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Exploring Occupational Therapy Faculty Beliefs Related to Technology Acceptance of High-Fidelity Simulation

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Abstract

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DPT, University of St. Augustine for Health Sciences, 2005

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Dissertation Submitted in Partial Fulfillment

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Abstract

High-fidelity simulation-based learning (SBL) is used in occupational therapy (OT) to immerse students in realistic clinical situations using advanced technology to better prepares health care professionals for the workplace. However, researchers have not explored OT graduate faculty technology acceptance using high-fidelity simulation (HFS) as a learning and instructional tool. The purpose of this basic qualitative study was to explore OT graduate faculty members' beliefs related to technology acceptance of high-fidelity SBL at a multicampus university. To accomplish this purpose, research questions were developed to examine faculty beliefs of high-fidelity SBL using Gu et al.'s four key constructs (outcome expectancy, task technology fit [TTF], social influence, and personal factors) as a conceptual framework. Purposeful sampling strategies were used to identify 10 OT faculty who had taught a course with high-fidelity SBL for at least two trimesters and had attended simulation training. Data sources were interviews that were analyzed using thematic analysis. Key findings of this qualitative study included that OT faculty believed that their acceptance of HFS was influenced by (a) outcome expectancy factors such as perceived ease of use and usefulness, (b) TTF factors such as perceived task outcomes and effectiveness, (c) social influence factors such as university culture and peer/colleague influence, and (d) personal factors such as personal technology self-efficacy and innovativeness. The findings may be used to promote positive social change as stakeholders learn about the beliefs OT faculty have in order to make modifications to the technology implementation process.

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Dedication

Soli Deo Gloria!

Acknowledgments

To my husband and best friend, Patrick: Thank you for all your love and unwavering support during this journey. To my daughters, Kylie, Kate, and Claire: Thank you for your encouragement and love during these past several years. I hope this has taught you to always chase your dreams, even when your goals require sacrifice, hard work, and perseverance. To my parents, Ron and Dianne Cullum: Thank you for being amazing role models and encouraging me to pursue my life passions. To Drs. Harland, Dawidowicz, and all Walden faculty, thank you for your wisdom, commitment, and guidance. And finally, thank you God for all these blessings in my life. You have provided me with the love, strength, and resiliency to meet this very special goal in my life.

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Chapter 1: Introduction to the Study

Occupational therapy (OT) is a healthcare profession that involves the therapeutic use of occupations to facilitate engagement in everyday life activities (American Occupational Therapy Association, 2020). Healthcare professionals are better prepared for the workplace with high-fidelity simulation-based learning (SBL) that is used in OT to immerse students in realistic clinical situations using advanced technology (Ozelie et al., 2016). However, though OT programs are using high-fidelity SBL to prepare students for real-life clinical experiences (Reichl et al., 2019), what has not been explored is OT graduate faculty beliefs of HFS as a learning and instructional tool. Better understanding of OT faculty technology acceptance can aide graduate OT programs in identifying and addressing factors that may impact faculty acceptance of high-fidelity SBL. In this chapter I will address the following sections: Background, Problem Statement, Purpose of the Study, Research Questions (RQs), Conceptual Framework, Nature of the Study, Definitions, Assumptions, Scope and Delimitations, Limitations, Significance, and Summary.

Background

The history of simulated-based learning in OT and higher education includes defining simulated-based learning, describing how HFS is used in graduate OT programs, and exploring what the beliefs of SBL are in OT. Most OT researchers who have defined HFS focused on HFS methods involving standardized patients (SPs), mannequins, and virtual reality and computer-based patients (Bennett et al., 2017; Gibbs et al., 2017; Mueller et al., 2017). Researchers have shown SPs to provide students with realistic HFS experiences (Bennett et al., 2017; Fu et al., 2017; Walls et al., 2019). But more research is needed to explore the beliefs of OT faculty related to technology as a replacement for face-to-face clinical or lab experiences. Few researchers have examined faculty use and beliefs of SBL; most of the literature has addressed student use and perceptions of SBL. For instance, students who participated in SBL have perceived a sense of improved knowledge and confidence in the areas of communication and clinical skill performance (Springfield et al., 2018). Other students have felt that SBL enhanced their knowledge, healthcare role identification, and collaborative interaction (Bethea et al., 2019; Pitout et al., 2016). Though these studies support that students had positive perceptions of SBL, there has been limited research on faculty beliefs. The only study about OT faculty beliefs that was found was a quantitative study by Fu et al. (2017) indicating that faculty perceived that SBL allowed for optimal content and level of difficulty; however, faculty beliefs related to technology acceptance of high-fidelity SBL was not explored.

Despite a lack of research on faculty beliefs on SBL for OT, researchers have supported that certain acceptance factors can positively influence a faculty's technology acceptance of online and collaborative technologies. Higher education faculty acceptance of teaching and learning technology have been examined as predictors of faculty technology acceptance, barriers of faculty technology acceptance, and considerations for overcoming obstacles. Examining outcome expectancy of faculty has been shown to positively impact the acceptance and use of online and collaborative technology (Ouedraogo & Faso, 2017; Radovan & Kristl, 2017). Additionally, when technology supported job-related tasks such as communication and collaboration, there was higher technology usage (Daud & Zakaria, 2017; Mokhtar et al., 2018). Faculty perceived quality of teaching had a significant impact on usage of online and collaborative technologies (Daud & Zakaria, 2017; Soomro, 2018). Several researchers have also shown that adequate time, appropriate training, and a faculty openness to change were predictors for e-learning technology use (Daud & Zakaria, 2017; Kim & Park, 2018; Mokhtar et al., 2018). Conversely, barriers to technology acceptance were centered around challenges related to learner engagement, limited technology resources, lack of faculty training, feeling pressured, and limited time (Al-Ghareeb & Cooper, 2016; Cuchna et al., 2019; Schieffer, 2016; Zhu et al., 2018). Technology acceptance research has been done with nursing faculty (Al-Ghareeb & Cooper, 2016), athletic training faculty (Cuchna et al., 2019), public health faculty (Ouedraogo & Faso, 2017), and engineering faculty (Raghunath et al., 2018) but not with OT graduate faculty. Further, there were no studies that explored faculty beliefs of technology acceptance of high-fidelity SBL with OT graduate faculty to see if they felt they had the support they need to implement this technology effectively.

In this study, I expanded on current research related to higher education faculty acceptance of teaching and learning technology and included a previously unexplored group of faculty teaching in graduate OT programs. Using a qualitative approach, I explored faculty beliefs using Gu et al.'s (2013) technology acceptance model (TAM) constructs as a conceptual framework. This study addresses a gap in understanding by providing insight into faculty beliefs related to technology acceptance of high-fidelity SBL.

Problem Statement

Though OT programs may consider using high-fidelity SBL to prepare students for real-life clinical experiences (Reichl et al., 2019), there is a lack of research on OT graduate faculty beliefs of HFS as a learning and instructional tool that may influence acceptance of this technology. High-fidelity SBL is frequently used for OT fieldwork and lab experiences; however, a lack of faculty acceptance may impede outcomes (Watty et al., 2016). This problem is current because simulation as an experiential teaching and learning strategy has broadened in healthcare education in recent years. HFS is now being used in graduate OT programs to provide fieldwork or lab experience to prepare students for clinical practice (Bennett et al., 2017; Reichl et al., 2019). HFS immerses students in realistic clinical situations using advanced technology (Ozelie et al., 2016). As OT program enrollment increases, SBL may be a solution to providing student lab experiences and OT fieldwork placements (Imms et al., 2017), but the success of these programs depends on faculty acceptance, which has been identified as a key barrier to technology use (McVey, 2019; Min & O'Rourke, 2017; Siegel et al., 2017; Watty et al., 2016). Faculty resistance and low motivation to use a new technology can limit use and acceptance in a higher education environment (Siegel et al., 2017).

This study is relevant because although OT programs are using SBL to prepare students for real-life clinical experiences, it has not been explored how HFS as an educational technology influences faculty beliefs of technology acceptance as they are exposed to this technology (Lemay et al., 2018). Use in OT graduate programs is increasing (Reichl et al., 2019), but most of the literature addresses student use and perceptions of SBL (Springfield et al., 2018; Walls et al., 2019; Zamjahn et al., 2018). Beliefs of SBL is important to explore because an individual's beliefs and attitudes influence their acceptance of SBL (Lemay et al., 2018). The study is significant to the discipline of graduate OT higher education and educational technology because results from this study may be used to extend what is understood on faculty beliefs on SBL, which can impact their decision to accept this approach (Al-Ghareeb & Cooper, 2016; Cuchna et al., 2019). Therefore, better understanding faculty beliefs may provide insight into how to make modifications to the technology implementation process that will provide strong support to faculty moving to implement high-fidelity SBL with OT graduate students.

Purpose of the Study

The purpose of this basic qualitative study was to explore OT graduate faculty beliefs related to technology acceptance of high-fidelity SBL. To accomplish this purpose, I examined faculty beliefs of high-fidelity SBL using Gu et al.'s (2013) four key constructs that predict user acceptance within an educational setting. Faculty's beliefs about outcome expectancy, TTF, social influence, and personal factors toward technology were explored to increase understanding about faculty acceptance of high-fidelity SBL in graduate OT programs.

Research Questions

To address the problem and purpose of this study, I used the following RQs to guide the study.

RQ1: What are faculty beliefs about outcome expectancy of high-fidelity SBL in OT graduate programs?

RQ2: What are faculty beliefs about TTF of high-fidelity SBL in OT graduate programs?

RQ3: What are faculty beliefs about social influence of high-fidelity SBL in OT graduate programs?

RQ4: What are faculty beliefs about personal factors of high-fidelity SBL in OT graduate programs?

Conceptual Framework

The conceptual framework is based on the theoretical underpinnings of Gu et al.'s (2013) TAM. Gu et al. discussed four key constructs that predict user acceptance within educational settings: outcome expectancy, TTF, social influence, and personal factors. Outcome expectancy is centered around how the individual feels the technology should be utilized (Gu et al., 2013). TTF is based on how well the technology is matched to the task or goal at hand (Gu et al., 2013). Social influence is based on how social relationships may impact technology acceptance in a positive or negative way (Gu et al., 2013). Personal factors involve personal technology innovativeness and self-efficacy personal factors include computer self-efficacy and personal innovativeness (Gu et al., 2013). A more detailed description of Gu et al.'s TAM constructs will be provided in Chapter 2.

The phenomenon explored in this study was the faculty acceptance of high-fidelity SBL in OT programs. Collectively, Gu et al.'s (2013) TAM was used to explore faculty acceptance of a technology, in high-fidelity SBL, within a graduate faculty context. Gu et al.'s TAM informed the research design, and the RQs were aligned with the TAM constructs: perceived outcome expectancy, TTF, social influence, and personal factors. The model was also a lens through which the literature was analyzed and organized. The framework also influenced data collection, as I used the constructs to develop a semistructured interview protocol. Last, the framework served as a lens through which to analyze data by using the constructs of the framework to develop a priori for data analysis.

Nature of the Study

A basic qualitative design was used for this study to explore faculty beliefs and experiences in relation to the research problem. A basic qualitative design is a type of inquiry used to "investigates people's reports of their subjective opinions, attitudes, beliefs, or reflections on their experiences, of things in the outer world" (Percy et al., 2015, p. 78). In addition, this approach is appropriate when the aim is to explore subjective perspectives on external events or experiences (Percy et al., 2015), which in this case refers to OT faculty perspectives on HFS acceptance in a higher education OT setting.

Participants for this study included OT faculty from a graduate-level OT program at University X. For this study I determined that saturation was reached at 10 participants (see Guest et al., 2006). Further, an interview guide was used to help establish sufficiency of data collection to answer this study's RQs because the focus is on OT faculty beliefs of high-fidelity SBL. An interview guide is comprised of a list of questions the researcher wants to ask during the interview (Merriam & Tisdell, 2016). From these interviews, I developed codes, themes, and subthemes to answer my RQs.

Definitions

Fidelity: The degree to which the simulation replicates the real event and/or workplace; this includes physical, psychological, and environmental elements (Lioce et al., 2020).

Healthcare simulation: A technique that creates a situation or environment to allow persons to experience a representation of a real health care event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions (Lioce et al., 2020).

High fidelity simulation: In health care simulation, high-fidelity refers to simulation experiences that are extremely realistic and provide a high level of interactivity and realism for the learner (Lioce et al., 2020).

Occupational therapy (OT): Occupational therapy is the only profession that helps people across the lifespan to do the things they want and need to do through the therapeutic use of daily activities (occupations). OT practitioners enable people of all ages to live life to its fullest by helping them promote health, and prevent—or live better with—injury, illness, or disability (American Occupational Therapy Association, 2020).

Simulated activity: The entire set of actions and events from initiation to termination of an individual simulation event; in the learning setting, this is often considered to begin with the briefing (prebriefing) and end with the debriefing (Lioce et al., 2020).

Standardized patient: An individual who is trained to portray a real patient in order to simulate a set of symptoms or problems used for healthcare education, evaluation, and research (Lioce et al., 2020).

Assumptions

Assumptions can be defined as "aspects of the study that are believed but cannot be demonstrated to be true" (Walden University, 2020, Para. 2). Through participation in this study, OT graduate faculty expressed their beliefs about technology acceptance of high-fidelity SBL in OT graduate programs. I assumed that the OT faculty participants were honest and transparent when discussing their beliefs and experiences. This assumption was critical to the meaningfulness of the study because the RQs are centered around participants beliefs about SBL in graduate OT programs.

Scope and Delimitations

The scope of this study was based on set boundaries. This study's scope was focused on faculty acceptance of high-fidelity SBL in OT graduate programs. This study only focused on the topic of HFS rather that other types of simulation. Additionally, I explored participants' beliefs using Gu et al.'s (2013) TAM as a conceptional framework. This study did not focus on student beliefs and experiences, rather the focus was on faculty's beliefs, and I only explored the faculty beliefs of graduate OT faculty. This study did not provide insight into other higher education professions. This study also did not focus on the effectiveness of SBL or student outcomes. The scope of this of this basic qualitative study was centered around the study's purpose to explore OT graduate faculty beliefs related to technology acceptance of high-fidelity SBL.

Limitations

The research design can pose a variety of limitations. Researcher bias, omission of data, or the misinterpretation of data can impact qualitative data collection and analysis (Merriam & Tisdell, 2016). As the sole researcher, an important limitation to disclose is that I hold my own biases. I have pre-existing beliefs, interpretations, and experiences because I have been exposed to simulation and have developed my own interpretations that yield potential biases. My experiences include the use of HFS with both OT students and OT faculty. To address these limitations, I disclosed that I have my own beliefs, interpretations, and experiences regarding high-fidelity SBL. Identifying these biases built transparency of ethical issues as well as awareness regarding a potential for researcher's biases, views, and experiences that may impacted study findings and interpretations (see Creswell & Creswell, 2018). To manage these biases within this study, I applied specific strategies such as member checking, audit trail documentation, and reflexive journaling to establish trustworthiness (see Creswell & Poth, 2018; Lincoln & Guba, 1985) that I describe in detail in Chapter 3.

Significance

The significance of a study can be judged by the potential contributions the study may make that advance knowledge in the discipline. This study will contribute to the field of OT educational technology by proving valuable data regarding the underlying faculty beliefs that influence technology acceptance of HFS. Increased understanding of faculty beliefs may shed light on ways to improve acceptance among other individuals in high education settings. This research was needed to provide stakeholders with insight into the adoption beliefs and attitudes when implementing SBL within an OT program. Institutions and programs invest a significant amount of time and money when implementing a new SBL program. Positive social change may occur as stakeholders learn from the beliefs and attitudes of OT faculty and make the necessary modifications to the technology implementation process to increase acceptance of this technology. Understanding OT faculty's challenges and their beliefs of use will help stakeholders put key infrastructure elements and resources in place such as optimal operational system support, professional development, educational support resources, policies and procedures to improve the likelihood that faculty accept high-fidelity SBL.

Summary

In this chapter I provided an overview of the introduction, background, problem statement, purpose of the study, RQs, conceptual framework, nature of the study, definitions, assumptions, scope and delimitations, limitations, significance, and summary. In Chapter 2 I will provide a literature review that is aligned with the purpose and the problem of this study. Chapter 2 will also include the literature search strategy and the conceptual framework.

Chapter 2: Literature Review

This study addressed a lack of understanding of OT graduate faculty beliefs related to technology acceptance of SBL. Chapter 2 will include a literature review that is aligned with the purpose and the problem of this study. First, I will provide an overview of the literature search strategy used to identify research associated with my study. Next, I will review the conceptual framework used for this study, which is based on Gu et al.'s (2013) TAM. The following four key constructs that predict user acceptance within educational settings will be described in detail: outcome expectancy, TTF, social influence, and personal factors. In the final portion of Chapter 2, I will provide an overview of the literature that relates to the history of SBL and higher education faculty acceptance of teaching and learning technology. The history of SBL portion of the literature review includes a description of (a) the definition of HFS, (b) HFS use in graduate OT, and (c) the beliefs of SBL in OT. The literature review focusing on higher education faculty acceptance of teaching and learning technology includes an overview of (a) predictors of faculty technology acceptance, (b) barriers of faculty technology acceptance, and (c) considerations for overcoming obstacles. I end the chapter with a summary and conclusion where I establish the gap in what is understood on the topic of HFS, SBL in OT programs and a justification for the need of this study.

Literature Search Strategy

A variety of search strategies were used to identify peer-reviewed research studies published in the last 5 years. The databases used for this literature search included Academic Search Complete, Education Source, Thoreau Multi-Database Search, ERIC, Google Scholar, and Education Source. In addition to searching these databases, other scholarly publications were reviewed such as dissertation studies, books, and professional organization publications. My searches for relevant literature focused on the following topics: (a) the definition of HFS, (b) HFS use in graduate OT, (c) the perceptions of SBL in OT, (d) predictors of faculty technology acceptance, (e) barriers of faculty technology acceptance, (f) considerations for overcoming obstacles, and (g) TAM. Table 1 shows the key search words I used for each of these topics.

Table 1

Research Topics and Search Words

Research topic	Search words
Definition of HFS	definition, high fidelity simulation, high fidelity, occupational therapy, higher education, meaning, types, simulation
HFS use in graduate OT	use, high fidelity simulation, high fidelity, graduate, occupational therapy, higher education, history
Perceptions of SBL in OT	perceptions, feelings, beliefs, qualitative, occupational therapy, occupational therapist, OT, high fidelity simulation, simulation, simulation-based learning, faculty, instructor, teachers
Predictors of faculty technology acceptance	predictors, enablers, enabling factors, technology acceptance, faculty technology acceptance, higher education, teaching, learning, technology, factors, simulation, simulation-based learning, high fidelity, promoters, faculty, instructor, teachers
Barriers of faculty technology acceptance	barriers, technology acceptance, technology, teaching, learning, higher education, challenges, limitations, faculty technology acceptance, pedagogical issues, logistical challenges, limited resources, occupational therapy, health professions
Considerations for overcoming obstacles	overcoming barriers, technology acceptance, technology, teaching, learning, higher education, faculty, instructors, teachers, overcoming obstacles, solutions, enabling factors, barriers, faculty support, technology infrastructure, technology integration, occupational therapy, health professions
Technology acceptance model	constructs, outcome expectancy, TTF, social influence, personal factors, Gu, technology acceptance model, technology acceptance, model, theoretical framework

Conceptual Framework

The phenomenon explored in this study is the faculty acceptance of high-fidelity SBL in OT programs. The conceptual framework is based on the theoretical underpinnings of Gu et al.'s (2013) TAM. Gu et al. discussed four key constructs that predict user acceptance within educational settings: outcome expectancy, TTF, social influence, and personal factors.

