grades.

### **Assignment Overview**

**Cultural Research:** Students will be expected to research an international community and culture during this six-week course. Students scheduled to travel abroad with a university program within the next two semesters are expected to research their intended destination(s). Students not scheduled to travel abroad may research any destination with which the university engages in Study Abroad opportunities. Upon completing this research, students will create a virtual reality space using Spatial to demonstrate what they learned about the selected culture and community. Research checks will be conducted weekly to follow student progress. (50 points x 4 weeks = 200pts / 20% of the grade)

**Spatial Project:** The Spatial Project will be the final project of the six weeks. Students will work on this project in class but should also plan time outside of class to work. The projects are not expected to be flawless or professional. They are meant to represent the students' interpretations of the information they have uncovered throughout their cultural research. This is to be accompanied by a 2-page explanation of decisions made within the Virtual Space (i.e., items chosen, information included, information excluded, and why...etc.) (300 points /30% of the grade)

**VRChat Experiences:** VRChat experiences will be used in lessons during the semester. These programs have been developed by faculty and students from across disciplinary lines to ensure maximum experiential learning potential. Students will be expected to write a 2-page reflection on each experience, which will be used for in-class discussions. (60 points x 3 experiences = 180 points / 18% of the grade)

**Project Presentations:** At the end of the semester, students will present their Spatial projects to their peers, who will join the virtual spaces using our in-class Meta Quest headsets. This virtual presentation will highlight how we learn and interact in these spaces while providing opportunities for in-space, synchronous question-and-answer sessions for presenters about the culture they are attempting to represent. (200 points / 20% of the grade)

**Discourse Contribution:** While traditional courses allow for various participation, this course demands active discursive participation. Students must be prepared to answer and ask questions,



as this is the only way to learn and effectively gain intercultural competence and capital. (120 pts / 12% of the grade)

**GRADING SCALE:**

-

90-100	A	70-76	C
87-89	B+	67-69	D+
80-86	B	60-66	D
77-79	C+	Below 60	F

**Late Work**

A penalty of one full letter grade is assigned each day an assignment is late. After five days, the assignment will receive a zero.

*SAMPLE SYLLABUS: PRE-TRAVEL***Week 1**

Monday	Intro - Syllabus	
Tuesday	<p>Discussion - Identify Destinations available for study (university-specific). Choose the Location for the research.</p> <p>In-class writing - My experience with other cultures.</p>	<p>Read PDF: "History and Purposes of Study Abroad" by Twombly et al. &amp; Read PDF: "International Student Exchange – Motives, Benefits and Barriers of Participation."</p>
Wednesday	<p>Discussion - Why Study Abroad? What is Culture?</p> <p>. In-class practice researching cultural components</p>	<p>Read PDF: Defining Virtual Worlds and Virtual Environments" by Ralph Schroeder. &amp; "How to Get There When You Are There Already? Defining Presence in Virtual Reality and the Importance of Perceived Realism" by Stefan Weber et al.</p>
Thursday	<p>Discussion: What does it mean to experience culture virtually?</p> <p>Create a Spatial profile and practice navigation.</p>	<p>Research common prejudices and/or stereotypes held about your chosen culture.</p>

**Week 2**

Monday	<p>Research/progress check #1: Have your research journals ready for review at the start of class.</p> <p>VRChat Experience 1</p> <p>Lesson: Creating in Spatial using your research</p>	<p>Write two pages based on your VRChat experience. Due in class Thursday.</p> <p>Locate five images representing your chosen country's culture and bring them to class (printed or digital) on Tuesday.</p>
Tuesday	<p>Spatial workday - Choosing environments and planning designs.</p> <p>Use your photos as inspiration.</p>	
Wednesday	<p>Present VR Chat experiential findings. Discuss/Compare experiences with classmates.</p>	<p>Research laws that might be influenced by culture in your chosen country - Bring findings to class next Tuesday.</p>
Thursday	<p>Discussion: Identifying our biases and prejudices about other cultures and how to address them in our virtual compositions.</p>	<p>Read PDF: "Improving Cultural Analysis: Considering Personal Culture in its Declarative and Nondeclarative Modes"</p>

**Week 3**

Monday	Research/progress check # 2: Have your research journals ready at the start of class. Discussion: Seeing cultural nuance in our research.	
Tuesday	In-class Spatial work - making rhetorical decisions about what features of the program fairly represent your intentions when discussing your researched culture.	“Rethinking Culture and Cognition” by Karen Cerulo.
Wednesday	Discussion: How cultures are obtained and how we can experience cultures without being tourists or mere observers.	Research social behaviors and characteristics of your chosen culture.
Thursday	VRChat Experience 2 Discussion - How to navigate cultural missteps.	Write a 2-page reflection on the VRChat experience due in class on Wednesday.

