Simulation Experiences in Occupational Therapy:
Doctoral Curriculum for the University of North Dakota

Nicole Harris
University of Wyoming
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Introduction

In health care education, simulation is becoming more prevalent as a means of incorporating experiential learning to develop skills necessary for entry-level practice. Simulation can be described as a technique that allows students to practice and learn skills in a way that imitates real experiences with guided activities, to evoke and reproduce scenarios in a real world manner (Bethea, Cavazos & Harvison, 2014). Many education programs in healthcare fields have begun using simulation experiences because it provides students with the opportunity to practice new skills and work towards proficiency in a low-stakes environment (Cahill, 2015).

Simulation labs have been supported by many adult learning theories and is now viewed as the gold standard for allowing healthcare students to practice their skills before entering into practice (Cahill, 2015). Teaching and learning activities that are considered simulation include: simulating encounters through use of mannequins or actors; simulating authentic environments such as home and ward environments; and using equipment, video footage or interactive computer packages to recreate scenarios for eliciting clinical reasoning (Bradley, Whittington, & Mottram, 2013). While the use of simulation has been accepted as a form of instruction for the curriculum in many health care professions, it is important to consider the different types of simulation that are being utilized and which are the most effective.

Simulations can be classified into two different categories; low-fidelity simulation and high-fidelity simulation. Low-fidelity simulation may include case studies or role-playing with standard mannequins, educators, or people with specific pathologies trained to instruct students on patient evaluation or intervention (Ozelie & Both, 2016). High-fidelity simulation on the other hand, has gained prevalence in educational training amongst health care professionals and educators. High-fidelity simulation adds to the traditional didactic and clinical programming by
providing the students with an opportunity to practice clinical reasoning and technical skills in a realistic environment, without the real-life consequences (Ozelie & Both, 2016). High-fidelity simulations commonly use mannequins that are controlled by computers producing physical signs that can also be displayed as physiological signs on the monitors.

**Statement of Problem**

Contributing factors in the healthcare profession that are driving the need for the use of simulation for clinical education include the following; the growing workforce demands, limited staffing to provide trainees with oversight in some practice areas, competition for clinical site placements caused by the increasing numbers of academic programs, reimbursement guidelines driving productivity demands, student supervision guidelines, and increasing safety regulations (Bethea et al., 2014). Ultimately, these barriers have the potential to result in graduates not being fully prepared to enter healthcare fields as entry level practitioners.

While there is a significant amount of research on preparing nursing students, medical students, and pharmacy students for clinical rotations and the workforce using simulation labs, limited research is available for the use of simulation for fieldwork readiness and entry level practice in occupational therapy programs (Ozelie & Both, 2016). Bethea et al. (2014) reported that occupational therapy education still remains in the early stages of using simulation as an educational tool overall. As healthcare demands are continually changing it is necessary for occupational therapy programs to ensure students are equipped with the knowledge and experiences necessary to develop the skills for entry level practice (Bethea et al., 2014). Simulation labs have the potential to serve as a tool in educational programs to prepare healthcare students in occupational therapy programs, especially with the occupational therapy curriculums and requirements being faced with significant mandated changes.
Purpose of Study and Research Questions

The University of North Dakota’s occupational therapy program currently incorporates various forms of simulation into the master’s curriculum. However, most of the simulation would currently be considered low-fidelity. The high-fidelity simulation is limited and only occurs in the first year of the program. Additionally, standardized procedures for implementation are not in place across the courses and no formal outcomes measures are being utilized to evaluate the effectiveness. With the occupational department at University of North Dakota currently transitioning from a master’s degree to a doctoral degree and a new curriculum being designed, creating standardized procedures and implementing purposeful high fidelity simulation experiences are both timely and necessary.