History of the Framework

The TAM was first developed by Davis (1989) to explain technology acceptance or non-acceptance. At that point, it had two main constructs: perceived usefulness (PU) and perceived ease of use (PEOU). PU revolves around how useful the individual perceives the technology to be to enhance job performance, whereas PEOU centers on how easily the individual feels that they are able to learn about and implement the technology (Davis, 1989). Davis's TAM suggested that these two constructs predicted behavioral intention to accept technology. Then in 2000, Venkatesh and Davis developed the TAM2 model and included two additional constructs: social influence processes and cognitive processes. In 2003, Venkatesh et al. developed a model called the unified theory of acceptance and use of technology. This extension of the TAM included four constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Then Venkatesh and Bala (2008) developed the TAM 3, which focused on computer innovation acceptance. This updated model expanded the number of constructs that impact PU and PEOU. Gu et al.'s (2013) TAM framework is based on the theoretical underpinnings of the TAM (Davis, 1989). Gu et al. discussed four key constructs that predict technology acceptance within educational settings: outcome expectancy, TTF, social influence, and personal factors. This version of the TAM is unique because it is situated in educational literature and includes a broad spectrum of constructs that influence technology acceptance.

Constructs of the Framework

The first construct of the TAM is called outcome expectancy. Outcome expectancy is centered around how the individual believes the technology should be utilized, which Gu et al. (2013) stated is the strongest predictor of acceptance of a technology. This construct has also been referred to as PU, performance expectancy, and relative advantage in information system research (Gu et al., 2013). Beliefs and attitudes about technology usage were assessed via PU and PEOU in the original TAM (Davis, 1989). If an individual believes that a technology will enhance their teaching effectiveness, their outcome expectancy will likely be positive (Gu et al., 2013). On the other hand, individuals resist technology acceptance when they anticipate poor results or negative outcomes (Bandura, 1982; Gu et al., 2013; He et al., 2018). In relation to this study, outcome expectancy refers to how graduate OT faculty perceive the usefulness of HFS in preparing realistic learning experiences for students that better prepare them for fieldwork and clinical practice.

Another construct of the TAM is called TTF. This construct of the TAM is based on how well the technology is matched to the task or goal at hand (Dishaw & Strong, 1999; Gu et al., 2013). An individual's performance will be enhanced when a technology fulfills a task requirement and is also known as effort expectancy (Gu et al., 2013). An individual will accept a technology if the technology enhances their job performance or task completion (Gu et al., 2013). This construct has a strong focus on task outcomes and performance improvement compared to attitude and beliefs (Gu et al., 2013). In relation to this study, TTF refers to how graduate OT faculty perceive the effectiveness of HFS supporting them in the teaching of clinical skills to graduate students.

A unique construct of the Gu et al.'s (2013) version of the TAM is the construct called *social influence*. Social influence is based on how social relationships may impact technology acceptance in a positive or negative way (Gu et al., 2013). The way organizations and individuals interact with technology can positively or negatively impact technology acceptance. According to Gu et al., if the social influence is positive, the individual will be more likely to accept the technology. Conversely, if the social influence is negative, the individual will be more likely to resist the technology (Gu et al., 2013). Social influence also takes into account influences both within and outside the learning environment (Gu et al., 2013). In relation to this study, social influence refers to any organizational or colleague social influence graduate OT faculty perceive related to their use of HFS.

The last construct of Gu et al.'s (2013) version of the TAM is personal factors. Personal factors involve personal technology innovativeness, and self-efficacy personal factors include computer self-efficacy and personal innovativeness (Gu et al., 2013). Self-efficacy is a person's belief that they are capable of engaging in a specific behavior (Gu et al., 2013). If an individual believes that they are capable of positively interacting with a technology, acceptance will be high (Gu et al., 2013). On the other hand, if an individual has doubts about their ability to interact with a particular technology, acceptance will be limited (Gu et al., 2013). Personal innovativeness revolves around how open an individual is to trying a out a new technology (Gu et al., 2013). According to Gu et al., if an individual is innovative, they will be more likely to have a positive experience with a particular piece of technology. In relation to this study, personal factors refer to how graduate OT faculty perceive their own self-efficacy and personal innovativeness related to their use of HFS.

Rationale for Use of the Framework

The TAM in recent literature has been used to assess acceptance and non-acceptance of a technology. For example, Scherer et al. (2019) conducted a metanalysis on 114 TAM studies and found that the TAM is a valid model that explains a person's technology acceptance. PU specifically has been shown in the literature to be the strongest predictor of technology usage (El-Gayar et al., 2011; Kim et al., 2007; Venkatesh et al., 2003). Recent literature has focused on using the TAM to assess technology adoption in general (Scherer et al., 2019). However, acceptance or non-acceptance has been evaluated with specific technologies such as "mobile phones, tablets, educational apps, learning management systems (LMS), and virtual environments" (Scherer et al., 2019, p. 23). More aligned with the purpose of this study, OT technology acceptance literature has addressed technologies such as 3-D interior design applications (Money et al., 2015) and information systems (Schaper & Pervan, 2007).

Though the TAM encompasses key elements that are collectively involved in decision making for technology acceptance and utilization (Lemay et al., 2018), other studies have expanded on the TAM to address educational contexts (Gu et al., 2013). Gu et al.'s (2013) version of the TAM is the best fit for this study because the constructs are situated in an educational context. Gu et al. evaluated how teachers and students in a K-12 environment accepted information and communication technology (ICT). Thus, their four constructs align well as an educational technology framework for this study because the environment being explored is an educational setting of faculty beliefs of HFS in OT graduate programs.

Further, OT research has used components of Gu et al.'s (2013) version of the TAM. For example, Money et al. (2015) conducted a study in an OT environment and found that technology acceptance is influenced by social factors. Results showed that elderly OT clients using a 3-D interior design technology had a positive perception about the technology when they were previously exposed to it through someone else in their social environment (Money et al., 2015). However, some studies indicated that colleagues do not influence technology use. For example, Schaper and Pervan (2007) found that OT practitioner acceptance of ICT was not significantly influenced by their health care team peers. However, personal factors, such as computer self-efficacy and anxiety, had a significant impact on technology effort expectancy (Schaper & Pervan, 2007). These OT research studies indicate that social influence and personal factors may impact technology acceptance in OT. Therefore, this justifies the use of Gu et al.'s version of the TAM to address constructs such as social influence and personal factors that exist within this context.

History of Simulation-Based Learning in Occupational Therapy

The use of simulation as an experiential teaching and learning strategy has broadened in healthcare education over the past several years. Professions such as nursing, pharmacy, and medicine have validated the use of simulation as a tool for student training within their professions (Bethea et al., 2014). The use of high-fidelity SBL is also growing in the profession of OT (Bethea et al., 2014). In this section of the literature review, I will describe the definition of HFS, the use of HFS in graduate OT, and OT perceptions of SBL.

Defining High-Fidelity Simulation

HFS is defined in a number of ways in the literature, and there are many high-fidelity applications defined in OT research. For instance, Ozelie et al. (2016) stated that HFS is a realistic environment that uses SPs or mannequins, which are used to mimic the actual clinical environment (Shea, 2015). Shea (2015) added that using HFS not only facilitates a realistic clinical environment but also involves student observation and a reflective debriefing process. A realistic clinical environment often includes settings such as a hospital ward, intensive care unit, or operating room (Bennett et al., 2017). High fidelity encounters provide students with a life-like student experience in settings such as acute care and trauma-based care to provide students with a safe learning environment to practice the delivery of clinical communication and skills (Mueller et al., 2017). A simulation may have hands-on participants or observer participants, who either actively participate and make decisions or benefit vicariously from hands-on participants (O'Regan et al., 2016). Debriefing occurs immediately after the simulation and is used to reflect on the experiences that were encountered in the simulation (Sawyer et al., 2016). Following a simulation, debriefing is the most important component of the learning process and provides time for student reflection and peer and instructor feedback (Shea, 2015).

OT programs use HFS to provide a variety of teaching modalities to mimic a life-like clinical environment. The differences in HFS are in how the simulations are conducted. The Healthcare Simulation Dictionary put out by the Society for Simulation in Healthcare stated that a high level of realism might include the use of SPs, mannequins, task trainers, or virtual reality (Lopreiato, 2016). Task trainers are devices used to train on procedures such as a lumbar puncture of chest tube insertion (Lopreiato, 2016, p. 39). Virtual reality simulation involves immersive visuals to replicate real-life scenarios (Lopreiato, 2016, p. 41).

The majority of OT research defines HFS as centering around a realistic learning experience, with strong focus areas in SPs, mannequins, and virtual reality and computer-based patients. Using SPs is one way an HFS is used to simulate a patient encounter (Ozelie et al., 2016; Shea, 2015). An SP is a trained actor that simulates a patient, so students can practice evaluation and treatment skills in a safe space (Bethea et al., 2014; Ozelie et al., 2016). The actor can portray a real patient that has a disease or condition (Bennett et al., 2017). In addition to acting out patient roles, SPs can act out the role of a family member or other additional scenario participants (Bethea et al., 2014). Students are often videotaped as they interact with the SP for later reflection (Bennett et al., 2017). SPs allow for the assessment of how students are improving on skills such as clinical reasoning, communication, cultural competence, and professional skills (Bennett et al., 2017).

Another HFS commonly used in OT is mannequins. The use of a mannequin to provide students with experiential learning opportunities is central in some researchers' definitions of HFS (Bethea et al., 2014; Gibbs et al., 2017; Mueller et al., 2017). Mannequins are used to train students in clinical and procedural skills that they may encounter with a patient (Bennett et al., 2017; Ozelie et al., 2016). HFS can use a mannequin, also referred to as a human patient simulator, to portray life-like healthcare conditions and replicate physiological reactions for student assessment and treatment (Bethea et al., 2014). These computerized human simulators can be used to provide students with experiential learning opportunities that are realistic and clinically relevant by mimicking a variety of physiological responses for various health conditions (Gibbs et al., 2017). HFS includes both pediatric and adult mannequins that provide life-like student experiences across the lifespan (Mueller et al., 2017).

A third common type of HFS described in OT literature is centered around virtual and computer-based simulation. Interactive virtual experiences and computer-based patients can be used to create a real-life clinical scenario (Bennett et al., 2017). Much of the virtual and computer-based literature in OT has focused on driving simulators. Driving simulators are considered a type of HFS due to their high level of realism (Campos et al., 2017; Classen et al., 2017). Driving simulators are car-like simulators with a virtual panoramic display that are used to assess an individual's driving performance by creating a safe on-road experience that mimic real-world driving environments (Campos et al., 2017). Driving simulators also emerge as a type of HFS defined in OT clinical research. High fidelity simulated driving provides patients realistic driving experiences for the purpose of assessment and treatment of driving impairments (Campos et al., 2017). Driving simulators provide patients with a realistic driving assessment in order to decrease driving errors (Classen et al., 2017). HFS included driving simulators, which mimic real-life driving scenarios to improve physical and cognitive driving skills. The driving simulators provide patients with realistic physical, sensory, and emotional components that allow for safe driving evaluation and treatment (Campos et al., 2017). While most of the OT research in HFS is focused on graduate OT programs, the driving simulator research is situated in an OT clinical environment.

High-Fidelity Simulation Use in Graduate Occupational Therapy

There are five reasons in which HFS is used in graduate OT courses: By providing an educational strategy to improve student learning outcomes, to prepare students for OT clinical practice areas, to provide fieldwork experiences, to enhance fidelity through the use of SPs and mannequins, and to provide immersive virtual experiences. The first reason HFS is used in graduate OT programs is as an educational tool to improve student outcomes. According to Bethea et al. (2014), over 50% of OT educational directors and faculty reported using HFS to replicate real-life clinical scenarios in a realistic environment to improve outcomes in the areas of "clinical reasoning, problem-solving and decision making, intervention and treatment planning, client assessment, communication, client interaction, and therapeutic use of self" (p. S34). And research showed that HFS does lead to positive student outcomes (Bennett et al., 2017; Bethea et al., 2016; Gibbs et al., 2017; Shea, 2015). For example, in a mixed methods study, Gibbs et al. (2017) compared OT students' perceived level of knowledge and confidence before and after a high-fidelity acute care simulation and found improvements in all areas. HFS is being used by OT programs to provide students with realistic learning experiences, however more empirical research to validate the effectiveness of HFS used to improve OT student outcomes are needed (Bennett et al., 2017; Shea, 2015).

Another reason HFS is used with graduate OT students is to provide practical and realistic experiences in various OT practice areas. Simulated learning experiences can occur in various practice settings, such as pediatrics, acute care, and the intensive care unit setting (Shea, 2015). In a literature review of 57 research articles on the use of simulation in OT, Bennett et al. (2017) found that several types of simulation modalities are used to replicate real clinical environments such as a hospital room or intensive care unit. Shea (2015) described how HFS was integrated into three different OT courses at Samuel Merritt University. The three OT courses contained simulations that were used to provide students with realistic learning experiences in acute care, OT laboratory, and intensive care unit practice areas (Shea, 2015). An interprofessional setting is another practice area where OT students are using HFS. In a prospective mixed methods survey study with 73 nursing, OT, and PT students, Zamjahn et al. (2018) showed that a HFS in an interprofessional education setting increased student knowledge of procedures conducted by other disciplines and increased student willingness to collaborate as a healthcare team in the future. These different HFS implementations are used to replicate various practice settings in order to expose students to different clinical equipment, environments, and scenarios.

HFS is also used in graduate OT programs to provide fieldwork experience in order to prepare students for clinical practice. HFS is being used in OT programs to broaden fieldwork placement opportunities and experiences (Bennett et al., 2017). In Australia, 20% of fieldwork hours required by the World Federation of Occupational Therapy (WFOT) are obtained through HFS experiences using a real or SP (Bennett et al., 2017). Ozelie et al. (2016) conducted a retrospective study that evaluated the impact of simulation using 180 OT graduate student participants in level II fieldwork. Ozelie et al. evaluated the impacts of curriculum-based HFS experiences compared to traditional curriculum-based experiences on the following Fieldwork Performance Evaluation subsections: fundamentals of practice, basic tenents, evaluations and screening, intervention, management of OT services, communication, and professional behaviors. Results showed no significant differences between the groups. The findings may suggest that the use of simulation could be a valuable addition to coursework in the OT curriculum (Ozelie et al., 2016). Since graduate student OT clinical experience hours can be obtained by HFS, more research on the implementation of these experiences is needed.

The fourth reason that OT programs use HFS is through SPs and mannequins to increase fidelity during simulations. SPs and mannequins are used in HFS to provide students with realistic patient encounters to practice evaluation procedures, safety techniques, handling methods, communication, treatment planning, cultural competence, and critical thinking to prepare students for clinical practice (Bennett et al., 2017). In a quantitative pilot survey study with 25 graduate OT students, Walls et al. (2019) explored the perceived value of simulation using SPs. Students perceived the simulated encounter to be a positive experience when a SP was used (Walls et al., 2019). Students found the simulation to be effective when the SP consistently remained in the patient role, thereby increasing simulation fidelity (Walls et al., 2019). Fu et al. (2017) further supported the use of SPs by showing that 73.3% of OT students preferred a simulation that used a pediatric SP over a written exam. Students reported that SPs help them "improve their communication, observation, and clinical reasoning abilities while helping them to identify their weaknesses by themselves and learn more actively" (p. 856). Research findings also supported the use of mannequins to increase fidelity. In a mixed methods study with 46 OT students, Gibbs et al. (2017) showed that OT students felt that the use of mannequins provided a sense of realism. SPs and mannequins provide students with realistic HFS experiences, but more research should explore the beliefs of faculty.

Finally, virtual reality or computer-based HFS are used in OT clinical programs to engage participants in realistic educational or clinical encounters. Videotaped or computer-generated patients are used to promote student clinical decision making (Bennett et al., 2017). Virtual patients and environments can be used to assess student evaluation, decision making, and interprofessional collaboration (Bennett et al., 2017). In a pre-test post-test study, Umoren et al. (2018) surveyed 319 OT, nursing, and physician assistant students and found that teamwork attitudes increased significantly after the virtual HFS. High fidelity driving simulators are used by occupational therapists to provide patients with a driving environment to identify performance errors (Classen et al., 2017). In a randomized controlled trial with 26 OT patient participants, Classen et al. (2017) showed that the use of a driving simulator was as effective as traffic safety education on reducing driving errors. OTs can assess a patient's reaction speed, ability to navigate around obstacles, map out routes, and overcome challenging driving environments such as rainy weather and nighttime driving (Campos et al., 2017). Much of the OT literature on virtual and computer-based simulation focused on driving simulators. Like other types of HFS, the virtual simulations were used to create a safe and realistic experience for assessment and treatment purposes.

Perceptions of Simulation-Based Learning in Occupational Therapy

Perceptions of SBL is important to explore because an individual's beliefs and attitudes influence their acceptance of SBL (Lemay et al., 2018). Much of the research focuses on student perceptions of SBL. However, there are few studies done on faculty beliefs of SBL, and fewer still of OT faculty teaching in graduate OT programs. Therefore, for this portion of the literature review, I will provide an overview of the research that addresses student and faculty perceptions of SBL in OT. There are three main focus areas for OT student and faculty perceptions of SBL: Positive perceptions of (a) using practice-based learning experiences, (b) teamwork experiences and role discovery, and (c) SPs.

First, both OT students and faculty using SBL have positive perceptions of practice-based learning experiences. In a quantitative survey study, Fu et al. (2017) provided 60 OT students and 12 OT faculty examiners with an open-ended survey to reflect upon their perceptions of a pediatric OSCE simulation. Eight-eight percent of students perceived that the pediatric simulation prepared them for clinical practice in a patient setting (Fu et al., 2017). All of the faculty perceived that the pediatric simulation had optimal pediatric content and level of difficulty (Fu et al., 2017). Another OT study examined perceptions of using simulations not only for learning to interact with children but also with the parent in a pediatric setting. In a pre-test post-test quasi-experimental study, Springfield et al. (2018) examined 100 student questionnaire answers about their perceptions of SBL for preparation for interacting with infants and parents. Students reported having improved knowledge and confidence in the areas of "communication, information gathering, information sharing, and clinical intervention skills" (p. 51). These positive perceptions of OT students and faculty support that SBL and practice-based learning content leads to a feeling of improved preparedness for students.

The second theme related to perception of SBL revolved around teamwork experiences and role discovery, but only in relation to student perceptions. In a qualitative evaluation study by Pitout et al. (2016), focus groups were conducted with 66 medical students, nine OT students, and seven PT students. Students perceived that SBL provides an experience that multidisciplinary teams can work together that enhances knowledge, healthcare role identification, and collaborative interaction (Pitout et al., 2016). This research provides important qualitative data due to its large sample size, although the number of OT students was relatively low. Interprofessional simulation experiences provide learners with opportunities to interact with other professions. Morrell et al. (2018) conducted a mixed methods study with 13 students from athletic training, nursing, and OT programs that engaged in an interprofessional simulation that involved a patient after a spinal cord injury. The students perceived that the SBL experience enhanced "collaboration, respect, knowledge of other professions, and communication" (Morrell et al., 2018, p. 332). Students also perceived that role clarification was an important attribute in OT-specific SBL experiences. In a qualitative study by MacKenzie and Collins (2018), graduate OT students participated in simulation case development, implementation, and debriefing. Findings showed that students perceived enhanced learning through "multiple role preparation, observation, and interaction with peers, close interaction with the instructor, and the enhanced debriefing process" (MacKenzie & Collins, 2018, p. 5). What is still not understood is whether or not OT faculty hold similar beliefs.