**Week 4**

Monday	Research/progress check #3 - have your research journal ready at the start of class.  Discussion: The value of language within the context of culture and how we can incorporate language into our Spatial designs without speaking the language ourselves.	
Tuesday	Discussion - VRChat questions and answers.	Continue work on Spatial Project
Wednesday	In-Class Spatial Peer Review Progress Check. Discuss the choices you have made as well as those you have left to make. Use this to start working on the 2-page reflection portion of the final project.	Research the history of the language(s) commonly used in your chosen culture.
Thursday	VRChat Experience 3 -	Begin to wrap up the final research.  Write a 2-page reflection on the VRChat experience. Due in class on Wednesday

**Week 5**

Monday	Research/progress check #4 - have your research journals ready at the start of class.  Discussion: The value of languages within a culture and how to respectfully include them in Spatial experiences.	Begin writing your 2-page spatial reflection to accompany your final project.
Tuesday	Discussion - Final VRChat discussion.	
Wednesday	Reflective Discussion: What are your thoughts on the value of culture and intercultural experience, such as studying abroad, after having researched a specific culture and having experienced the discursive composition of a Spatial experience for that culture?	
Thursday	In-Class Peer Review of Spatial Experiences	

**Week 6**

Monday	Spatial Revision Session	
Tuesday	Finalize Spatial projects. Finish the 2-page Spatial Reflection due at the time of your presentation.	Email/Submit all spatial links to the professor before midnight.
Wednesday	Presentations: 10 minutes each. At least a 6-minute presentation of your space and the culture. Leave about 4 minutes for conversation and a few questions.	
Thursday	Presentations: 10 minutes each. At least a 6-minute presentation of your space and the culture. Leave about 4 minutes for conversation and a few questions.	

Final Exam - Students will draft a brief essay detailing their learning experience throughout the course. They should include perceptions they held before the start of the semester and use texts or virtual reality experiences, both VRChat and Spatial, to explain any changes to those perceptions; they might also identify aspects of these experiences that reinforced previous perceptions.

**Conduct and Expectations**

The primary responsibility of an instructor is to certify that a specific academic assignment has been mastered sufficiently to merit college credit. An inseparable part of this responsibility is to take all precautions to ensure that fraud has not attained the credit. Instructors should rigorously enforce honesty concerning all academic work submitted by their students for evaluation. While it is difficult to define all aspects of academic dishonesty precisely and inclusively, the following statements should serve as a guide. Cheating includes, but is not limited to, wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding him/herself or any other person on any academic work that is considered in any way in the determination of the final grade. Plagiarism involves using the ideas or writings of another without acknowledgment of that use.

**Policies and Accommodations****Non-Discrimination Policy**

Francis Marion University follows all federal and state laws banning discrimination in public institutions of higher learning. Francis Marion adheres to all Title IX policies and does not discriminate based on race, color, sex, religion, ethnicity, national origin, age, sexual orientation, gender identity, veteran status, or any other protected category under applicable local, state, or federal law. Broad questions regarding Title IX can be directed to the Office of Civil Rights ([www.ed.gov/ocr](http://www.ed.gov/ocr)). Specific questions may be referred to the University's Title IX Coordinator ([titleixcoordinator@fmarion.edu](mailto:titleixcoordinator@fmarion.edu)).

**Disability Accommodations**

If you have a disability that qualifies you for academic accommodation, please provide a verification letter from the Office of Counseling and Testing. If you want to discuss accommodation, please speak with me immediately.

**APPENDIX H****POST-TRAVEL COURSE SYLLABUS AND SCHEDULE***POST-TRAVEL SIX WEEK SYLLABUS***Study Abroad: Post-Travel Debriefing & Discourse (Designation 2XX)****Professor:** XXXX **Office:** XX **Phone:** 123-456-7891**Email:** [xxxx@edu.com](mailto:xxxx@edu.com) **Credit Hours:** 3**Office hours:** XXX **Class Meeting:** M/T/W/TH

Required Text: PDFs Provided by Professor

Required Material: Students need a research notebook or digital folder that is accessible during class sessions.

**Welcome!**

Welcome to the Study Abroad: Debriefing and Discourse course. This course is designed for students who have engaged in university study abroad within the past two semesters. This course allows students to share their experiences with other student explorers while creating virtual representations of their unique engagement with international cultures. It is an opportunity for students to capitalize on all the great photos and videos they took to help expand the intercultural capital of others who have traveled to other international destinations.

This course is exclusively designed for students who have participated in university-related international studies.

**The Expectations**

Virtual reality learning can be fun, to be sure. Still, students will be expected to prioritize the development of intercultural competence and cultural capital consciously and deliberately.



Students are expected to engage in thoughtful discourse with classmates and teachers by asking and responding to complex questions that recognize biases, prejudices, and other controversial attributes regularly arising during discussions of cultural nuance. To do this, awareness of the complexity of the course and respect for others in a learning environment is paramount to one's success in this course.

**The Emphasis**

This course is focused on allowing students to share their experiences with their teachers and other students in an innovative and informative way. Primary goals include learning to engage in thoughtful and considerate discourse about complex cultural nuances while effectively and appropriately representing the host culture. To do this, students are encouraged to think rhetorically and critically about their experience to ensure they capture their individual experience while remaining conscious of their consideration of the host culture.

**The Workload**

This course demands that students take seriously the vital role intercultural competence plays in navigating an increasingly diverse and globalized society. Students will build upon their studies from the pre-travel course and their actual travels to create an authentic representation of their travels in a virtual world.

The space itself will be far more extensive than that of the pre-travel course and will require dedicated time in and out of class to complete within the six weeks of the course.

## **General Policies**

### **Attendance**

Attendance is required for this course. Because this is a 6-week course that meets only twice a week, students are permitted to miss only three classes total—more than three classes fail to complete the course. If you cannot meet the demands for attendance, it will be impossible to meet the needs of this course.

### **Late Work**

Late assignments will receive a one-letter grade deduction for each date it is late.

### **Participation**

The success of this course depends on student participation. Due to the discursive nature of the course, students must be willing to ask and answer questions through each class meeting. Failure to do so will result in an undesirable grade or an incomplete for the course.

This course relies heavily on technology, so computers, cell phones, and other devices that can be used for projects and research are permitted. However, any abuse of these devices for activities not relating to the course will result in a penalty to student grades.

## **Assignment Overview**

**Weekly Written Responses:** Students will be assigned reading assignments informing classroom discussions. Each reading assignment requires a 1-page response to apply the reading to the student's international experience. These responses aim to learn how to apply critical cultural conversation to our experiences. These will be collected weekly for four of the six weeks. (50 points x 4 weeks = 200pts / 20% of the grade)

**Spatial Project:** The Spatial Project for this course requires students to create at least three separate spaces connected via portals that form one whole experience. You must choose three primary focuses, one for each space, to capture the fullness of your international experience and what you found most compelling. Though this is a visual project, you must engage in rhetorical and critical thinking to ensure a fair and balanced representation of the host culture. The overall goal for this project is to share your unique experience, so both projects should be different even if other students traveled on the same experience. (300 points /30% of the grade)

**Recommendation Letter:** Students will write a 2-page letter to future students to recommend the same experience. This letter may include images, but there must be two full pages of text (this means images do not help you reach the page limit). You are encouraged to focus on aspects of the culture and immersive experience of being physically present in your host nation. You may choose experiences or qualities you wish to highlight but be aware that you want to provide a fair and balanced representation of the culture and the experience in your letter. Refrain from overselling the experience. Instead, think critically about your experience and its deeper value to who you are as a member of an international society. Students might consider composing the letter using the same aspects in their Spatial project. The letter must be in Times New Roman, Size 12 font, double-spaced. No sources are required unless images or other content that do not belong to you are used. Images that are not yours must be appropriately cited. (180 points / 18% of the grade)