Finally, the third perception of SBL is centered around the benefits of SPs, but the research was also limited to only student perceptions. In a quantitative pilot study, Walls et al. (2019) investigated how 25 OT students perceived the value of SBL as a learning method using a Likert-scale survey. While the sample size was small, students felt that SPs provided a high-level of value to the SBL experience (Walls et al., 2019). In addition, students felt that it was beneficial when the SP stayed in character throughout the experience (Walls et al., 2019). Researchers have also explored perceptions around when SPs have the strongest learning impact in the curriculum. In a two-phase mixed-methods sequential-explanatory study using a survey (N=167) and focus groups (N=12), Giesbrecht et al. (2014) found that students perceived that SPs were most helpful earlier in the program to help bridge the classroom to clinical practice. This study was impactful due to its mixed methods nature and its large sample size. Researchers have also investigated how students perceive using different SBL delivery methods. Bethea et al. (2019) conducted a descriptive pilot study using 23 OT and 26 PT students. This study used a repeated measures design and Likert scale to evaluate the impact of a video-based interprofessional education simulation and a live interprofessional education SP simulation scenario on student readiness for interprofessional clinical encounters (Bethea et al., 2019). Results showed that PTs and OTs perceived an improvement in teamwork and professional identity after the SBL experience that used live SPs (Bethea et al., 2019). While these studies support that students have positive perceptions of SBL experiences that use SPs, there is limited research that addressed faculty beliefs.

Higher Education Faculty Acceptance of Teaching and Learning Technology

Technology use in higher education is dependent upon faculty acceptance or rejection of that technology. According to Watty et al. (2016), 93% of faculty at an accounting university reported faculty resistance as being a significant barrier to technology adoption. When faculty are presented with new technology, several factors influence technology acceptance and use. In this section of the literature review, I will describe the predictors of faculty technology acceptance and the barriers to university faculty technology acceptance.

Predictors of Faculty Technology Acceptance

Gu et al. (2013) discussed four key constructs that predict technology acceptance within educational settings: outcome expectancy, TTF, social influence, and personal factors. The first construct that addressed faculty technology acceptance in this literature review is outcome expectancy. Outcome expectancy is centered around an individual's beliefs and attitudes about whether a technology is useful or easy to use (Gu et al., 2013). Gu et al. stated that outcome expectancy is the strongest predictor of acceptance of a technology and research shows this to apply to higher education faculty technology acceptance. For example, in a quantitative survey study, Ouedraogo and Faso (2017) evaluated the acceptance and use of ICT by faculty. Using 82 faculty members, survey results supported that performance expectancy, also known as outcome expectancy, positively impacted the acceptance of ICT (Ouedraogo & Faso, 2017). Koral-Gümüsoglu and Akay (2017) conducted a similar study using a Likert-type survey with 44 faculty to evaluate the acceptance and use of ICT at a foreign language university. Findings showed that faculty had positive beliefs and attitudes about ICT and felt that it was a benefit to the course (Koral-Gümüsoglu & Akay, 2017). Although the sample sizes in these studies were small, they demonstrated that outcome expectancy positively impacts ICT acceptance. In another study, Alajmi (2019) used a survey questionnaire to evaluate faculty acceptance of electronic information resources among 6 universities with 748 respondents. Performance expectancy was found to be a significant precursor to behavioral intention and user behavior (Alajmi, 2019). Research has also addressed faculty technology acceptance when interacting with a LMS. Radovan and Kristl (2017) conducted a quantitative survey study using 326 faculty members to evaluate the acceptance of an LMS in online teaching. Findings showed that performance expectancy was the primary predictor of LMS acceptance (Radovan & Kristl, 2017). These research articles are more robust due to the large sample sizes. While there are quantitative studies to support that outcome expectancy positively influences technology acceptance, there are limited studies that explore qualitative faculty beliefs of technology acceptance in higher education settings and none with OT graduate faculty.

The second construct of technology acceptance by university faculty is TTF. This construct of the TAM is based on how well the technology is matched to the task or goal at hand (Gu et al., 2013). Gu et al. (2013) stated that an individual's performance would be enhanced when a technology fulfills a task requirement, and research shows TTF has an impact on higher education faculty technology acceptance. For example, Daud and Zakaria (2017) conducted a quantitative study using a survey questionnaire with 156 faculty to evaluate the impact of technology acceptance factors on the usage of collaborative technologies. Results showed that the significant predictors of technology usage were PU, perceived peer usage, and TTF (Daud & Zakaria, 2017). When a technology supported tasks such as communication, collaboration while performing research, and developing publications, there was higher technology usage (Daud & Zakaria, 2017). In addition to collaborative technologies, research has also focused on the influence of faculty technology acceptance factors related to the implementation of LMS technologies. In a quantitative study by Mokhtar et al. (2018), a questionnaire was used with 247 faculty members to evaluate the technology acceptance of an LMS. Findings showed that PU, PEOU, and TTF were the primary predictors for the behavioral intention to use the LMS (Mokhtar et al., 2018). The faculty felt TTF was important because the technology should fit the task at hand (Mokhtar et al., 2018). In addition, TTF also had a direct impact on PU and PEOU (Mokhtar et al., 2018). These findings indicate that TTF has a significant influence on outcome expectancy, another significant predictor of faculty technology acceptance. While these quantitative studies with large sample sizes addressed TTF, there are limited studies that explore how OT faculty using HFS perceive TTF within a higher education setting.

Social influence is the third construct of technology acceptance, and it has been explored with university faculty. Social influence is based on how social relationships may impact technology acceptance in a positive or negative way (Gu et al., 2013). Salajan et al. (2015) conducted a mixed methods study using a questionnaire to evaluate how perceived quality of teaching and peer influence impacted LMS technology usage among 171 faculty members. Findings showed that perceived quality of teaching had a significant impact on LMS technology usage (Salajan et al., 2015). Conversely, Salajan et al. (2015) found that peer influence was not a predictor of LMS technology usage. In addition, peer influence did not have a significant impact on PU (Salajan et al., 2015). Daud and Zakaria (2017) had different findings in their quantitative study that evaluated the use of collaborative technologies. Daud and Zakaria (2017) showed that peer usage was a significant predictor of technology usage and PU. (Daud & Zakaria, 2017). However, administrative support and subjective norm were not predictors of technology usage and PU. In addition to LMS technologies, research has also been conducted on computer-assisted language technology. For example, in a quantitative study using a questionnaire survey, Soomro (2018) investigated the impact technology acceptance factors had on faculty attitudes towards using computer-assisted language technology. Findings from 421 faculty revealed that PU and PEOU had a significant impact on faculty attitudes and technology usage (Soomro, 2018). In addition, social influence, administrative support, and facilitating conditions are predictors of computer-assisted language technology usage (Soomro, 2018). Much of the research that focuses on social influence uses quantitative questionnaires with inconsistent findings regarding faculty technology acceptance.

The final construct of technology acceptance by university faculty is personal factors. Personal factors include computer self-efficacy and personal innovativeness (Gu et al., 2013). Self-efficacy is one's belief that they are capable of engaging in a specific behavior (Gu et al., 2013). Personal innovativeness revolves around how open an individual is to try out a new technology (Gu et al., 2013). Research demonstrated that personal factors influence higher education faculty technology acceptance. For example, Kim and Park (2018) conducted a quantitative survey study using 370 faculty from 5 universities to investigate factors that impacted the use of e-learning technologies. Results showed that computer experience and personal innovativeness were predictors for e-learning technology use (Kim & Park, 2018). Kim and Park concluded that technology confidence and computer self-efficacy are enhanced when adequate time, appropriate training, and a faculty openness to change. Faculty innovativeness was also shown to be a predictor of technology acceptance in other quantitative studies related to acceptance of LMS (Mokhtar et al., 2018) and collaborative technology (Daud & Zakaria, 2017). Results in both studies showed that faculty personal innovativeness was a key predictor of technology acceptance (Daud & Zakaria, 2017; Mokhtar et al., 2018). Mokhtar et al. (2018) also showed that self-efficacy was a predictor of PU and PEOU when interacting with LMS technology. This study by Mokhtar et al. supports that if an individual feels capable of using an LMS technology, they will be more likely to use it. Other studies include qualitative components that highlight additional insights about perceived personal factors that influence faculty technology acceptance. Bousbahi and Alrazgan (2015) used a mixed methods approach to examine how 20 faculty member's personal factors impacted LMS PU and technology use. Findings showed that a faculty's motivation, load anxiety, and organizational support serve as key personal factors that influence the PU of an LMS (Bousbahi & Alrazgan, 2015). While these studies support that personal innovativeness and self-efficacy are predictors for e-learning technologies, what is not known is whether, or how, these factors also influence OT higher education faculty technology related to the implementation of HFS.

Barriers of Faculty Technology Acceptance

There were three key types of barriers that emerged in the literature regarding faculty technology acceptance, those related to pedagogical issues, logistical challenges, and limited resources. Understanding faculty technology acceptance challenges provides insight into the reasons why a faculty member in a higher education setting may be resistant to accepting a technology. The first type of barrier was related to faculty pedagogy issues., In a mixed methods study with 143 faculty using massive open online courses (MOOCs), interviews, surveys, and course data were used to evaluate considerations and challenges when using MOOCs (Zhu et al., 2018). Findings showed that one of the technology barriers that faculty members encountered was centered around pedagogical issues (Zhu et al., 2018). Pedagogical barriers revolved around challenges related to learner engagement, facilitating student interaction, and assessment options (Zhu et al., 2018). Pedagogical challenges were also listed as barriers in a literature review related to the use of manikins. In an integrative review using 21 research articles, Al-Ghareeb and Cooper (2016) explored faculty barriers to using HFS with manikins in an undergraduate nursing setting. Pedagogical barriers included a limited connection to curriculum and a lack of faculty training (Al-Ghareeb & Cooper, 2016). While these studies support that pedagogical issues are barriers to MOOCs and HFS with mannequins, there is limited research on how or if these factors also influence OT higher education faculty technology related to HFS using SPs.

Another barrier to technology acceptance for faculty was related to logistical challenges. In a study by Zhu et al. (2018), faculty reported limited time for MOOC design, and interaction was a key technology barrier. In addition, faculty reported they were often not provided with release time or financial compensation, which created a large faculty burden (Zhu et al., 2018). Time was also identified as a key barrier in studies exploring HFS (Al-Ghareeb & Cooper, 2016; Cuchna et al., 2019). Al-Ghareeb and Cooper (2016) found that HFS increased faculty workload due to the added time for learning how to use the technology, as well as the time required for developing and implementing simulation scenarios using the technology (Al-Ghareeb & Cooper, 2016). A deeper understanding of faculty perceptions relating to logistical barriers was described in a qualitative study by Cuchna et al. (2019) using focus groups with 21 athletic training faculty that were using simulation with SPs. Lack of time emerged as a key theme that centered around faculty acceptance barriers (Cuchna et al., 2019). Lack of time and feeling pressured to accept a technology were also identified as barriers in a phenomenological qualitative study exploring perceptions of online faculty using virtual collaboration (Schieffer, 2016). Faculty perceived that online collaboration required a significant amount of their time, which added to their existing demanding workload (Schieffer, 2016). While these studies support that logistical issues are barriers to HFS in athletic training and nursing education, what is not known is whether these factors influence OT higher education faculty.

The last barrier of faculty technology acceptance was related to limited resources. For example, Zhu et al. (2018) showed that faculty encountered technology barriers related to a weak design team and limited technology resources. A lack of team collaboration and limited technology resources impaired MOOC development and implementation (Zhu et al., 2018). This was corroborated in a study by Al-Ghareeb and Cooper (2016) that found that limited human resources and insufficient simulation equipment created a barrier to using HFS. In an HFS environment, the lack of support staff to help run the technology can hinder faculty acceptance. These studies support that resource issues are barriers to MOOCs and HFS with mannequins, however, there is limited research on these factors impact OT higher education faculty. Furthermore, while many of these studies use a qualitative approach to better understand faculty acceptance in simulation-based and online academic environments, none explored faculty beliefs of HFS acceptance in a higher education OT setting.

Considerations for Overcoming Obstacles

Research on higher education faculty acceptance of technology often included considerations for overcoming obstacles. Considerations fell into three categories, the importance of strong faculty support, strong technology infrastructure, and aligning changes of technology integration to the university's culture. The first category related to overcoming obstacles addressed the importance of having strong faculty support. For example, in a literature review by Dintoe (2019), findings demonstrated that faculty technology acceptance was improved when faculty had been properly supported throughout the implementation process and have been given adequate time to learn the technology. If adequate time is not provided, faculty tend to resort to traditional teaching practices, which creates a barrier to technology acceptance (Dintoe, 2019). Faculty support has also been identified as a key enabling factor in research that focused on acceptance of HFS. Al-Ghareeb and Cooper (2016) showed that enabling factors included sufficient faculty training, leadership support, and staffing dedicated to simulation (Al-Ghareeb & Cooper, 2016).

Another category related to overcoming obstacles focused on the importance of a robust IT infrastructure. Raghunath et al. (2018) explored the perceived enabling factors that impacted the technology acceptance of smart devices among faculty engineers. The following factors were key enabling factors that promoted faculty acceptance: A robust IT infrastructure with strong Wi-Fi, compatibility with other university IT systems, and a supportive IT department (Raghunath et al., 2018). A supportive technology infrastructure has also been shown to be a key enabler when using HFS. Al-Ghareeb and Cooper (2016) found that dedicated technical support staff were crucial in educating faculty on how to use the simulation technology.

The last category related to overcoming obstacles focused on aligning changes of technology integration to the university's culture. Kibaru (2018) conducted a qualitative study that explored faculty recommendations for overcoming online teaching barriers in a higher education environment. Themes revolved around the importance of establishing a university mission and culture that supports faculty and emphasizes teaching excellence, and continuous quality improvement (Kibaru, 2018). Supportive leadership is important when aligning changes in technology integration to the university's culture. According to Al-Ghareeb and Cooper (2016), administrative support is key when integrating new technology. Academic leaders should be involved in the technology planning and implantation process to ensure optimal HFS technology acceptance (Al-Ghareeb & Cooper, 2016). While many of these studies explored faculty perceptions, there was limited research that explored HFS acceptance in a higher education OT setting.

Summary and Conclusions

In Chapter 2, I included an overview of literature search strategies and the conceptual framework of Gu et al.'s TAM (2013). The conceptual framework portion of the literature review provided a thorough description of Gu et al.'s four constructs: Outcome expectancy, task-technology fit, social influence, and personal factors. I included a review of the research that addresses the history of simulated-based learning in OT with a focus on the definition of HFS, the use of HFS in graduate OT, and OT faculty perceptions of SBL. This chapter also addressed higher education faculty acceptance of teaching and learning technology with a focus on predictors and barriers of technology acceptance as well as considerations for overcoming obstacles.

In a review of the literature review, I found so little research that examined faculty use and beliefs of SBL. Most of the existing literature addressed student use and perceptions of SBL (Bennett et al., 2017; Bethea et al., 2016; Gibbs et al., 2017; MacKenzie & Collins, 2018; Morrell et al., 2018; Ozelie et al., 2016; Pitout et al., 2016; Shea, 2015; Springfield, Honnery, & Bennett, 2018; Walls et al., 2019; Zamjahn et al., 2018). Research supports that SPs provide students with realistic HFS experiences (Bennett et al., 2017; Fu et al., 2017; Walls et al., 2019), but more research should explore the beliefs of faculty related to technology as a replacement for face-to-face clinical experiences. In addition, there was limited research exploring OT university faculty about their technology acceptance that I expanded the review to explore what is understood about the larger population of university faculty technology acceptance but narrowed it to teaching and learning technology. I found that technology acceptance research has been done with nursing faculty (Al-Ghareeb & Cooper, 2016), athletic training faculty (Cuchna et al., 2019), public health faculty (Ouedraogo & Faso, 2017), and engineering faculty (Raghunath et al., 2018) but not with OT graduate faculty. In this study, I explored OT graduate faculty technology acceptance to extend what is understood about how this subgroup of university faculty views the implementation of teaching and learning technology for OT students.

Another gap centers around the limited amount of research that focuses on technology acceptance of SBL. In this literature review I found that most technology acceptance research has focused on faculty implementing online and collaborative technology (Bousbahi & Alrazgan, 2015; Daud & Zakaria, 2017; Kim & Park, 2018;

Mokhtar et al., 2018; Radovan & Kristl, 2017; Schieffer, 2016; Zhu et al., 2018) with only a few studies exploring SBL (Al-Ghareeb & Cooper, 2016; Cuchna et al., 2019). In this study, I explored OT graduate faculty technology acceptance of high-fidelity SBL.

An additional gap exists because only a few qualitative studies (Bousbahi & Alrazgan, 2015; Cuchna et al., 2019; Raghunath et al., 2018; Zhu et al., 2018) are centered around faculty technology acceptance and none from OT graduate faculty. More specifically, there is a limited focus on faculty beliefs of SBL using Gu et al.'s (2013) TAM constructs. These gaps are important because a faculty member's belief of high-fidelity SBL impacts their decision to accept this approach (Al-Ghareeb & Cooper, 2016; Cuchna et al., 2019). Based on the gaps I found in the literature, in Chapter 3, I will propose a detailed explanation of the basic qualitative study I plan to conduct. I describe the research design and rationale, the role of the researcher, and the methodology. I will discuss issues of trustworthiness (i.e., credibility, transferability, dependability, and confirmability) and ethical procedures.

Chapter 3: Research Method

The purpose of this basic qualitative study was to explore OT graduate faculty beliefs related to technology acceptance of high-fidelity SBL. To accomplish this purpose, I examined faculty beliefs on the usefulness and ease of use of SBL as well as faculty attitudes toward technology use in order to increase understanding about faculty acceptance of technology into their pedagogy. Chapter 3 will focus on the research methods I used for this study. In this chapter, I will describe the research design and rationale for the study. I will also provide an overview of the methodology that will include participant selection logic, instrumentation, procedures for recruitment, procedures for participation, procedures for data collection, and the data analysis plan. In addition, I will describe issues of trustworthiness and ethical procedures.

Research Design and Rationale

The phenomenon I explored in this study was the faculty acceptance of high-fidelity SBL in OT graduate programs. The research design for this study was a basic qualitative design in order to explore faculty beliefs and experiences in relationship to the research problem. A basic qualitative design is used to examine people's attitudes, beliefs, or experiences (Percy et al., 2015, p. 78). Additionally, I chose Percy et al.'s (2015) procedures for data collection and thematic data analysis for my study because they are aligned with a basic qualitative design. Basic qualitative inquiry is justified when the researcher already has a pre-established knowledge base (Percy et al., 2015), which applies to this study because I have a pre-established knowledge of SBL. In my position of Director of Simulation Education and Center for Innovative Clinical Practice

Operations, I am involved in simulation operations, educational trainings, and curriculum scaffolding initiatives. In addition, this approach is appropriate when the aim is to explore subjective perspectives on external events or experiences (Percy et al., 2015), which in this case refers to OT faculty perspectives on HFS acceptance in a higher education OT setting. The design also helped answer the research questions:

RQ1: What are faculty beliefs about outcome expectancy of high-fidelity SBL in OT graduate programs?

RQ2: What are faculty beliefs about TTF of high-fidelity SBL in OT graduate programs?

RQ3: What are faculty beliefs about social influence of high-fidelity SBL in OT graduate programs?

RQ4: What are faculty beliefs about personal factors of high-fidelity SBL in OT graduate programs?

Evaluation of Other Research Designs

A quantitative research design was not appropriate for this study because I was not testing theories or evaluating relationships among objective variables. For this study, a qualitative approach was the optimal approach because I explored the beliefs of individuals about HFS based on their past experiences. I considered other qualitative research designs, such as phenomenology, grounded theory, and ethnography; however, I selected a basic qualitative design as the optimal approach. Phenomenology is a qualitative approach focused on individual’s lived experiences of a phenomenon (Creswell & Poth, 2018) as well as the inner dimensions and the participant’s internal cognitive structures as the individual is experiencing a process or phenomenon (Percy et al., 2015). In this study, the focus was not on the inner dimension, but rather the outer dimension content, with focus on the beliefs OT faculty regarding HFS acceptance in a higher education OT setting. Therefore, phenomenology was not a good fit for this study. Grounded theory is a study where a theory is generated (Creswell & Poth, 2018, p. 82), but in this study, the intent was not to develop a theory. Finally, ethnography is a design focused on "developing a complex, complete description of the culture of a group" (Creswell & Poth, 2018, p. 91). Although faculty could be considered a cultural group, the focus of this study was not to investigate a collective cultural experience. Therefore, an ethnography design would not be appropriate because the participants in this study presented with their own unique beliefs and customs.