**Project Presentations:** At the end of the semester, students will present their Spatial projects to their peers, who will join the virtual spaces using our in-class Meta Quest headsets. This virtual

presentation will highlight how we learn and interact in these spaces while providing opportunities for in-space, synchronous question-and-answer sessions for presenters about the culture they are attempting to represent. (200 points / 20% of the grade)

**Discourse Contribution:** While traditional courses allow for various participation, this course demands active discursive participation. Students must be prepared to answer and ask questions, as this is the only way to learn and effectively gain intercultural competence and capital. (120 pts / 12% of the grade)

GRADING SCALE:

-

90-100	A	70-76	C
87-89	B+	67-69	D+
80-86	B	60-66	D
77-79	C+	Below 60	F

*SAMPLE SCHEDULE: POST-TRAVEL***Week 1**

Monday	Intro - Syllabus	Read (website) <a href="#">Six Helpful Questions to Reflect on Your Experience Abroad</a>
Tuesday	Review Spatial Basics and Processes  Intro to Spatial Assignment  Discussion: How would you answer the six questions in the reading, and how might you express those answers in a virtual space?	PDF: “Immersive storytelling and affective ethnography in virtual reality”
Wednesday	Discussion - How can virtual reality help us tell the story of our study abroad experience?	Read PDF: ““The persuasion effects of virtual reality (VR) and augmented reality (AR) video advertisements: A conceptual review””
Thursday	In-class framing of Spatial projects via outlining and planning  Storyboarding your thoughts!	Read PDF: “Laypeople’s Collaborative Immersive Virtual Reality Design Discourse in Neighborhood Design”

## Week 2

Monday	<p>Written Response 1 Due</p> <p>Discussion - Students will lead the conversation based on their responses to the reading. Consider what the texts say and how they might be applied to your goals for this course.</p>	
Tuesday	<p>Discussion: How do we see virtual spaces telling us a story or working to appeal to us in rhetorically savvy ways? What works? What does not work?</p>	<p>HW: Locate an online tourist promotion for your host country. Bring it to class on Thursday (print or digital) ready to discuss the images, texts, and more</p>
Wednesday	<p>Discussion: Using your examples from HW, how are the makers of the brochure or promotion trying to appeal to would-be travelers? How do they use language, images, and organization to encourage tourism?</p>	<p>Bring flash drives containing your images and videos from your travels on Thursday.</p>
Thursday	<p>Using what we discussed on Wednesday, work in groups to help decide what images and/or videos might be helpful in your Spatial experience. Which ones capture the experience the best, AND which can inspire the basis for your VR experience?</p>	<p>Read: "Rethinking Cultural Competence: Shifting to Cultural Humility"</p> <p>In your response, consider your experience abroad and how your understanding of culture has changed because of that experience, using the reading as a framework.</p>

### Week 3

Monday	<p>Written Response # 2</p> <p>Discussion - Students will lead the conversation based on their responses to the reading. Consider not just what the texts say but also how they might be applied to your goals for this course.</p>	
Tuesday	<p>In-Class Spatial Design Workshop:</p>	<p>Share your progress on your Spatial design with your assigned classmate (assigned in class on Tuesday). This will serve as your reading assignment. Take notes on aspects you find interesting and ask questions that might aid in your colleague's design. Use our class discussion to help frame these comments and questions.</p>
Wednesday	<p>In-Class Partner Workshop.</p> <p>Share your notes and questions with your partner. Engage in productive design discussions while working on your spatial design in class.</p>	
Thursday	<p>Discussion: Expanding our learning opportunities.</p> <p>Explore Campus - As a class, we shall walk the campus and discuss ways to encourage more excellent intercultural conversations based on our experiences abroad. (This could inform your design further, so take notes!)</p>	<p>Reading (Website): <a href="#">Summing up Motivations for Study Abroad</a> &amp; PDF "International Student Exchange– Motives, Benefits, and Barriers to Participation"</p> <p>Prepare a written page about your motivations for studying abroad and the factors that might appeal to or help answer questions for future students.</p>

## Week 4

Monday	Written Response #3: Students will lead a discussion based on their reading responses.	
Tuesday	In-Class Writing Workshop: Writing the recommendation letter.  Examples of recommendation letters are provided in class for reference.	
Wednesday	In-class Q&A: Potential guest speaker from the study abroad administration. Opportunity to ask questions about how your VR experience could help future students.	
Thursday	Peer Review - Recommendation Letters  Working with a partner, share your recommendation letters. These are your priorities for class. If time permits, you may also engage in a peer review of your existing Spatial experience.	Recommendation letters are due at the start of class next Tuesday.