Role of the Researcher

In this section, I will state my role as a researcher, disclose any relationships with the study participants, discuss management of biases, and my plan for addressing ethical issues. For this basic qualitative study, I was the sole researcher developing the instrument, eliciting data from participants using the instrument, and analyzing the data. In this role, I was involved in selecting the research design for this study, recruiting participants, collecting data, and analyzing the data. As the sole researcher, I had pre-existing perceptions, interpretations, and experiences related to simulation. My experiences included the use of HFS with both OT students and OT faculty. However, I identified these biases to build transparency of ethical issues, which builds awareness regarding a potential for researcher's biases, views, and experiences that may impact study findings and interpretations (see Creswell & Creswell, 2018). Additionally, to manage these biases within this study, I applied specific strategies to establish trustworthiness (see Creswell & Poth, 2018; Lincoln & Guba, 1985). As a researcher, it is also my ethical duty to reveal any personal or professional relationships I have with participants (Creswell & Poth, 2018). Though I do not hold a supervisory role that involves direct authority or power over the participants, I do work at the same university as the participants. I have occasional meetings with the OT faculty members supervisors, and I have meetings with faculty and the OT program directors occasionally to discuss simulation initiatives, but I have no authority over the OT department. Completing a study in the same work environment can be viewed as an ethical issue. However, my role as a researcher did not conflict with my position, because I recruited participants from a different department.

Methodology

In this section, I will describe participant selection logic and instrumentation for this study. I will also discuss the procedures for recruitment, participation, and data collection. Finally, I will describe my plan for data analysis.

Participant Selection Logic

Participants for this study included OT faculty from a graduate-level OT program at University X. For this study I determined that saturation was reached at 10 participants (see Guest et al., 2006). Saturation is the point in which the data no longer yields significant variations (Guest et al., 2006). The following principles can be used for determining data saturation: (a) Determine a minimal interview sample size for preliminary analysis and then (b) state how many additional interviews will be conducted before data becomes redundant and a plateau in new ideas (stopping criterion; Francis et al., 2010). Most qualitative findings can be collected within six interviews, with saturation often occurring within 12 interviews (Guest et al., 2006); thus, I set a minimum interview sample of six participants. I continued conducting interviews (up to 10) until two additional interviews had been performed with no new emerging themes (see Francis et al., 2010). This approach allowed me to determine how many participants were needed to answer the RQ based on data saturation, as establishing an inflexible numerical value of participants can be problematic when engaging in qualitative research (Sim et al., 2018).

Purposeful sampling strategies were chosen for this study, specifically criterion and snowball strategies (Creswell & Poth, 2018). Purposeful sampling is a qualitative sampling strategy that allows the researcher to select the study participants and site to achieve alignment to the study aims (Creswell & Poth, 2018). This approach was justified for my study because the aim centered around OT faculty in a higher education environment. A criterion sampling strategy was used to select participants who met the following inclusion criteria: (a) is an OT faculty member in the OT program at University X, (b) has experience teaching a course with high-fidelity SBL for at least two trimesters, and (c) attended university X training on simulation education. To ensure the first inclusion criterion was met, I identified potential participants via the University X publicly available website that lists OT faculty names and emails. To ensure the second criterion was met, I cross referenced the names from the website with a university simulation repository of faculty that are using simulation to determine if the OT faculty member has used HFS with graduate students for a minimum of two trimesters. To ensure the third criterion was met, during the recruitment phase, I asked the faculty to confirm that they had received the formal university simulation training.

I individually sent emails to each potential participant with a brief introduction to the study and inclusion criteria for participation for the self-selection process. After I had 10 consenting participants, I changed the letter of consent link to a page that read, “Thank you for your interest, however, I currently have all the participants I need for this study. Thank you for your time.” If I did not get enough participants, I would have used snowball sampling strategy to identify potential participants from individuals who choose to participate, that know other OT faculty that might be ‘information-rich’ candidates (see Creswell & Poth, 2018). However, I was able to reach saturation via criterion sampling.

Instrumentation

The interview guide for this study was based on research that Merriam and Tisdell (2016), Castillo-Montoya (2016), and Jacob and Furgerson (2012) presented in relation to conducting effective interviews for qualitative research. According to Merriam and Tisdell, the interview guide is comprised of a list of questions the researcher wants to ask during the interview. An interview guide helped to establish sufficiency of data collection to answer this study’s RQs because the focus is on OT faculty beliefs of high-fidelity SBL. For this study, I designed an interview guide as the single data collection instrument (see Appendix A), which had research-centered questions, an interview script with open-ended questions, and prompts and probes that allowed for deeper focus on the RQs (Jacob & Furgerson, 2012). In addition, I practiced the protocol before engaging in the actual interview with the participants (see Jacob & Furgerson, 2012).

Additionally, the reliability of an interview process can be improved when the following components are present within the interview protocol: alignment of the interview questions (IQs) to the RQs, a structure that supports an inquiry-based conversation, a feedback process for the interview protocol, and a pilot phase for the interview (Castillo-Montoya, 2016). I aligned the interview guide with the RQs structured using Gu et al.'s (2013) TAM as a framework. I created IQs that were structured to promote a socially appropriate conversation with prompts and follow-up questions. I asked an expert panel of two colleagues with advanced degrees in education to review the alignment of the interview guide to the RQs. For this study, the interview guide included semistructured IQs (see Percy et al., 2015). Table 2 is an alignment of the eight faculty IQs to the RQs, with two IQs per RQ.

Table 2

Alignment of Occupational Therapy Faculty Interview Questions with Research Questions

Interview questions	RQ1	RQ2	RQ3	RQ4
IQ1: Please describe some of the ways high-fidelity simulation has been easy to use/challenging to use in the OT graduate program and give me examples of those ways.	X			
IQ2: In what ways has high-fidelity simulation been useful/not been useful in providing realistic learning experiences for your students?	X			
IQ3: Describe how HFS has made tasks of your job easier/more challenging, if at all.		X		
IQ4: In what ways has HFS been effective/ineffective for teaching clinical skills to your graduate OT students?		X		
IQ5: Describe how the university culture influenced your use of high-fidelity simulation within your OT program, if at all.			X	
IQ6: In what ways has your relationships with your fellow faculty influence your use of high-fidelity simulation within your OT program?			X	
IQ7: How do you think your confidence in using high-fidelity simulation has influenced your actual use?				X
IQ8: Describe your level of innovativeness and how you think it impacted your choice to use high-fidelity simulation.				X

Note. IQ = interview question; RQ = research question

Procedures for Recruitment, Participation, and Data Collection

I began procedures for institutional review board (IRB) approval through Walden University. Once I had Walden University IRB approval, I began procedures for IRB approval at my research partner university. Once I had IRB approval at my research partner university, I sent the signed letter of approval to Walden University IRB. Once I had both Walden University and University X IRB approval, I began recruitment.

In relation to recruitment, as per the University X's protocol, I accessed University X's publicly available website and simulation database that contains OT faculty names. Once I identified OT faculty from University X's website and simulation database who fit my inclusion criteria, I used their university email address to contact each faculty member individually, with a brief introduction to my study.

Concerning participation, potential participants who received the letter of introduction email and were interested in participating in my study were directed to click a link that took them to the letter of consent. After reading the letter of consent, those who wished to participate were directed to click on an additional link and asked to complete the demographic questionnaire, showing their implied consent and providing contact information to set up future interviews. I selected the first 10 OT faculty who returned a signed consent form and demographic form. I then emailed the OT faculty to thank them for their willingness to be part of the study and let them know that I scheduled an interview time based on their availability in Outlook. I scheduled a single 60-minute period to conduct each interview. After the interview, I asked participants to review the transcripts as part as the member checking and trustworthiness protocol, which took about 15 minutes.

I emailed the participants a reminder 24 hours before the scheduled interview to remind them of the date and time with the link to the Zoom room and the IQs should they wanted to look at them before the interview. At the time of the interview, I collected data from each participant using semistructured interviews via one 60-minute Zoom virtual conference. I conducted all audio recorded interviews via Zoom. Participants received a link to the virtual meeting in their Outlook calendar. I completed the interviews during a single trimester. If I did not get enough responses to my initial emails to faculty, I would have used snowball sampling, and ask my participants to forward my emails to colleagues they think might be interested in participating in the study. However, I was able to secure 10 participants after my initial email. Debriefing procedures were implemented when the participants exited the study. Participants were asked if they have any additional comments or questions before the conclusion of the interview. Once the interview was complete, I exported the audio file transcript data using Zoom software to create a Word document with the text of the interview that I uploaded to qualitative software organizer called Dedoose.

Data Analysis Plan

For this basic qualitative study, I conducted data analysis at two levels. I used "a priori" coding, also called protocol coding (see Saldaña, 2016) for level 1 coding. Prior to data analysis, I created a codebook as described by DeCuir-Gunby et al. (2011) with theory-driven or a priori code descriptions. The a priori codes were chosen based on their alignment with Gu et al.'s TAM (2013). See Table 3 for a description of the a priori codes and inclusion criteria for each code.

According to Ravitch and Carl (2016), a code can be a word or phrase that gives meaning to the data. A priori coding is appropriate for qualitative studies that have a pre-existing coding framework that guides data collection and analysis (Saldaña, 2016). I coded data by labeling excerpts with pre-determined a priori codes developed to align to the four constructs of Gu et al.'s (2013) TAM. At the second level, I categorized the a priori codes into emergent themes and subthemes (see Elliott, 2018; Saldaña, 2016). The themes and subthemes represented significant concepts within the data sets (see Ravitch & Carl, 2016). Part of the data analysis plan is knowing how to treat discrepant data.

Discrepant data are data that I do not understand or data that is isolated and does not fit into the emerging themes (see Wolcott, 1994). Bashir et al. (2008) stated discrepant data are data that may contradict trends found within the majority of the data. It is important to identify discrepant data because this thorough process ensures transparency which allows others to draw their own conclusions (Wolcott, 1994). My plan for dealing with discrepant data included documenting this data so readers could construct their own interpretations and possibility explore these comments further as recommended by Wolcott (1994). I reported as much as possible different potential meanings or rationales for the data.

Table 3

A Priori Codes Using Gu et al.'s Technology Acceptance Model

a priori codes	Content description (with citations)	Inclusion criteria
Outcome expectancy	Outcome expectancy is centered around how the individual feels the technology should be utilized (Gu et al., 2013). Outcome expectancy is related to beliefs and attitudes about technology usage, perceived usefulness, and perceived ease of use (Davis, 1989).	How useful (or not useful) HFS been in providing realistic learning experiences for students How easy (or difficult) it was to implement HFS
TTF	TTF is based on how well the technology is matched to the task or goal at hand (Gu et al., 2013). TTF has a strong focus on task outcomes and performance improvement (Gu et al., 2013).	How has HFS has made faculty's job of teaching easier (or more challenging) Effectiveness of HFS for teaching clinical skills to graduate OT students
Social influence	Social influence is based on how social relationships may impact technology acceptance in a positive or negative way (Gu et al., 2013).	How the university culture influenced use of HFS in a positive or negative way How relationships with fellow faculty influenced use of HFS in a positive or negative way
Personal factors	Personal factors involve personal technology innovativeness and self-efficacy personal factors include computer self-efficacy and personal innovativeness (Gu et al., 2013). Self-efficacy is one's belief that they are capable to engage in a specific behavior (Gu et al., 2013). Personal innovativeness revolves around how open an individual is to try out a new technology (Gu et al., 2013).	How faculty's view of HFS or the confidence in their abilities to use HFS influence their view of its potential use in teaching How open to innovation and change influences faculty's decision making to use HFS

Evidence of Trustworthiness

Trustworthiness is important to qualitative research because this structured process increases confidence in the study's findings (Creswell & Poth, 2018). In this section, I will discuss how I maintained trustworthiness in the data analysis process, using the standards of credibility, transferability, dependability, and confirmability.

Credibility

For qualitative research, Lincoln and Guba (1985) defined credibility the accurate reflection of reality through the findings perceived by the participants. Lincoln and Guba (1985) recommended that qualitative researchers use the following strategies to improve the credibility of qualitative research: Prolonged engagement, persistent observation, triangulation, peer debriefing, member checks, negative case analysis, reflexive journal, and referential adequacy. For this study, I used the strategy of member checking by having involved participants review and verify the accuracy of the interview transcripts. Member checking an opportunity for participants to verify the data collected (Carlson, 2010). In this study, OT faculty participants were emailed the electronic interview transcripts to verify for accuracy.

Transferability

For qualitative research, Lincoln and Guba (1985) defined transferability as the degree to the findings gave be generalized to another contextual situation. Lincoln and Guba (1985) also recommended that qualitative researchers use the following strategies to improve the transferability of qualitative research: Thick description and reflexive journaling. For this study, I used the strategy of reflexive journaling to document thoughts that reflect upon my personal notes, encounters, perspectives, and biases. Reflexive journaling is a process in which the researcher records their thoughts and interpretations throughout the research process, to transparently set aside their biases that may impact their assumptions (Carlson, 2010). Therefore, I used Zoom to audio record and transcribe my reflective thoughts in an electronic reflexive journal every week. I recorded my perceptions of the research process and conditions that might influence generalization to other settings. Once my reflexive journaling was complete, I exported the audio file transcript data using Zoom software to create a Word document with the text of the reflexive journal that I saved in a password protected electronic dropbox.

Dependability

For qualitative research, Lincoln and Guba (1985) defined dependability as the quality of reliability or consistency of the study's results. Ravitch and Carl (2016) stated that dependability centers around how appropriate the data are in answering the RQs. Lincoln and Guba (1985) also recommended that qualitative researchers use audit trail and reflexive journaling to improve the dependability of qualitative research. An audit trail is a detailed documentation train that accounts for all the components of the study (Carlson, 2010). For this study, I used the strategy of creating an audit trail by maintaining a record of raw data, methodological processes notes, and analytic memos. This will allow others to determine if proper research steps were taken throughout the study. For example, in this audit trail I included data collection and analysis documents including field notes, interview transcripts, and coding documents with analytic memos.

Confirmability

For qualitative research, Lincoln and Guba (1985) defined confirmability the degree to which the results of the study can be confirmed by other individuals. Lincoln and Guba (1985) also recommended that qualitative researchers use audit trail and reflexive journaling to improve the confirmability of qualitative research: For this study, I used the strategy of creating an audit trail by maintaining a record of raw data, methodological processes notes, and analytic memos. For example, as part of the audit trail to ensure confirmability, I included entries such as the interview transcripts and coding documents so confirmation can be made that the findings are based off the participant's responses rather than my perceptions and biases. This will allow others to determine if proper research steps were taken throughout the study to achieve the results. I engaged expert qualitative researchers in the process that are experienced, intuitive and proficient when interacting the qualitative data (see Cutcliffe & McKenna, 2004).

Ethical Procedures

The trustworthiness of qualitative research depends on how researchers follow ethical procedures. For this study, I followed ethical procedures by submitting an application to the IRB at Walden University. In the IRB application, all steps of recruitment, consent, participation, and data collection were outlined, as well as my responsibilities as the sole researcher and my partner organization, University X. Data collection steps included recruitment contact information, consent form content, and data collection procedures. Procedures were outlined that ensure that privacy is maintained. First, I stored data securely using a password protected electronic drop box and backed up using a password protected electronic folder on my work computer. Data will be stored for 5 years and disposed via deletion of the drop box and folder files. Participants names and contact information were recorded in the research records form for member checking purposes but was and will be kept 100% confidential via a password protected drop box. Next, I worked to maintain confidentiality of my participants. The research procedures and analysis/writeup plans included all possible measures to ensure that participant identities were not directly or indirectly disclosed. Participant demographic details were shared in a manner that will not render certain participants identifiable. The identities of partner organizations that are playing a role in data collection and/or identification of potential participants were masked and not disclosed. Confidentiality agreements were signed by anyone who may view data that that contains identifiers. There was a specific plan in place for sharing results with the participants for the purposes of member checking. Potential risk categories (privacy, psychological, relationship, legal economic/professional, physical risks) were fully acknowledged and described per the consent form. These risks were minimized as much as possible through a confidential process that had minimal deviation from normal daily activities. I proactively managed any potential conflicts of interest by maintaining an unbiased role of the researcher and drew on participants outside of my department. The research risks and burdens were reasonable, in consideration of the new knowledge that this research design offered. Privacy was maintained at all times.

I began procedures for IRB approval through Walden University. Once I had Walden University IRB approval (approval # 06-05-20-0554617), I began procedures for

IRB approval at my research partner university. Once I had IRB approval at my research partner university, I sent the signed letter of approval to Walden University IRB. Once I have both Walden University and University X IRB approval, I began recruitment. Participant recruitment was coordinated in a manner that was non-coercive. Recruitment did not include the following coercive elements: Leveraging an existing relationship to "encourage" participation, recruiting in a group setting, extravagant compensation, recruiting individuals in a school/work setting, involving a service provider in the recruitment process, etc. I disclosed that I may already be known to the participants and avoided these coercive elements when recruiting participants. A $20 Amazon gift card was given to each OT faculty who participated in the study to thank them for their time.

The potential risk or harm to the OT faculty was minimal and the benefits of including these individuals outweighed the risks. Participants would have only been excluded from the study if they did not meet the inclusion criteria which was needed for successful data collection to answer the RQs. The self-selection process only allowed eligible participants to enroll in the study. Due to the research design has multiple interview sessions, a uniform interview guide was put in place to ensure that all participants benefited equally from the research. As a student researcher, this research was supervised via my chair, methodologist, URR, and IRB in all data collection procedures. A robust process of ensuring that potential participants made an informed decision about the study was put in place in accordance with the ethical principle of "respect for persons."

Summary

In this chapter, I described the research design and rationale for the study. The research design for this study was a basic qualitative design in order to explore faculty beliefs and experiences in relationship to the research problem. I also provided an overview of the methodology that included participant selection logic, instrumentation, procedures for recruitment, procedures for participation, procedures for data collection, and the data analysis plan. Participants for this study included 10 OT faculty from a graduate-level OT program at University X. In addition, I described issues of trustworthiness and ethical procedures. I discussed how trustworthiness was maintained in the data analysis process, using the standards of credibility, transferability, dependability, and confirmability. Finally, I concluded Chapter 3 by describing how I followed ethical procedures by submitting an application to the IRB at Walden University. In chapter 4, I will include the setting, demographics, data collection, data analysis, evidence of trustworthiness, results, and a summary.

Chapter 4: Results

The purpose of this basic qualitative study was to explore OT graduate faculty beliefs related to technology acceptance of high-fidelity SBL. To accomplish this purpose, I examined faculty beliefs of high-fidelity SBL using Gu et al.'s (2013) four key constructs that predict user acceptance within an educational setting. Faculty's beliefs about outcome expectancy, TTF, social influence, and personal factors toward technology were explored to increase understanding about faculty acceptance of high-fidelity SBL in graduate OT programs. In this chapter I will report the results of this basic qualitative study. This chapter includes an overview of the research setting, demographics, data collection, data analysis, evidence of trustworthiness, results, and a summary.

Setting

The research site for this qualitative study was University X. This multicampus university has campus locations in the Midwestern, Eastern, and Western regions of the Unites States. OT faculty were invited from all campuses to participate in this study, but only faculty in the Midwestern and Eastern regions participated. Participant demographics indicated that the faculty participants had a similar university training for use of SBL. They also had similar campus simulation facilities, equipment, and used high fidelity SBL to support the same OT curriculum.

One organizational condition may influence the interpretation of study results. During the time of recruitment and data collection, the university was navigating the beginning of the Coronavirus Disease 2019 (COVID-19) pandemic. Faculty were dealing with transitioning their labs, simulations, and practicals to a fully online environment. Many faculty modified their face-to-face simulations to a virtual or telehealth format so students could still engage in these learning experiences. Faculty used simulation recordings and synchronous virtual meetings to engage students in online simulations during the period of all virtual instruction.

Demographics

The participants for this study included 10 faculty at one multicampus university. Inclusion criteria required that participants were faculty who teach for the OT program, had experience teaching a course with HFS-based learning for at least two trimesters, and had attended the university's training on simulation education. Participant 6 (P6) and P10 had between three to four terms of experience, whereas P3, P4, P5, P7, P8 and P9 had between five to six terms of experience (see Table 4). P1 and P2 had the most experience falling between nine to 10 terms.

Table 4

Participant Demographics of Simulation Experience and Campus Location

Participant Pseudonym	SBL Experience in Terms	Campus Location
P1	9-10	Eastern
P2	9-10	Eastern
P3	5-6	Eastern
P4	5-6	Eastern
P5	5-6	Midwest
P6	3-4	Midwest
P7	5-6	Eastern
P8	5-6	Eastern
P9	5-6	Midwest
P10	3-4	Eastern

Data Collection

I received IRB approval on June 25, 2020 and began recruitment and data collection soon afterward. For this qualitative study, I collected data using interviews beginning on June 29, 2020 and ending on July 14, 2020. I conducted a total of 10 virtual interviews in Zoom using the interview protocol described in Chapter 3. I audio recorded in two ways. I used the embedded record feature within Zoom, and I also used a handheld digital recorder as backup. Interviews ranged between 22-43 minutes. Data were collected as described in Chapter 3. Additionally, no unusual circumstances occurred during the data collection process.

Interviews

My interview with P1 occurred on June 29th and lasted 32 minutes. My next interview was with P2 on July 1st and lasted 28 minutes. My interview with P3 took place on July 6th and lasted 32 minutes. The interview with P4 was completed on July 6th and lasted 24 minutes. My next interview was with P5 on July 7th and lasted 43 minutes. My interview with P6 occurred on July 8th and lasted 25 minutes. My interview with P7 took place on July 10th and lasted 23 minutes. My next interview was with P8 on July 13th and lasted 22 minutes. The interview with P9 took place on July 14th and lasted 28 minutes. My final interview with P10 occurred on July 14th and took place for 25 minutes.

To prepare interview data for the data analysis phase, I transcribed the Zoom audio file to make written transcripts using the Zoom transcription feature. The Zoom transcript was then transferred to a Word document. All participant and institutional identifiers were removed from the document. I sent the transcripts to participants to review for accuracy, as I described in Chapter 3. Next, I uploaded the word file to Dedoose software in preparation for coding.

Data Analysis

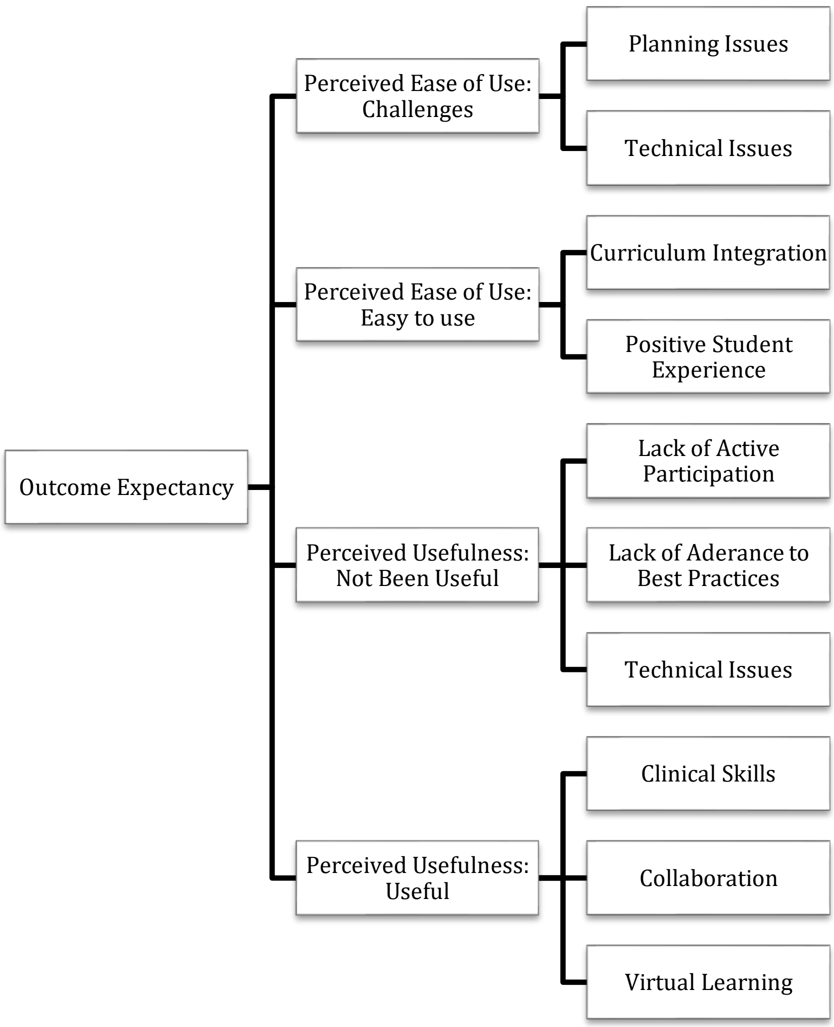
For this basic qualitative study, I conducted data analysis at two levels. I used a priori coding, also called protocol coding (see Saldaña, 2016) for Level 1 coding. To aide in the coding process, I developed a codebook as described by DeCuir-Gunby et al. (2011). The codebook identified the theory-driven or a priori codes I used, along with descriptions and inclusion criteria. The a priori codes were chosen based on their alignment with Gu et al.'s (2013) TAM. I coded data by labeling excerpts with pre-determined a priori codes developed to align to the four constructs of Gu et al.'s TAM. At the second level, I categorized the a priori codes into emergent themes (see Elliott, 2018; Saldaña, 2016). The themes represented significant concepts within the data sets (see Ravitch & Carl, 2016). Through the data analysis process, I ended up with a total of 285 coded excerpts, which I then organized into 12 themes and 29 subthemes. Appendix B includes my codebook with a summary of the final themes and subthemes. Appendix B also provides an exemplar quote from the data that best describes data that were coded in that subtheme.

The first a priori code was outcome expectancy, and I applied this code to 81 excerpts in my data that I divided into four themes (see Figure 1). The first theme, PEOU (challenging to use), applied to data that addressed how difficult it was to implement HFS. The second theme, PEOU (easy to use), applied to data that addressed how easy it was to implement HFS. The third theme, PU (useful), applied to data that addressed how useful HFS was in providing realistic learning experiences for students. The fourth theme, PU (not useful), applied to data that addressed how HFS was not useful in providing realistic learning experiences for students.

For the first a priori code, outcome expectancy, I excluded data that did not address PEOU or usefulness. Discrepant data are data that I did not understand or isolated data that did not fit into the emerging themes (see Wolcott, 1994). Discrepant data may also contradict trends found within the majority of the data (Bashir et al., 2008). My plan for dealing with discrepant data included documenting this data so readers can construct their own interpretations and possibility explore these comments further as recommended by Wolcott (1994). In my data for outcome expectancy, there was some contradiction between the experts for PU (useful) and PU (not useful). Though P1 reported that HFS technology was useful for providing virtual HFS, P1 also expressed that when they experienced technology issues, such as poor audio, this made the HFS not useful. For more detail on how subthemes were applied see codebook with exemplar quotes in Appendix B.

Figure 1

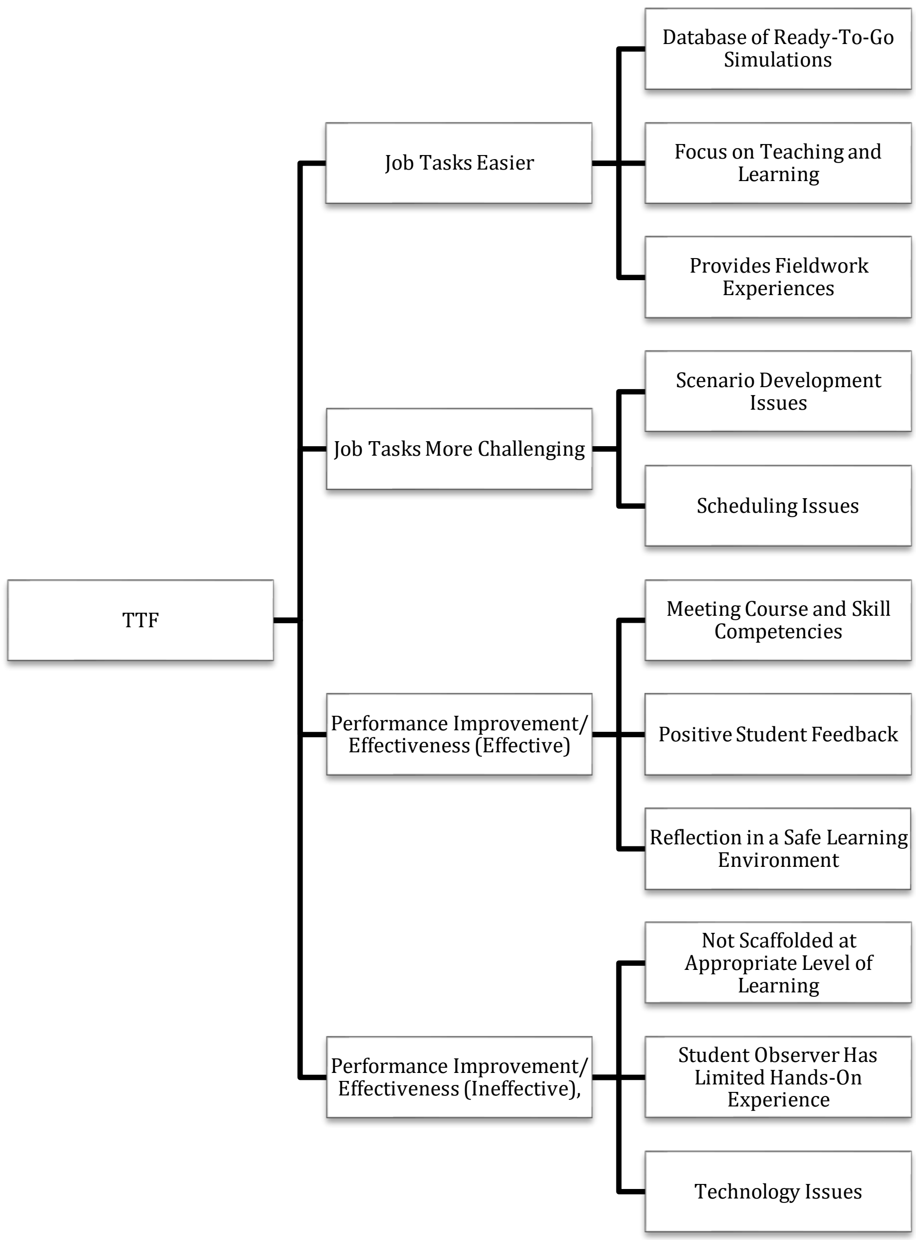
Code Tree for a Priori Code Outcome Expectancy



The second a priori code was TTF, and I applied this code to 89 excerpts in my data. I had four themes: job tasks easier, job tasks more challenging, performance improvement/effectiveness (effective), and performance improvement/effectiveness (ineffective; see Figure 2). The first theme, job tasks easier, applied to data that addressed how HFS has made faculty's job of teaching easier. The second theme, job tasks more challenging, applied to data that addressed how HFS has made faculty's job of teaching more challenging. The third theme, performance improvement/effectiveness (effective), applied to data that addressed how effective HFS was for teaching clinical skills to OT graduate students. The fourth theme, performance improvement/effectiveness (ineffective), applied to data that addressed how ineffective HFS was for teaching clinical skills to OT graduate students. For the second a priori code, TTF, I excluded data that did not address job task ease of use or performance improvement/effectiveness. There were no discrepant data. For more detail on how subthemes were applied see codebook with exemplar quotes in Appendix B.

Figure 2

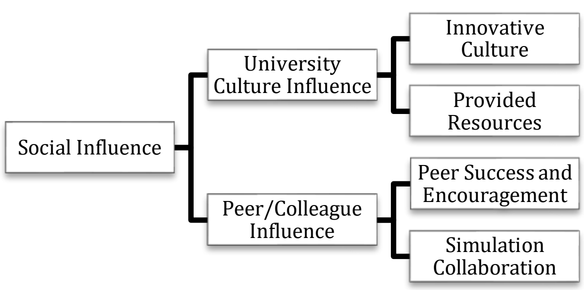
Code Tree for a Priori Code Task Technology Fit



The third a priori code was social influence, and I applied this code to 68 excerpts in my data. I had two themes, university culture influence and peer/colleague influence (see Figure 3). The first theme, university culture influence, applied to data that addressed how the university's culture influenced use of HFS in a positive or negative way. The second theme, peer/colleague influence, applied to data that addressed how relationships with fellow faculty influenced HFS use in a positive or negative way. For the third a priori code, social influence, I excluded data that did not address university or faculty influence on use of HFS. There were no discrepant data. For more detail on how subthemes were applied see codebook with exemplar quotes in Appendix B.

Figure 3

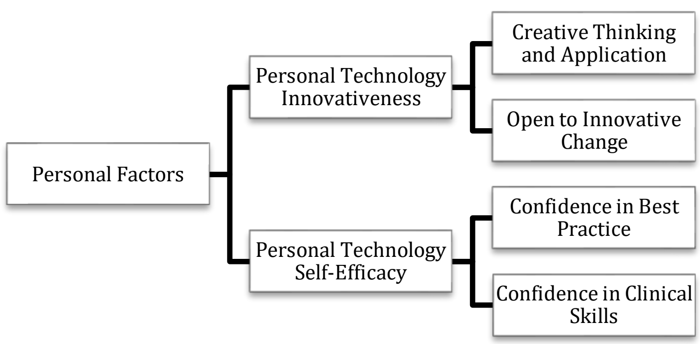
Code Tree for a Priori Code Social Influence



The fourth a priori code was personal factors, and I applied this code to 47 excerpts in my data. I had two themes, personal technology innovativeness and personal technology self-efficacy (see Figure 4). The first theme, personal technology innovativeness, applied to data that addressed how openness to innovation and change influenced a faculty member's decision to use of HFS. The second theme, personal technology self-efficacy, applied to data that addressed how faculty's views of HFS, or their confidence in their abilities to use HFS influenced their view of its potential use in teaching. For the fourth a priori code, personal factors, I excluded data that did not address personal technology innovativeness or self-efficacy. There were no discrepant data. For more detail on how subthemes were applied see codebook with exemplar quotes in Appendix B.

Figure 4

Code Tree for a Personal Factors



Evidence of Trustworthiness

I upheld issues of trustworthiness in a number of ways. In this section, I will describe how I ensured credibility, transferability, dependability, and confirmability. First, I ensured credibility by using the strategy of member checking by having involved participants review and verify the accuracy of the interview transcripts. I did this following the strategies suggested by Carlson (2010) that I described in Chapter 3. OT faculty participants were emailed the electronic interview transcripts to verify for accuracy.

Next, I ensured transferability by using the strategy of reflexive journaling to document thoughts that reflect upon my personal notes, encounters, perspectives, and biases. I did this following the strategies suggested by Carlson (2010) that I described in Chapter 3. I used Zoom to audio record and transcribe my reflective thoughts in an electronic reflexive journal every week.

I ensured dependability by using the strategy of creating an audit trail to maintain a record of raw data, methodological processes notes, and analytic memos. I did this following the strategies suggested by Carlson (2010) that I described in Chapter 3. I included data collection and analysis documents including field notes, interview transcripts, and coding documents with analytic memos. I used Zoom to audio record and transcribe my field notes and analytic memos.

Finally, I ensured confirmability by using the strategy of creating and audit trail and engaging expert qualitative researchers in the process. I did this following the strategies suggested by Carlson (2010) and Cutcliffe and McKenna (2004) that I described in Chapter 3. I emailed the coded interview transcripts to qualitative research experts and they confirmed that the findings were based off the participant's responses rather than my perceptions and biases.

Results

In this section, I have organized the results by RQ. For each RQ I included the supporting a priori code, themes, and subthemes. Table 5 provides an overview of the mentions of codes aligned with the four TAM constructs.

Table 5

Mentions of Technology Acceptance Model Construct Codes

TAM Construct		Mentions
Outcome Expectancy		81
Personal Factors		47
Social Influence		68
Task-Technology Fit		89
	Total	285

Research Question 1

Research Question 1 was as follows: What are faculty beliefs about outcome expectancy of high-fidelity SBL in OT graduate programs? Themes that helped answer that question included participant beliefs that focused on: (a) How easy it was to implement HFS, (b) how challenging it was to implement HFS, (c) how useful HFS been in providing realistic learning experiences for students, and (d) how HFS has been not useful in providing realistic learning experiences for students. In this section, I will describe each of the subthemes that emerged under each of these four themes. The mentions of codes aligned with outcome expectancy can be found in Table 6.

Table 6

Mentions of Codes Aligned with Outcome Expectancy

Themes	Subthemes	Mentions	Total
Perceived ease of use: Challenging to use			19
	Planning issues	12	
	Technical issues	7	
Perceived ease of use: Easy to use			22
	Supportive resources	15	
	Curriculum integration	5	
	Positive student experience	1	
Perceived usefulness: Not been useful			12
	Lack of adherence to best practice	6	
	Lack of active participation	4	
	Technical issues	2	
Perceived usefulness: Been useful			28
	Clinical skills	14	
	Virtual learning	10	
	Collaboration	4	
			81

Perceived Ease of Use: Challenging to Use

The PEOU: challenging to use theme, included faculty discussing how challenging it was to implement HFS. Table 6 shows a total of 19 mentions of the challenging to use theme, which I categorized into two subthemes, planning issues and technical issues.

Planning Issues. The largest subtheme I coded was “planning issues” with 12/19 of total excerpts for this theme. The majority of participants felt HFS was challenging to use because of planning issues such as scheduling and scenario development. For example, P5 expressed,

> It definitely takes a lot more setup time, there's a lot more logistics involved in terms of making sure that you even have the space available in the simulation center. You have to make sure you've got your objectives in line. There is a little bit more planning involved. So, there is more work on the front end.

In addition to set-up time, participants also commented on the coordination with other teammates, course schedule, and syllabus. For example, P7 stated,

> Just coordinating everyone can be difficult, and then scheduling time, making sure that the time and that in the same environment matches up with your syllabus and matches up with your learning objective. There's a lot of logistics behind it. You have to be very organized.

Overall, participants felt that there were planning challenges that revolved around scheduling, set-up, course alignment, and team coordination.

Technical Issues. The next subtheme, "technical issues," made up 7/19 of the excerpts within the challenging to use theme. Most participants felt HFS was challenging to use because of technical issues such as problems with streaming, audio, and cameras. For example, P2 expressed, "audio problems or sound problems or, you know, like visual streaming problems." In addition to audiovisual (AV) and streaming issues, participants also expressed camera view could present a challenge. For example, P1 stated:

> And it was a bit of a challenge, trying to get the camera angles just right for us to really bring in that high fidelity of them seeing the standardized patient with the

> shingles and getting zooming in/zooming out, so sometimes it was challenging from not being right there in a simulation. When it became virtual that was a big challenge to still make it a high-fidelity sim with just getting our camera angles just correct.

In summary, participants felt that there were technical challenges that revolved around steaming and A/V issues.

Perceived Ease of Use: Easy to Use

The PEOU: easy to use theme, included faculty discussing how easy it was to implement HFS. The easy to use theme also included three subthemes; they are supportive resources, curriculum integration, and positive student experience. The codes associated with RQ1 can be found in Table 6.