## Week 5

Monday	Discussion - The value of reflection and why it is so essential to our intercultural experiences and learning.	
Tuesday	Letters of Recommendation are due at the start of class. In-class participation project - students will assist the professor in creating a class website theme/design for their projects.	
Wednesday	In-class website building with the professor. The class will coordinate with the professor to create a website to house their recommendations and, eventually, spatial experiences.	
Thursday	Spatial Workshop is the last chance to ask questions or address any issues or concerns regarding your Spatial project.	Finalize Spatial projects. Presentations begin next week

## Week 6



Monday	Presentations with Q&A	
Tuesday	Presentations with Q&A.	
Wednesday	Presentations with Q&A	
Thursday	Presentations with Q&A	

Final Exam - Your fourth and final written response: Prompt - Reflect on this course. You have thought critically about your study abroad experience, learning how to highlight the highs and lows to discover the educational value of your travels (not just academically but personally). I want you to write two pages to discuss the aspects of this reflection that you found both easy and challenging. For example, consider how you could better represent some of your experiences in virtual reality than in writing or vice versa. Consider aspects of your experience that you still struggled to define and why that might be. The overall goal is to think about the critical thinking process and how the use of virtual reality paired with traditional writing has affected your ability to look closely at your experience abroad and what that has helped you discover about your travels and yourself in the process.

#### Conduct and Expectations

The primary responsibility of an instructor is to certify that a specific academic assignment has been mastered sufficiently to merit college credit. An inseparable part of this responsibility is to take all precautions to ensure that fraud has not attained the credit. Instructors should rigorously enforce honesty concerning all academic work submitted by their students for evaluation. While it is difficult to define all aspects of academic dishonesty precisely and inclusively, the following statements should serve as a guide. Cheating includes but is not limited to, wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding

him/herself or any other person on any academic work that is considered in any way in the determination of the final grade. Plagiarism involves using the ideas or writings of another without acknowledgment of that use.

## **Policies and Accommodations**

### **Non-Discrimination Policy**

Francis Marion University follows all federal and state laws banning discrimination in public institutions of higher learning. Francis Marion adheres to all Title IX policies and does not discriminate based on race, color, sex, religion, ethnicity, national origin, age, sexual orientation, gender identity, veteran status, or any other protected category under applicable local, state, or federal law. Broad questions regarding Title IX can be directed to the Office of Civil Rights ([www.ed.gov/ocr](http://www.ed.gov/ocr)). Specific questions may be referred to the University's Title IX Coordinator ([titleixcoordinator@fmarion.edu](mailto:titleixcoordinator@fmarion.edu)).

### **Disability Accommodations**

If you have a disability that qualifies you for academic accommodation, please provide a verification letter from the Office of Counseling and Testing. If you want to discuss accommodation, please speak with me immediately.

## VITA

Jenifer Butler

English Department  
Old Dominion University  
5000 Batten Arts & Letters  
Norfolk, VA 23529

Jenifer Butler joined the Ph. D. in English program at Old Dominion University in 2018 and successfully defended her dissertation in March 2024. Her concentrations are Rhetoric Writing and Discourse as well as Technology and New Media Studies.

Before attending ODU, Jenifer obtained her associate in art from Florence-Darlington Technical College in 2012, after which she transferred to Coastal Carolina University to complete her Bachelor in English in 2014. Upon completion of her undergraduate studies, Jenifer continued at Coastal Carolina for her Master in the Art of Writing, which she completed in 2016.

During her tenure at FDTC, she worked as an English tutor with the Project R.I.S.E. program for underprivileged students. She continued this position throughout her undergraduate studies at CCU before accepting a graduate internship that included graduate student teaching alongside established faculty, graduate research assistant, and graduate contributor and editor for the Athenaeum Press. Upon completing her MA, Jenifer became the teacher of record at CCU for English composition courses. Jenifer later accepted a position at Francis Marion University as an instructor of speech and English. Most recently, Jenifer has accepted an assistant professor position in Mass Communications at FMU to teach speech and assist in developing a new media approach to discourse and communication.