Supportive Resources. The largest subtheme I coded was “supportive resources” with 15/22 of total excerpts for this theme. Eight out of 10 participants felt HFS was easy to use because of the key resources were provided by the university. For example, P8 expressed, “this program is very easy to use because we have dedicated staff members who are trained in it and who are able to help us manage it, set it up, help us get it going, record it.” In addition to staff support, participants also commented on the importance of a dedicated simulation space with access to specialized equipment. For example, P1 stated,

> The actual design the actual facility itself as far as having the hospital beds available having the ADL [activities of daily living] suite available. Having equipment there that is the real thing or looks exactly like the real thing for

> transfers, or for doing IVs as far as having the ports look realistic for when we do multi trauma cases. Also having the all the equipment, like all the adaptive equipment and then assistive technology that we need. Kind of makes it more robust of a simulation. So, it's easy, that we don't have to search for it, it's there and ready and go for us.

Overall, participants felt that supportive resources such as support staff, a dedicated simulation space, and authentic equipment made the use of HFS easier.

Curriculum Integration. The next subtheme, "curriculum integration," made up 5/22 of the excerpts within the easy to use theme. Three out of 10 participants expressed that HFS was easily integrated into the curriculum as a method for students to meet course learning objectives. For example, P2 stated, "having that that realistic and authentic environment allows me to really just focus on the goals and the learning objectives and not rely on the student's imagination." Similarly, P1 suggested that the HFS was easy to use because it integrated well into the curricular design. P1 continued saying, "our curricular design allows us to add that simulation aspect in with us being online learning and also in lab, so it's made it easier because of the structure of our coursework." Overall, these participants felt HFS was easy to use because it could be easily embedded into the curriculum to support learning.

Positive Student Experience. The final subtheme, "positive student experience" was coded to only one excerpt from P9. This participant felt that HFS was easy to use because students found it to be an enjoyable learning experience. For example, P9 stated,

> Well, I think it's easily adopted by students. I think that's one big factor that adds to the ease of use is that it's enjoyable. The students find it fun. So, it's not one of these things that you're trying to like pull teeth to get involvement with.

While, only one participant commented on this subtheme, this student-focused belief is worth noting because student adoption may impact faculty HFS use.

Perceived Usefulness: Not Been Useful

The PU: not been useful theme, included faculty discussing how HFS has not been useful. The not been useful theme also included three subthemes, they include; lack of adherence to best practice, lack of active participation, and technical issues. The code mentions can be found in Table 6.

Lack of Adherence to Best Practice. The largest subtheme I coded was "lack of adherence to best practice" with 6/12 of total excerpts for this theme. Three out of the 10 participants felt HFS was not useful if there was a lack of adherence to best practice standards such as inappropriate use SPs, equipment, time, and debriefing strategies. For example, P9 expressed:

> I find it not useful when it's not set up properly. Honestly, and that's probably on me but if I want to run a simulation, but I do not have the resources or time to do it, maybe like we might use a student as a patient or we might use a faculty as a patient. I think it's still useful to them, but I don't think it's as useful as like a really nicely set up. Simulation with a simulated patient and like all the equipment that's needed, you know. I think sometimes that happens when we don't have the time or the resources to set it up.

In addition to inappropriate use of resources such as SPs, time, and equipment, if other best practice standards, such as if prebriefing and debriefing weren't followed properly, participants felt this made HFS not useful. For example, P5 stated:

> when it's not debriefed or used properly or put into like a really good context, or when the students aren't kind of respecting that simulation space. I've not run into that, but I could imagine that if you didn't really emphasize the importance of psychological safety and making sure that the students were being respectful of the space and being attentive.

Overall, participants felt that HFS was not useful when there was misalignment with simulation best practice standards.

Lack of Active Participation. The next subtheme, "lack of active participation," made up 4/12 of the excerpts within the easy to use theme. Four of the 10 participants felt HFS was not useful if there was a lack of active participation, especially in the observer role. For example, P4 expressed, "I can't get more students involved in the simulation outside of the observer role and that's been a bit of a challenge. You want to get them all in. You want all of the students that have the opportunity to experience being with the standardized client." Other participants went on to confirm this, especially when demonstration of psychomotor skills was required. For example, P2 stated,

> Using just simulation unless every student goes through it. So, a lot of the skills, obviously. You know the observers, get that benefit as we know from the research, but when I'm looking at actual psycho motor skills, that's something that I like to see students in lab doing and have skills practical and check offs,

> because they have to do it again and again and again. So, I think some of those more psycho motor things unless every student is going through it has to be done in a lab type format, preferably.

In summary, participants felt that HFS was not useful when there was a lack of active and hands-on participation, especially when psychomotor skill competency needed to be assessed.

Technical Issues. The next subtheme, "technical issues" made up 2/12 of the excerpts within the not useful theme but was only coded from P1. This participant felt that HFS was not useful when there were technical issues that distracted learners for the educational experience. For example, P1 expressed, "if there's a technological issue, I found that it diminished the experience." Audio and visual issues were cited as specific technical issue that made HFS not useful. For example, P1 also stated, "It's only usually if we have a disconnect with maybe audio. It's more of a technology issue like we have an audio or visual. Loss or complication will decrease the experience for the students if we run into glitches." In summary, this participant felt that HFS was not useful when there were technology issues that impeded student engagement and learning.

Perceived Usefulness: Been Useful

The PU: been useful theme, included faculty discussing how HFS has been useful. The been useful theme also included three subthemes; they are clinical skills, virtual learning, and collaboration. The codes associated with RQ1 can be found in Table 6.

Clinical Skills. The largest subtheme I coded was "clinical skills" with 14/28 of total excerpts for this theme. The majority of participants felt HFS was useful practicing skills in realistic clinical environments, honing critical thinking skills, and demonstrating safety standards with patients. For example, P9 expressed:

> It's this live action scenario that they have to think on their feet, and they have to really use those critical thinking skills. So, from that perspective, I think it gives the students that the most realistic experience of like being in the clinic.

In addition to the opportunity to practice critical thinking skills, participants felt HFS allowed students to practice clinical skills that they might not experience during fieldwork. For example, P8 stated:

> So, it's very useful in the fact that I know what objectives I can meet in that sim, so even just thinking, not all my students used to go to acute care, but if I'm running an acute care sim, it's useful in that I know I can meet the objectives of bringing in sims running a code. Doing a simulated fall. It really allows me to hit the pieces that I'm not sure they would get in a traditional level one. So, it's useful and ensuring that course content is applied in a practical sense.

Overall, participants felt that HFS was useful for student to practice clinical skills such as critical thinking and skills they might not get the opportunity to experience in fieldwork.

Virtual Learning. The next subtheme, "virtual learning," made up 10/28 of the excerpts within the useful theme. Four of the 10 participants felt HFS was useful for virtual simulation learning experiences, especially during the COVID-19 pandemic. For example, P1 expressed:

> I've also found it very extremely helpful. Now that we have gone virtual because of the fact that they can't go out and they can't work in field work placements and

> they can't go out and do some of the things hands on, the simulations have been really handy to for me to drive synchronous and asynchronous learning into the curriculum for my for my virtual teaching and be able to set up a situation since they can't go out with COVID-19, I can set up that situation they can watch it through their virtual format and still get that that high fidelity experience.

Other participants went on to confirm its usefulness and discussed the value of virtual telehealth sessions. For example, P7 stated:

> So yesterday we just did a whole day of telehealth using simulation, we had a simulated patient. We had a simulated script for the patient and that was an amazing experience in itself, but it was helping the students get ready for that because we are dealing with COVID-19 right now. So, it was helping the students get ready because they had the opportunity to actually treat a patient and then usability for transfers just really anything that you need a whole entire environment, you can use the high fidelity simulation experiences for that.

Participants also felt that having the recorded virtual simulation were very useful. For example, P5 stated, "having that option of having prerecorded videos and being able to use those as a point to debrief from, I think, is really helpful." In summary, participants felt that HFS was useful for providing students with virtual learning experiences.

Collaboration. The next subtheme, "collaboration," made up 4/28 of the excerpts within the useful theme. Two of the 10 participants felt HFS was useful for interprofessional and intraprofessional collaborative learning experiences. For example, P2 expressed,

> it's been helpful with interprofessional collaboration. I've been doing that for about seven trimesters now with another PT class and the students just can't say enough about how much they have learned about what the other profession does, and how much they've learned about their own profession and having those real time authentic experiences.

Participants also discussed the usefulness of HFS for facilitating good conversations and professional collaboration. For example, P5 stated, "I think it has opened up a lot of really good conversations about into professional collaboration and roles and professional identity." Intraprofessional collaborative learning experiences were also found to be useful by participants. For example, P2 stated,

> Intraprofessional collaboration has been amazing. We've had experts remote into simulations to participate in simulations, with the students to help them understand how you would collaborate with a mentor or an expert in your own field like what you do when you're out there and you don't know what to do because it happens to all of us.

In summary, participants felt that HFS was useful for student clinical skills practice, collaboration experiences, and virtual learning.

Research Question 2

Research Question 2 was as follows: What are faculty beliefs about TTF of high-fidelity SBL in OT graduate programs? Themes that helped answer that question included participant beliefs that focused on: (a) How HFS made tasks of their job easier, (b) how HFS made tasks of their job more challenging, (c) how HFS been effective for teaching clinical skills to your graduate OT students, and (d) how HFS been ineffective for teaching clinical skills to your graduate OT students, within the second a priori code, TTF. In this section, I will describe each of the subthemes that emerged under each of these four themes. The mentions of codes aligned with TTF can be found in Table 7.

Table 7

Mentions of Codes Aligned with Task Technology Fit

Themes	Subthemes	Mentions	Total
Task Outcomes: Tasks of Job Easier			16
	focus on teaching and learning	8	
	database of ready-to-go simulations	4	
	provides fieldwork experiences	4	
Task Outcomes: Tasks of Job More Challenging			19
	scenario development issues	12	
	scheduling issues	7	
Perceived Effectiveness: Been Effective			45
	meeting course and skill competency	20	
	reflection in a safe learning environment	15	
	positive student feedback	10	
Perceived Effectiveness: Not Been Effective			9
	student observer has limited hands-on experience	5	
	not scaffolded at appropriate level of learning	2	
	technology issues	2	
			89

Task Outcomes: Tasks of Job Easier

The task outcomes: tasks of job easier theme, included faculty discussing how HFS made tasks of their job easier. The tasks of job easier theme included three subthemes, they are: Focus on teaching and learning, database of ready-to-go simulations, and provides fieldwork experiences. The codes and mentions associated with RQ2 can be found in Table 7.

Focus on Teaching and Learning. The largest subtheme I coded was "focus on teaching and learning" with 8/16 of total excerpts within the tasks of job easier theme. The majority of participants felt HFS made their job easier because of the easy application of learning objectives and reinforcement of course content. For example, P9 stated,

> I think that it helps students meet their learning objectives and you're able to cater a simulation to the learning objectives pretty nicely. It's a good method to ensure that you're not only meeting the lecture objectives of that day but then relating that back to the course objectives and globally to the objectives of the program and of our program accrediting body.

Additionally, P8 stated, "I know that I can spend time in the class debriefing based on my high-fidelity sim, and then I can tie it into the reading. I can directly relate it to course content really easily."

In addition to easy application of learning objectives and reinforcement of course content, participants also expressed that HFS made their job easier because the realistic learning environments were already set up for simulated learning experiences. For example, P2 expressed,

> I have to spend a lot less time trying to set up or create some type of environment that might remotely mimic what we're doing. So literally, when I used to teach this class where we did acute care. I would spend over an hour. Probably trying to set a room up to just kind of look like it so they could imagine it and it still wasn't really an authentic environment. So, I've spent a lot less time having to set up and prep those types of environments and I'm able to spend a lot more time debriefing through assimilating knowledge and things like that. So, I feel like we're getting to a higher-level learning because I've got more time to spend on the actual learning part of it, and then to they have that more realistic experience that they can draw from.

Overall, participants felt that easy application of learning objectives, reinforcement of course content, and set-up realistic learning environments were key reasons why they thought HFS made their job easier.

Database of Ready-To-Go Simulations. The next subtheme, "database of ready-to-go simulations," made up 4/16 of the excerpts within the tasks of job easier theme. Two out of the 10 participants felt HFS made their job easier because they could access a library of developed simulation scenarios. For example, P1 expressed, "it's really a time saver that I can pull from the recorded databases and just reuse those and then do live synchronous debriefings afterwards." In addition to recorded simulations, participants also expressed that having access to pre-developed cases made their job easier. For example, P3 stated, “Multitudes of cases and our standardized patients.” Additionally, P1 stated, “it’s great that we have our database that I can pull from pull from last terms home modification simulation and I can reuse those.” In summary, participants felt access to a database with developed simulation scenarios and recordings made their job easier.

Provides Fieldwork Experiences. The next subtheme, “provides fieldwork experiences,” made up 4/16 of the excerpts within the tasks of job easier theme. Three out of the 10 participants felt HFS made their job easier because they could use simulation for preparing students for or facilitating fieldwork experiences. For example, P3 expressed, “So it’s been nice because we can adapt those simulations and so that makes things a lot easier for us planning for fieldwork.” Additionally, P7 stated, “I think it has made it easier because it gives me options as an instructor. So, what kind of lab activity do I want or what kind of fieldwork activity do I want?” Participants expressed that using HFS to prepare students for community practice made their job easier. For example, P4 stated,

> Allows for another step between lab and fieldwork and a lot of times, the two can cross over with the simulation and that’s that extra step that we need it before we allow the students into the community. We had the simulations where we could be sure that the students were ready. So, the students can work out some of the jitters and that’s made the task easier for me as an instructor, because I’m not trying to deal with those jitters and those unexpected variables in the community.

In summary, participants felt HFS made their job easier because they were able to better prepare students for clinical practice and use it for fieldwork experiences.

Task Outcomes: Tasks of Job More Challenging

The task outcomes: tasks of job more challenging theme, included faculty discussing how HFS made tasks of their job more challenging. The tasks of job more challenging theme included two subthemes; they are scenario development issues and scheduling issues. The codes associated with RQ2 can be found in Table 7.

Scenario Development Issues. The largest subtheme I coded was "scenario development issues" with 12/19 of total excerpts within the tasks of job more challenging theme. The majority of participants felt HFS made their job more challenging because it took a significant amount of time to develop simulation concepts and create the simulation scenarios. For example, P1 stated, "So it's more the initial creation of that simulation that seems to take the most time." Participants also discussed how the development of the scenarios impacts workload. For example, P10 stated, "I think that the timing and how much time is spent in planning those scenarios can be a challenge, and that also depends on your workload and your other responsibilities." Participants also discussed how HFS required the development of multiple documents and resources when launching a new simulation scenario which made their job more challenging. For example, P1 stated, "Initially there is the setup, there is extra time to create those simulations to record them to create the scripts to come up with everything for the standardized patients." Overall, participants felt that HFS made their job more challenging because they had to spend a lot of time developing the simulation concept and scenarios.

Scheduling Issues. The next subtheme, "scheduling issues" made up 7/19 of the excerpts within the tasks of job more challenging theme. Five out of the 10 participants felt HFS made their job more challenging because of scheduling coordination and reservation requirements. For example, P2 expressed, "I think it is challenging during the scheduling process to make sure the spaces are open and free." Participants also discussed the they found it challenging when they had to provide scheduling information to reserve the date and simulation space. For example, P3 stated, "we had to submit the cases through our online system to help set up, schedule, and provide the information." In summary, participants felt HFS made their job more challenging because they had to spend time planning and submitting a request to use to the simulation center.

Perceived Effectiveness: Been Effective

The perceived effectiveness: been effective theme, included faculty discussing how HFS has been effective for teaching clinical skills to OT graduate students. The been effective theme included three subthemes; they are meeting course and skill competencies, reflection in a safe learning environment, and positive student feedback. The codes associated with RQ2 can be found in Table 7.

Meeting Course and Skill Competencies. The largest subtheme I coded was "meeting course and skill competencies" with 20/45 of total excerpts within the been effective theme. The majority of participants felt HFS had been effective for teaching clinical skills, especially for psychomotor skills, communication, and interprofessional collaboration. For example, P10 stated, "I think it's been effective in the sense that we get to see skill and skill development." Other participants elaborated on the effectiveness of skill assessment checks. For example, P8 stated,

> It's been really effective and making sure that I'm making those hard core check off skills are actually occurring which we don't always see especially when in a course like psychosocial intervention. It's really hard sometimes to make sure that's happening, but a sim allows us to do that. So, we are very specific about making sure we have an assessment sim and a skill sim and a group sim.

Participants also commented on the effectiveness of interprofessional communication and collaboration simulations. For example, P7 stated,

> So, it's been effective to teach interprofessional education. In first term when we're teaching OT and PT students, we put them into a simulation where they have to interact with each other. And so that's been highly effective for them to just begin to communicate with each other and then in fourth term we put an OT and PT students together again to work together for a co-treatment. So, it's really effective for interprofessional education.

Overall, participants felt HFS was effective for teaching and evaluated psychomotor competencies skills and interprofessional communication and collaboration.

Reflection in a Safe Learning Environment. The next subtheme, "reflection in a safe learning environment" made up 15/45 of the excerpts within the been effective theme. The majority of participants felt HFS was effectively provided a safe and reflective environment for students to learn clinical skills. For example, P7 expressed,

> The high-fidelity simulation offers a safety net. So, when you have the real-life client, even with the pro bono clinic, that's a real-life clinical environment. These are real clients with real needs and real safety concerns. So, if the student isn't treating the patient exactly like they should in the simulated environment, it's a safe space to talk about it.

Participants also discussed the effectiveness of a reflective debriefing session. For example, P6 stated,

> I think all of the power of the simulations comes in the debriefing and then you're asking students to reflect on their performance, but also on the performance of others. And you really see sort of those light bulb moments.

In summary, participants felt HFS was effective because it provided a safe learning environment and a reflective debriefing process.

Positive Student Feedback. The next subtheme, "positive student feedback" made up 10/45 of the excerpts within the been effective theme. Five of the 10 participants felt HFS was effective because students provided positive feedback about the learning experience. For example, P6 expressed, "the students enjoy being in clinical high-fidelity simulation. Simulations, they always talk about them every term. That's the big thing that they remember from the term before." P6 also reported,

> They always give feedback that they feel like that they learned the most from these simulations and being put in a situation where they feel like they're dealing with a real client. I think that the emotions and the mental aspects of these

> simulations is lasting on the students that they are able to feel the fear of being in front of someone for the first time and having to be a therapist.

Participants expressed that students felt that the debriefing session positively impacted their learning. For example, P1 stated, "I get a lot of positive feedback from the students. I feel like they really come away their takeaway in there after their debrief. They really come away with a lot more insight on that topic, concept, and objective." In summary, participants felt HFS was effective because students gave positive student feedback about the learning experience.

Perceived Effectiveness: Not Been Effective

The perceived effectiveness: not been effective theme, included faculty discussing how HFS has not been effective for teaching clinical skills to OT graduate students. The not been effective theme included three subthemes; they are student observer has limited hands-on experience, not scaffolded at appropriate level of learning, and technology issues. The codes and mentions associated with RQ2 can be found in Table 7.

Student Observer Has Limited Hands-On Experience. The largest subtheme I coded was "student observer has limited hands-on experience" with 5/9 of total excerpts within the not been effective theme. Four of the 10 participants felt HFS was ineffective when students were not able to assume the role of the active participant, especially for psychomotor skills. For example, P2 stated, "I think some of those psychomotor skills, transfers handling, things like that. That that's not that effective unless they're the participant." Other participants discussed how the student observers sometimes aren't engaged. For example, P9 explained,

> I think the literature says that, those who observe will learn just as much as the one who is doing the actual simulation and I do believe that on a certain level, but then I also I think that the students who are observing because of their attention span because of them being pulled in different directions, temptations to study for other classes, the ones who are observing maybe sometimes don't get as much out of the experience because they aren't hands on.

Participants also discussed how some student that aren't actively involved can lose interest. For example, P6 stated, "And there's the whole class on there. You can tell they lose some of that feeling of the one-to-one interaction with the patient." Overall, participants felt HFS was not effective when students were not actively involved, especially when demonstration of psychomotor skills was required.

Not Scaffolded at the Appropriate Level of Learning. The next subtheme, "not scaffolded at the appropriate level of learning" made up 2/9 of the excerpts within the been effective theme but was only coded from P10. This participant felt HFS was not effective when the simulation was not integrated into the curriculum at the appropriate level of learning. For example, P10 expressed, "I think at least from my experience where I've had issues with simulation is that I introduced it way too early, when the students didn't have the skill set just yet." This participant stressed that a simulation was ineffective if scaffolding didn't take place. P10 stated,

> I think the piece that we need to be mindful of knowing [is] when to introduce your simulation. I think that's the piece that as instructors, we need to be thinking about when would this be better. Would this be better in the beginning. And I

> think that all goes back to what you're trying to teach. What is it that you're trying to get from the experience? But I think what is really important is knowing where to put this piece of simulation in your course.

In summary, participants felt HFS was not effective when simulations were not scaffolded at the appropriate level of learning.

Technology Issues. The next subtheme, "technology issues" made up 2/9 of the excerpts within the not been effective theme. Two of the 10 participants felt HFS was not effective when technology issues distracted the learner from engaging. For example, P6 expressed, that she found that it was not effective "when we were doing a sim while we were trying to use a new technology." The participant expressed that when a new simulation technology did not function properly, it could disrupt the learning experience. Participants expressed that the transition to virtual simulations was difficult because reliance on technology was involved. For example, P6 reported,

> Transitioning some of the content into a telehealth format right now [is difficult.] The students struggle with it because they're already trying to understand the course content and how they're supposed to apply, but then doing it in a telehealth format has been difficult.

In summary, participants felt HFS was ineffective when technology issues complicated the learning experience.

Research Question 3

Research Question 3 was as follows: What are faculty beliefs about social influence of high-fidelity SBL in OT graduate programs? Themes that helped answer that question included participant beliefs that focused on: (a) how the university culture has influenced use of HFS in a positive or negative way, and (b) how relationships with fellow faculty influenced the use of HFS in a positive or negative way, within the third a priori code, social influence. In this section, I will describe each of the subthemes that emerged under each of these two themes. The mentions of codes aligned with social influence can be found in Table 8.

Table 8

Mentions of Codes Aligned with Social Influence

Themes	Subthemes	Mentions	Total
University Culture Influence			40
	provided resources	21	
	innovative culture	19	
Peer/Colleague Influence			28
	simulation collaboration	12	
	peer success and encouragement	11	
			68

University Culture Influence

The university culture influence theme, included faculty discussing how the university culture influenced the use of HFS in a positive or negative way. The university culture influence theme included two subthemes; they are provided resources and innovative culture. The codes associated with RQ3 can be found in Table 8.

Provided Resources. The largest subtheme I coded was “provided resources” with 21/40 of total excerpts within the university culture influence theme. The majority of participants felt HFS the university culture supported a robust simulation infrastructure with a variety of helpful resources. For example, P9 said that her choice to use HFS was influenced by:

> resources provided by the university such as the actual physical location and the equipment that it has to enhance the experience. The availability of the staff and faculty. The tools that are available. I mean, it's high tech, you have whatever you need, and that adds to the realness of the experience.

Participants also expressed that training was a key resource that supported the use of HFS. For example, P2 expressed,

> There were a lot of trainings through the simulation center. They do quite a few per term as far as technology education sessions as far as how to use simulation education in our education, how to use different pieces of innovative technology. So that was a huge fostering of encouragement to start implementing that into our practice. And I think one of the biggest things is the fact that there's plenty of training to get you started. So, the training was kind of key.

Overall, participants felt that the university culture supported faculty use of HFS through providing resources such as a designated space, staff, equipment, and training.

Innovative Culture. The next subtheme, "innovative culture" made up 19/40 of the excerpts within the university culture influence theme. The majority of participants felt the university culture fostered an innovative approach to teaching and learnings and supported HFS through its mission, vision, leadership acceptance, and strategic curriculum integration. For example, P9 explained, "So I think it's part of that mission and vision of the university. And so that kind of trickles down." P1 also supported this by stating, “The mission of the university being about innovation and being about technology and simulation. There’s much more of the drive and encouragement.” Participants also expressed strong support to use HFS from university leadership. For example, P7 stated, “And we’re just highly encouraged by our program directors and administration to try it to use it.” In summary, participants felt the innovative and supportive culture facilitated their acceptance of HFS.

Peer/Colleague Influence

The peer/colleague influence theme, included faculty discussing how relationships with fellow faculty influenced the use of HFS in a positive or negative way. The peer/colleague influence theme included two subthemes; they are simulation collaboration and peer success and encouragement. The codes and mentions associated with RQ3 can be found in Table 8.

Simulation Collaboration. The largest subtheme I coded was “simulation collaboration” with 12/28 of total excerpts within the peer/colleague influence theme. The majority of participants felt OT faculty colleagues supported their use of HFS through collaborative projects and assistance with simulation roles. For example, P5 stated,

> We have a really cohesive, friendly sort of working environment within the OT faculty and so when it comes to simulation, or if someone needs a patient or someone to act or someone to help record something. I think that makes it a lot easier because if I want to do a simulation, I don’t have to worry that I’m not

> going to have someone to help me out with it, just to like be the actor or something.

Participants also expressed that faculty support use of HFS through collaborative simulation projects. For example, P2 expressed, “We helped each other develop better and better scenarios where we feel really comfortable with the bank that we have now.” This collaboration was also conducted across university campuses. For example, P10 stated, “I think that’s where the exchange of ideas is really important when you’re discussing this with other campuses across the board.” Overall, participants felt that faculty influence use of HFS through collaborative projects and assistance with course simulations.

Peer Success and Encouragement. The next subtheme, “peer success and encouragement” made up 11/28 of the excerpts within the peer/colleague influence theme. The majority of participants felt a positive and encouraging influence from other faculty encouraged acceptance and increased use of HFS. For example, P6 communicated, “this is something that when someone is very passionate about it then they tend to tell everybody. It encourages everyone to say, hey, I can think of something that I can do in my course.” P3 also supported this by stated, “because of our peer support within and that everyone else was doing it, it helped encourage us to continue facilitating it.” Participants also expressed HFS was supported through faculty testimonies and showcases. For example, P7 reported, “the longer we’ve had the simulation and the longer we’ve told other people about what we’ve done and the more showcases that we do, I think more and more faculty members are coming around to it.” In summary, participants other OT faculty influenced HFS acceptance through collaboration and encouragement.

Research Question 4

Research Question 4 was as follows: What are faculty beliefs about personal factors of high-fidelity SBL in OT graduate programs? Themes that helped answer that question included participant beliefs that focused on: (a) how faculty's confidence in their abilities to use HFS influenced their view of its potential use in teaching, and (b) how openness to innovation and change influenced faculty's decision making to use HFS within the fourth a priori code, personal factors. In this section, I will describe each of the subthemes that emerged under each of these two themes. The mentions of codes aligned with personal factors can be found in Table 9.

Table 9

Mentions of Codes Aligned with Personal Factors

Themes	Subthemes	Mentions	Total
Personal Technology Self-Efficacy			22
	confidence in best practice	15	
	confidence in clinical skills	7	
Personal Technology Innovativeness			25
	open to innovative change	14	
	creative thinking and application	11	
			47

Personal Technology Self-Efficacy

The personal technology self-efficacy theme, included faculty discussing how confidence in their abilities to use HFS influenced their view of its potential use in teaching. The personal technology self-efficacy theme included two subthemes; they are confidence in best practice and confidence in clinical skills.

Confidence in Best Practice. The largest subtheme I coded was "confidence in best practice" with 15/22 of total excerpts within the personal technology self-efficacy theme. The majority of participants felt their confidence in understanding simulation best practice standards and technology positively influenced their acceptance of HFS. For example, P9 communicated, "I know those trainings really increased my competence from that perspective and they were really hands-on trainings. We had a lot of practice." Participants felt these trainings provided them with the necessary experience to develop simulation scenarios and use the HFS technology. For example, P7 stated, "The university helped to give me the training that I needed on how you use the simulation experience and how you connect the dots to learning objectives and this is how you use all this fancy technology equipment." Some participants expressed feeling intimidated by the simulation technology prior to the training. For example, P8 reported,

> I was honestly really afraid to use of technology. I had done role play in the classroom but it wasn't role play is it's kind of a broad overview, where the high fidelity sim has a methodology to it. But I would say once I took the course, I realized I can do this. So, once I kind of hit that I actually feel very confident using it and very confident just kind of going in there and setting it up.

Overall, participants felt the simulation trainings that focused on best practice scenario development and technology use increased their confidence to use HFS.

Confidence in Clinical Skills. The next subtheme, “confidence in clinical skills” made up 7/22 of the excerpts within the personal technology innovativeness theme. Five out of 10 participants felt their clinical self-efficacy impacted their confidence to use HFS. For example, P7 stated, “I think that my clinical self-efficacy translates to the high-fidelity simulation, because what I’m doing is creating something that would happen in real life.” P2 also agreed that confidence in their clinical skills allowed them to be more confident in using HFS. P2 expressed,

> I think that I’m pretty confident in my skills as an OT and have a lot of experience and training, so just being able to get those on paper and then looking at best practices to figure out how to execute them optimally.

One participant discussed how their experience in the clinical environment, increased their confidence to conduct HFS debriefing sessions. For example, P10 reported,

> I just think that’s my own background because having worked in mental health, that’s what I did for a living for quite some time was running groups right and redirecting the conversation and throwing it back to group members. So how would you do things differently? How does that make you feel when somebody says that about you or how would you handle it next time? So, I think my background with mental health, I think has led to my confidence and leading a good debrief.

In summary, participants felt clinical experience and confidence in their clinical skillset, increased their confidence to use HFS.

Personal Technology Innovativeness

The "personal technology innovativeness" theme, included faculty discussing how openness to innovation and change influenced their decision making to use HFS. The personal technology innovativeness theme included two subthemes; they are open to innovative change and creative thinking and application. The codes associated with RQ4 can be found in Table 6.

Open to Innovative Change. The largest subtheme I coded was "open to innovative change" with 14/25 of total excerpts within the personal technology innovativeness theme. The majority of participants felt being open to innovative teaching approaches and technologies influenced the acceptance of HFS. For example, P5 stated,

> I think that I'm very a very flexible person and I think that definitely helps. I don't feel like I'm stuck in my ways or anything and so I do think that being flexible has really been a key component to people adopting simulation, including myself as more people who are a little bit more old school don't really want to change or more kind of rigid in their ideas. There's been less adoption of simulation.

Participants felt an innovative mindset created a natural acceptance of HFS. For example, P9 communicated, I'm pretty open to change and open to new ideas and I like to be creative. For me, it's probably a natural jump to really embrace simulation and embrace the creation of it because I like being innovative and I like learning new things.

Participants also expressed that the profession of OT had a natural innovative tendency which influenced acceptance of HFS. For example, P7 expressed,

I am an OT, so I feel like we are innately a little more innovative than other healthcare professionals, because we adapt and we grade activities and we modify things. I think that being an innovative person is going to make you want to utilize innovative equipment.

Overall, participants felt that their openness to change and innovative mindset promoted acceptance of HFS.

Creative Thinking and Application. The next subtheme, "creative thinking and application" made up 11/25 of the excerpts within the personal technology innovativeness theme. The majority of participants felt the HFS development required a creative and innovative approach. For example, when asked about how their level of innovativeness impacted their choice to use HFS, P9 responded that:

The creativity part comes in when we're talking about developing the prebrief for the students, and also creating the simulated patient. We have filmed the simulation prebrief videos for students and training videos for various simulated patients, which takes some creativity.

P3 also supported this by stated, "So definitely a high level of innovation is needed because we challenge our simulation staff to simulate different environments, whether it's furniture, whether it's wall hangings, whether it's standardized patients, and case development." Participants also expressed that their acceptance of HFS was influenced by creative and innovative teaching opportunities. For example, P10 stated, "I think creativity is one of my strengths, to think outside of the box, which is what draws me to a lot of innovative aspects of simulation in OT." In summary, participants felt a creative and innovative mindset facilitated acceptance and use of HFS.

Summary

Based on data analysis I organized a key finding for each RQ. The key finding for RQ 1 was that OT faculty believed their acceptance of HFS was influenced by outcome expectancy factors such as PEOU and usefulness. Participants believed there were challenges to using HFS that revolved around planning and technical issues. However, participants believed HFS was easy to use due to the supportive resources, effective curriculum integration, and positive student experience. Additionally, participants believed HFS was not useful when there was a lack of adherence to best practice, lack of active participation, or if there were technical issues. Participants felt HFS was useful for clinical skills practice, virtual learning, and collaboration. The key finding for RQ 2 was that OT faculty believed their acceptance of HFS was influenced by TTF factors such as perceived task outcomes and effectiveness. Participants believed that HFS made their job easier because of the focus on teaching and learning, database of ready-to-go simulations, and the opportunity for fieldwork experiences. However, participants believed that HFS made their job more challenging because of scenario development and scheduling issues. Participants believed HFS was effective for meeting course and skill competencies and reflecting in a safe learning environment. Additionally, participants believed it was effective because students provided positive feedback. Conversely, participants believed it was ineffective when the observer had limited hands-on experience, and if the HFS was not scaffolded properly or if there were technical issues. The key finding for RQ 3 was that OT faculty believed their acceptance of HFS was influenced by social influence factors such as university culture and peer/colleague influence. Faculty believed the access to resources and an innovative culture positively influenced their acceptance of HFS, and that simulation collaboration and encouragement among faculty peers positively impacted their acceptance of HFS. The key finding for RQ 4 was that OT faculty believed their acceptance of HFS was influenced by personal factors such as personal technology self-efficacy and innovativeness. For example, participants believed their HFS self-efficacy was influenced by their confidence in best practice standards and clinical skills. Additionally, participants believed their openness to innovative change and creative thinking positive influenced their acceptance of HFS. In the next chapter, Chapter 5, I will include interpretations of the findings, limitations of the study, recommendations, implications, and a conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this basic qualitative study was to explore OT graduate faculty beliefs related to technology acceptance of high-fidelity SBL. Using Gu et al.'s (2013) four key constructs that predict user acceptance within an educational setting, I examined faculty's beliefs about outcome expectancy, TTF, social influence, and personal factors toward technology to increase understanding about faculty acceptance of high-fidelity SBL in graduate OT programs. Based on data analysis, I organized a key finding for each RQ. The key finding for RQ 1 was that OT faculty believed their acceptance of HFS was influenced by outcome expectancy factors such as PEOU and usefulness. The key finding for RQ 2 was that OT faculty believed their acceptance of HFS was influenced by TTF factors such as perceived task outcomes and effectiveness. The key finding for RQ 3 was that OT faculty believed their acceptance of HFS was influenced by social influence factors such as university culture and peer/colleague influence. The key finding for RQ 4 was that OT faculty believed their acceptance of HFS was influenced by personal factors such as personal technology self-efficacy and innovativeness.

Interpretation of the Findings

This study was focused on the faculty acceptance of high-fidelity SBL in OT programs and was guided by four key constructs that predict user acceptance within educational settings: outcome expectancy, TTF, social influence, and personal factors (Gu et al., 2013). The findings from this study confirmed, disconfirmed, and extended findings from the literature. I interpreted these results in relation to the themes and subthemes organized by RQ and the review of the literature.

Faculty Beliefs on Outcome Expectancy

The key finding for RQ 1 was that OT faculty believed that their acceptance of HFS was influenced by outcome expectancy factors such as PEOU and usefulness. For PEOU, participants believed that HFS was challenging to use because of planning and technical issues. Similarly, other researchers like Zhu et al. (2018) found that limited technology resources impaired MOOC development and implementation. This was corroborated by Al-Ghareeb and Cooper (2016) who found that insufficient simulation equipment created a barrier to using HFS. Therefore, the findings of my study extended previous research that technical issues can negatively impact acceptance of a technology to apply to HFS in OT programs. Participants also believed HFS was easy to use due to the supportive resources, effective curriculum integration, and positive student experience, which confirmed previous research about positive student experiences with HFS. For example, Fu et al. (2017) found that most OT students felt that HFS prepared them for clinical practice. Regarding curriculum integration, the findings of my study also extend previous research to include OT faculty beliefs about HFS use as an instructional tool. For example, Ozelie et al. (2016) evaluated the impacts of curriculum-based HFS experiences among OT students and suggested that the use of simulation could be a valuable addition to coursework in the OT curriculum; however, what was not explored was OT graduate faculty beliefs of HFS as a learning and instructional tool.

For PU, participants believed that HFS was not useful when there was a lack of adherence to best practice, lack of active participation, or if there were technical issues. Previous researchers have described how a lack of active student participation or engagement can diminish the acceptance of a pedagogical approach or technology. For example, Zhu et al. (2018) found that pedagogical barriers revolved around challenges related to learner engagement, facilitating student interaction, and assessment options. Additionally, faculty may believe a technology to be not useful if they are not properly trained about best practice standards for curriculum integration. For example, Al-Ghareeb and Cooper (2016) explored faculty barriers to using HFS in an undergraduate nursing setting, which included a limited connection to curriculum and a lack of faculty training. Although research has explored faculty barriers to using HFS in undergraduate nursing (Al-Ghareeb & Cooper, 2016) and with MOOC technology (Zhu et al., 2018), the results from my study extend research to include OT graduate programs and HFS. Participants in my study also felt that HFS was useful for clinical skills practice, virtual learning, and collaboration, which confirmed previous research that clinical skills practice using HFS is useful in OT graduate programs (see Bennett et al., 2017). The findings of this study also confirmed previous research that HFS is useful for collaboration. For example, Zamjahn et al. (2018) showed that an interprofessional HFS increased student knowledge of procedures conducted by other disciplines and increased student willingness to collaborate as a healthcare team in the future.

Faculty Beliefs on Task Technology Fit

The key finding for RQ 2 was that OT faculty believed that their acceptance of HFS was influenced by TTF factors such as perceived task outcomes and effectiveness. For perceived task outcomes, participants believed HFS made their job easier because of the focus on teaching and learning, database of ready-to-go simulations, and opportunity for fieldwork experiences. The findings of this study confirm previous research that focused on using HFS for fieldwork experiences. For example, Bennett et al. (2017) showed that using HFS for fieldwork in OT programs broadened placement opportunities and experiences. Participants in my study also expressed that HFS made their job more challenging due to scenario development and scheduling issues. Though research has explored faculty technology barriers and job task challenges, such as limited release time and compensation for MOOC development and interaction (Zhu et al., 2018), results from my study extend findings to include HFS task challenges. In addition to development barriers, Al-Ghareeb and Cooper (2016) found that nursing faculty using HFS perceived there was additional time required to learn a new technology which led to increased workload. However, though Al-Ghareeb and Cooper’s study addressed HFS technology acceptance, my study extends the research to apply to OT faculty instead of nursing faculty.

For perceived effectiveness, participants in my study believed that HFS was effective for meeting course and skill competencies and reflecting in a safe learning environment. SPs and mannequins are used in HFS to provide students with realistic patient encounters to enhance skill competencies such as practice evaluation procedures, safety techniques, handling methods, communication, treatment planning, cultural competence, and critical thinking to prepare students for clinical practice (Bennett et al., 2017). Though my study confirms the previous research that focused on using HFS to improve course and skill competency, my study extends the research to include OT faculty beliefs. The findings of my study also confirmed previous research that focused on using HFS to foster a safe learning environment. For example, Mueller et al. (2017) found that high fidelity encounters provided students with a life-like student experience in settings such as acute care and trauma-based care to provide students with a safe learning environment to practice the delivery of clinical communication and skills. However, participants in my study also expressed that HFS was ineffective when the observer had limited hands-on experience, and if the HFS was not scaffolded properly or if there were technical issues. Researchers like Al-Ghareeb and Cooper (2016) have found that a simulation with limited connection to the curriculum was a pedagogical barrier to using HFS in an undergraduate nursing setting, but results from my study extended to address scaffolding of HFS in OT graduate programs. In another study, Zhu et al. (2018) evaluated pedagogical barriers with MOOC technology and found that a lack of team collaboration and limited technology resources impaired MOOC effectiveness. The findings of my study confirm that technical issues can diminish the effectiveness of a technology; however, my study extends these finding to HFS.

Faculty Beliefs of Social Influence

The key finding for RQ 3 was that OT faculty believed their acceptance of HFS was influenced by social influence factors such as university culture and peer/colleague influence. For university culture influence, faculty believed that access to resources and an innovative culture positively influenced their acceptance of HFS. Similarly, Dintoe (2019) found that faculty technology acceptance was improved when the university culture properly supported the implementation process and gave adequate time to faculty to learn the technology. If adequate time was not provided, faculty tended to resort to traditional teaching practices, which created a barrier to technology acceptance (Dintoe, 2019). This was corroborated by Al-Ghareeb and Cooper (2016) who showed that enabling factors included sufficient faculty training, leadership support, and staffing dedicated to simulation. While these studies also support importance of a university culture that provides time and technology resources to faculty, the findings of my study extend previous research to include OT graduate universities. The findings of this study also expand previous research that focused on a university culture that supports new technologies to apply to HFS. For example, Kibaru (2018) found that faculty teaching online believed in the importance of establishing a university mission and culture that supports faculty and emphasizes teaching excellence, and continuous quality improvement. My study extends the importance of university culture to HFS adoption and OT faculty. Additionally, Al-Ghareeb and Cooper (2016) found that administrative support is key when integrating new technology. My study confirms the importance of academic leaders being involved in the technology planning and implantation process to ensure optimal HFS technology acceptance.

For peer/colleague influence, faculty in my study believed simulation collaboration and encouragement among faculty peers positively impacted their acceptance of HFS. The findings of my study expand previous research that focused on peer influence as a predictor of technology acceptance to apply to HFS technology acceptance. My research contributes to an area of research that has conflicting findings regarding the impact of peer influence on technology acceptance. For example, Salajan et al. (2015) found that peer influence was not a predictor of LMS technology usage. Specifically, Salajan et al. found that peer influence did not have a significant impact on PU. However, the findings of my study align more with Daud and Zakaria (2017) whose quantitative study showed that peer usage was a significant predictor of technology usage and PU.

Faculty Beliefs on Personal Factors

The key finding for RQ 4 was that OT faculty believed their acceptance of HFS was influenced by personal factors such as personal technology self-efficacy and innovativeness. Participants in my study believed their HFS self-efficacy was influenced by their confidence in best practice standards and clinical skills. Other researchers have explored self-efficacy as a predictor of technology acceptance. For example, computer experience and personal innovativeness have shown to be predictors for e-learning technology use (Kim & Park, 2018). Kim and Park (2018) also found that technology confidence and computer self-efficacy are enhanced when adequate time, appropriate training, and a faculty openness to change. My study extends the research on technology self-efficacy to include OT faculty self-efficacy and HFS acceptance. For personal technology innovativeness, participants believed their openness to innovative change and creative thinking and application influenced their acceptance of HFS. The findings of this study expanded previous research that focused on innovativeness as a predictor of technology acceptance to apply to HFS technology acceptance. For example, faculty innovativeness was shown to be a predictor of technology acceptance in studies related to acceptance of LMS (Mokhtar et al., 2018) and collaborative technology (Daud & Zakaria, 2017). Results in both studies showed that faculty personal innovativeness was a key predictor of technology acceptance (Daud & Zakaria, 2017; Mokhtar et al., 2018). However, my study expands the importance of innovativeness to apply to HFS acceptance.

Limitations of the Study

The research design can pose a variety of limitations. According to Merriam and Tisdell (2016), researcher bias, omission of data, or the misinterpretation of data can impact qualitative data collection and analysis. As the sole researcher, an important limitation to disclose is that I hold my own biases. I have pre-existing beliefs, interpretations, and experiences because I myself have been exposed to simulation through my own personal experiences and I have developed my own interpretations which yield potential biases. My experiences include the use of HFS with both OT students and OT faculty. To address these limitations, I disclosed that I have my own beliefs, interpretations, and experiences regarding high-fidelity SBL. Identifying these biases built transparency of ethical issues which built awareness regarding my potential biases, views, and experiences that may have impacted my study findings and interpretations (see Creswell & Creswell, 2018). To manage these biases within this study, I applied specific strategies such as member checking, audit trail documentation, and reflexive journaling to establish trustworthiness (see Creswell & Poth, 2018; Lincoln & Guba, 1985) that I described in detail in Chapter 3.

Recommendations

Recommendations for further research are based on study results and limitations of the study. The first recommendation is related to the first key finding for RQ 1 that OT faculty believed their acceptance of HFS was influenced by outcome expectancy factors such as PEOU and usefulness. Therefore, more research needs to be done to evaluate how the ease of use and usefulness subthemes influence student learning outcomes in graduate OT programs, so that deeper understanding of the student impact can be evaluated. For example, future research should be done to evaluate how the adherence to HFS best practice standards impacts OT student learning outcome.

The second recommendation is related to the second key finding for RQ 2 that OT faculty believed their acceptance of HFS was influenced by TTF factors such as perceived task outcomes and effectiveness. Therefore, more research needs to be done to evaluate how the task outcomes and perceived effectiveness subthemes influence student learning outcomes in graduate OT programs, so that deeper understanding of the student impact can be evaluated. For example, future research should be done to evaluate the effectiveness of using HFS to for achieve course and skill competencies among OT graduate students.

The third recommendation is related to the key finding for RQ 3 that OT faculty believed their acceptance of HFS was influenced by social influence factors such as university culture and peer/colleague influence. Therefore, more research needs to be done to evaluate how the university culture influence and peer/colleague influence subthemes influence technology return on investment (ROI) in graduate OT programs, so that deeper understanding ROI outcomes (e.g., retention rate, graduation rate, board pass rate) can be evaluated. For example, future research should be done to evaluate the ROI for university investment in HFS faculty resources.

The fourth recommendation is related to the fourth key finding for RQ 4 that OT OT faculty believed their acceptance of HFS was influenced by personal factors such as personal technology self-efficacy and innovativeness. Therefore, more research needs to be done to evaluate how OT faculty HFS self-efficacy and technology innovativeness subthemes influence actual use of HFS in graduate OT programs, so that deeper understanding of relationships can be evaluated. For example, future research should be done to evaluate the relationship of OT faculty self-efficacy and actual use of HFS in OT graduate programs.

The last recommendation is related to the limitations related to methodology of this study. This study was done with 10 OT faculty participants within a multicampus graduate OT program. Therefore, another study could be done within other OT programs that have HFS in or outside of the United States to determine if results are similar. Additionally, this study could be replicated with several rounds of interviews and with more faculty participants. A follow up quantitative study using a technology acceptance tool may provide insight into predictive behaviors of OT faculty and the relationships between the TAM constructs and OT faculty acceptance of HFS. For example, due to conflicting research findings, it is still unclear whether peer influence is a predictor of technology usage. Future quantitative research could examine whether TAM constructs, such as peer influence, have a significant impact on the acceptance of HFS among OT faculty.

Implications

This study may contribute to positive social change in several ways. First at the individual level, my study may provide an increased understanding of faculty beliefs that may shed light on ways to improve HFS acceptance among other individuals in high education settings. There is also potential for change at the organizational level. Institutions and programs invest a significant amount of time and money when implementing a new SBL program. This research provides stakeholders with insight into the adoption beliefs and attitudes when implementing SBL within an OT program. Positive social change may occur as stakeholders learn from the beliefs and attitudes of OT faculty and make the necessary modifications to the technology implementation process to increase acceptance of this technology. Increased understanding OT faculty's challenges and their beliefs of use will help stakeholders put key infrastructure elements and resources in place such as optimal operational system support, professional development, educational support resources, policies and procedures, etc., to improve the likelihood that faculty accept high-fidelity SBL. This study also may also advance knowledge in the field of educational technology by the potential contributions the study may make that advance knowledge in the discipline, particularly to the body literature related to Gu et al.'s version of the TAM, as faculty did believe that social influence contributed to their technology acceptance. This study may contribute to the field of OT educational technology by proving valuable data regarding the underlying faculty beliefs that influence technology acceptance of HFS.

Conclusion

The problem related to this study was the lack of understanding of OT graduate faculty beliefs related to technology acceptance of SBL. High-fidelity SBL is frequently used for OT fieldwork and lab experiences, however a lack of faculty acceptance may impede outcomes (Watty et al., 2016). As OT programs consider using high-fidelity SBL to prepare students for real-life clinical experiences (Reichl et al., 2019), there is a lack of research on OT graduate faculty beliefs of HFS as a learning and instructional tool that may influence acceptance of this technology. The purpose of this basic qualitative study was to explore OT graduate faculty beliefs related to technology acceptance of high-fidelity SBL. Key findings of this qualitative study included that OT faculty believed that their acceptance of HFS was influenced by (a) outcome expectancy factors such as PEOU and usefulness, (b) TTF factors such as perceived task outcomes and effectiveness, (c) social influence factors such as university culture and peer/colleague influence, and (d) personal factors such as personal technology self-efficacy and innovativeness. Increased understanding of faculty beliefs may shed light on ways to improve HFS acceptance among faculty in high education settings.

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Appendix A: Interview Protocol

Elisabeth McGee's Interview Protocol

Introduction: I'd like to thank you once again for being willing to participate in the interview aspect of my study. As I have mentioned to you before, I am seeking to explore the technology acceptance of high-fidelity simulation-based learning (SBL) by OT faculty in a higher education occupational therapy graduate program. Our interview today will last approximately 60 minutes during which I will be asking you about your beliefs and experiences with high fidelity SBL. You recently completed a consent form indicating that I have your permission to audio record our conversation.

Before we begin the interview, do you have any questions? [Discuss questions] If any questions (or other questions) arise at any point in this study, you can feel free to ask them at any time. I would be more than happy to answer your questions.

- Warm Up Questions: How many trimesters have you used HFS? Why did you start using it?

Transition to IQ#1: Thank you for sharing. Now I would like to ask you a bit about the usability of high-fidelity simulation and how easy or difficult you find it to be.

Interview Question #1a: Please describe some of the ways high-fidelity simulation has been easy to use in the OT graduate program and give me examples of those ways.

Interview question #1b: Please describe some of the ways high-fidelity simulation has been challenging to use in the OT graduate program and give me examples of those ways.

Prompts:

- Please share an example.

Transition to IQ#2: Wonderful, thanks for sharing about the usability of high-fidelity simulation in the OT program. My next question has to do with the usefulness of HFS with your students.

Interview Question #2a: In what ways has high-fidelity simulation been useful in providing realistic learning experiences for your students?

Interview Question #2b: In what ways has high-fidelity simulation not been useful in providing realistic learning experiences for your students?

Prompts:

- Please share an example.

Transition to IQ#3: Great, thanks for your insights on the usability of HFS with your students. My next question has to do with how high-fidelity simulation has changed the tasks you do as part of teaching.

Interview Question #3a: Describe how HFS has made tasks of your job easier, if at all.

Interview Question #3b: Describe how HFS has made tasks of your job more challenging, if at all?

Prompts:

- Please share an example.

Transition to IQ#4: Fantastic, thanks for your insights on how HFS has impacted your teaching tasks. My next question has to do with how effective you find high-fidelity simulation.

Interview Question #4a: In what ways has HFS been effective for teaching clinical skills to your graduate OT students?

Interview Question #4b: In what ways has HFS been ineffective for teaching clinical skills to your graduate OT students?

Prompts:

- Please share any success stories that demonstrate how HFS is particularly effective for teaching certain clinical skills.
- Please share any examples of how HFS was not necessarily effective for teaching

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Transition to IQ#5: Wonderful, thanks for sharing on the effectiveness of HFS with your students. My next question has to do with social influence, and its impact on using high-fidelity simulation.

Interview Question #5: Describe how the university culture influenced your use of high-fidelity simulation within your OT program, if at all.

Prompts:

- For example, were there policies in place that encouraged you to start using HFS? Please describe.
- Please share any examples you can share of how the university culture has encouraged or discouraged the use of high-fidelity simulation

Transition to IQ#6: Thank you for describing how your university culture influences high-fidelity simulation use. My next question has to do with your colleague's social influence, and its impact on using high-fidelity simulation.

Interview Question #6: In what ways has your relationships with your fellow faculty influence your use of high-fidelity simulation within your OT program?

Prompts:

- Please share any examples you can share of how other faculty within your OT program have encouraged or discouraged the use of high-fidelity simulation.

Transition to IQ#7: Great, thanks for sharing on how your relationships influence high-fidelity simulation. My next question has to do with your own self efficacy, and its influence on using high-fidelity simulation.

Interview Question #7: How do you think your confidence in using high-fidelity simulation has influenced your actual use?

Prompts:

- Before you used high-fidelity simulation, did you have a positive or negative view of how you might use it in teaching. Please describe.
- How do you feel these initial assumptions or believes impacted your desire to use high-fidelity simulation?

Transition to IQ#8: Thank you for describing the impact of self-efficacy on high-fidelity simulation use. My next question has to do with your feelings of how innovativeness and its impact on using high-fidelity simulation.

Interview Question #8: Describe your level of innovativeness and how you think it impacted your choice to use high-fidelity simulation.

Prompts:
How do you think your openness to innovative change influenced your decision to use high-fidelity simulation?

Closing Questions: Before we conclude this interview, would you like to share anything else about the acceptance of high-fidelity simulation-based learning (SBL) that we have not yet had a chance to discuss?

Logistical Information to share with participant:

Now that our interview is complete, I would like to discuss next steps. I will export the audio file and transcribe the data using software to create a Word document with the text of the interview. Once this is done, I will send you an email asking you to review the transcripts to ensure everything is accurate. This should take about 15 minutes.

Appendix B: Summary and Quotes for Themes from Data Analysis

Summary and Quotes for Themes from Data Analysis

A priori codes	Themes	Subthemes	Sample quote
1 Outcome Expectancy	a.Perceived Ease of Use-Challenging to Use	Planning Issues	Just coordinating everyone can be difficult, and then scheduling time, making sure that the time and that in the same environment matches up with your syllabus and matches up with your learning objective. There's a lot of logistics behind it. You have to be very organized.
		Technical Issues	audio problems or sound problems or, you know, like visual streaming problems
	b. Perceived Ease of Use-Easy to Use	Supportive Resources	this program is very easy to use because we have dedicated staff members who are trained in it and who are able to help us manage it, set it up, help us get it going, record it
		Curriculum Integration	having that that realistic and authentic environment allows me to really just focus on the goals and the learning objectives and not rely on the student’s imagination
		Positive Student Experience	I think it's easily adopted by students. I think that's one big factor that adds to the ease of use is that it's enjoyable. The students find it fun. So, it's not one of these things that you're trying to like pull teeth to get involvement with.

	c. Perceived Usefulness-Not Useful	Lack of Adherence to Best Practice	I find it not useful when it's not set up properly. Honestly, and that's probably on me but if I want to run a simulation, but I do not have the resources or time to do it, maybe like we might use a student as a patient or we might use a faculty as a patient. I think it's still useful to them, but I don't think it's as useful as like a really nicely set up. Simulation with a simulated patient and like all the equipment that's needed, you know. I think sometimes that happens when we don't have the time or the resources to set it up.
		Lack of Active Participation	I can't get more students involved in the simulation outside of the observer role and that's been a bit of a challenge. You want to get them all in. You want all of the students that have the opportunity to experience being with the standardized client.
		Technical Issues	if there's a technological issue, I found that it diminished the experience.
	d. Perceived Usefulness-Useful	Clinical Skills	It's this live action scenario that they have to think on their feet and they have to really use those critical thinking skills. So, from that perspective, I think it gives the students that the most realistic experience of like being in the clinic.
		Virtual Learning	I've also found it very extremely helpful. Now that we have gone virtual because of the fact that they can't go out and they can't work in

		Collaboration	field work placements and they can't go out and do some of the things hands on, the simulations have been really handy to for me to drive synchronous and asynchronous learning into the curriculum for my for my virtual teaching and be able to set up a situation since they can't go out with COVID-19, I can set up that situation they can watch it through their virtual format and still get that that high fidelity experience. it's been helpful with interprofessional collaboration. I've been doing that for about seven trimesters now with another PT class and the students just can't say enough about how much they have learned about what the other profession does, and how much they've learned about their own profession and having those real time authentic experiences.
2 TTF	e. Ease of Use-Tasks of Job Easier	Focus on Teaching and Learning Database of Ready-to-go Simulations Provides Fieldwork Experiences	I know that I can spend time in the class debriefing based on my high-fidelity sim, and then I can tie it into the reading. I can directly relate it to course content really easily it's really a time saver that I can pull from the recorded databases and just reuse those and then do live synchronous debriefings afterwards. So it's been nice because we can adapt those simulations and so that makes things a lot easier for us planning for fieldwork.

	f. Ease of Use-Tasks of Job More Challenging	Scenario Development Issues	So it's more the initial creation of that simulation that seems to take the most time.
		Scheduling Issues	I think it is challenging during the scheduling process to make sure the spaces are open and free.
	g. Performance Improvement/Effectiveness-Effective	Meeting Course and Skill Competencies	I think it's been effective in the sense that we get to see skill and skill development.
		Reflection in a Safe Learning Environment	The high-fidelity simulation offers a safety net. So, when you have the real-life client, even with the pro bono clinic, that's a real-life clinical environment. These are real clients with real needs and real safety concerns. So, if the student isn't treating the patient exactly like they should in the simulated environment, it's a safe space to talk about it.
		Positive Student Feedback	the students enjoy being in clinical high-fidelity simulation. Simulations, they always talk about them every term. That's the big thing that they remember from the term before.
	h. Performance Improvement/Effectiveness-Ineffective	Student Observer has Limited Hands on Experience	I think some of those psychomotor skills, transfers handling, things like that. That that's not that effective unless they're the participant.
		Scaffolding Not at the Appropriate	I think at least from my experience where I've had issues with simulation is that I introduced it

		Level of Learning	way too early, when the students didn't have the skill set just yet.
		Technology Issues	I found that it was not effective when we were doing a sim while we were trying to use a new technology. But that's pretty much the only really the only time I found that that it did not go as smoothly as we would have preferred, but I think it was more because we were doing a simulation with the new technology.
3 Social Influence	i. University Culture Influence	Provided Resources	The actual physical location and the equipment that it has to enhance the experience. The availability of the staff and faculty. The tools that are available. I mean, it's high tech, you have whatever you need, and that adds to the realness of the experience.
		Innovative Culture	So, I think its part of that mission and vision of the university. And so that kind of trickles down.
	j. Peer/Colleague Influence	Simulation Collaboration	We helped each other develop better and better scenarios where we feel really comfortable with the bank that we have now.
		Peer Success and Encouragement	this is something that when someone is very passionate about it then they tend to tell everybody. It encourages everyone to say, hey, I can think of something that I can do in my course.
4 Personal Factors	k. Self-Efficacy		I know those trainings really increased my competence from that

	Confidence in Simulation Best Practice	perspective and they were really hands-on trainings. We had a lot of practice.
	Confidence in Clinical Skills	I think that my clinical self-efficacy translates to the high-fidelity simulation, because what I'm doing is creating something that would happen in real life.
l. Innovativeness	Openness to Innovative Change	I think that I'm very a very flexible person and I think that definitely helps. I don't feel like I'm stuck in my ways or anything and so I do think that being flexible has really been a key component to people adopting simulation, including myself as more people who are a little bit more old school don't really want to change or more kind of rigid in their ideas. There's been less adoption of simulation.
	Creative Thinking and Application	I think creativity is one of my strengths, to think outside of the box, which is what draws me to a lot of innovative aspects of simulation in OT