The purpose of this project is to design simulation experiences that will be created in collaboration with faculty members currently creating courses as a part of the new doctoral curriculum for the occupational therapy program at the University of North Dakota. Each simulation experience will be designed with the vision, mission, beliefs about occupation, beliefs about teaching and learning, view of the learner, the learning process, view of the educator, and context in mind. Ideas and concepts from both experiential learning and concept-based teaching will additionally guide the creation of the simulation experiences. In addition to the simulation experiences, educational material for the occupational therapy faculty will be created. The educational material will provide an opportunity for the faculty to gain a more in-depth understanding of simulations. The focus of the training materials will be on the benefits of utilizing simulation as an educational tool in the occupational therapy doctoral curriculum. Faculty will additionally learn about the format that is being proposed for creating future
experiences in courses, along with the forms that will be used as guidelines for designing and implementing future simulations.

Courses have already been identified by the doctoral curriculum committee that would benefit from having a simulation experience embedded into the course. For these selected courses, simulations will be created carefully based on the three stages of the learning process that are guiding the overall curriculum development. The three stage learning process that will be followed will be foundational concepts, critical thinking, and synthesis (experiential). The types of simulation that will be integrated into the simulation experiences will vary depending on the stage of the learning process, the content of the course it will be connected to, and the associated accreditation standards. It is intended that the simulated learning experiences that will be created will be beneficial in assisting the occupational therapy doctoral students as they prepare for their fieldwork rotations and future practice in a safe learning environment. The questions that will be considered when creating the simulation experiences are:

What are the simulation experiences that will meet the identified course demands, level of learning, and objectives in the University of North Dakota Occupational Therapy doctoral curriculum?

What educational material will be used to train faculty who intend to implement simulation experiences into courses for the University of North Dakota’s Occupational Therapy doctoral curriculum?

**Significance of the Project**

The simulation curriculum developed will serve as a tool used to prepare quality entry level occupational therapy practitioners graduating from the doctoral program at the University of North Dakota. Through engagement in varying forms of simulation, both low-fidelity and
high-fidelity, students will obtain the clinical reasoning, confidence, and hands on experiences to better prepare them for fieldwork rotations and competent practice. Additionally, it is anticipated that the simulation curriculum will be utilized by other faculty members in the department to continue creating and implementing further simulations when appropriate.

With the growing demands for healthcare education programs and the challenges currently being faced to provide students with the necessary learning opportunities, simulation offers solutions for educators in these programs. With the high technological simulation labs available to occupational therapy students on the Grand Forks, North Dakota Campus and outreach campus in Casper, Wyoming, the limitation of cost for simulation labs is not a significant issue. Therefore, using the labs is essential and even expected by the tech-savvy new generations of students that are entering and graduating from the occupational therapy educational programs (Hills, Ryan, Smith, & Warren-Forward, 2012).

**Key Terms**

Throughout the following literature review, methodology, and project terms will be used at various times that are specific to the occupational therapy profession. In order to have a better understanding of the project and the background guiding it, it is important to understand the following terms.

**American Occupational Therapy Association (AOTA®).** The American Occupational Therapy Association is “the national professional association established in 1917 to represent the interests and concerns of occupational therapy practitioners and students of occupational therapy and to improve the quality of occupational therapy services” (American Occupational Therapy Association, 2018a, ¶ 1).
Accreditation Council for Occupational Therapy Education (ACOTE®). The Accreditation Council for Occupational Therapy Education is recognized as “the accrediting agency for occupational therapy education by both the United States Department of Education (USDE) and the Council for Higher Education Accreditation” (American Occupational Therapy Association, 2018b, ¶ 1).

Fieldwork. Fieldwork opportunities allow students the chance to “achieve competence in applying the occupational therapy process and using evidence-based interventions to meet the occupational needs of a diverse client population. Fieldwork assignments may occur in a variety of practice settings, including medical, educational, and community-based programs” (American Occupational Therapy Association, 2009, p. 821).

Occupational therapy. Occupational Therapy is a form of therapy for physical or mental illness that encourages rehabilitation through the performance of activities required in daily life (American Occupational Therapy Association, 2018d).

Summary

With continual changes in healthcare and the way healthcare professionals are being educated, it is necessary to understand and support best practices to ensure quality care for patients. Occupational therapy educators need to keep up-to-date with the emerging educational practices to make certain properly qualified graduates are entering the field. Literature is increasingly supporting the use of simulation experiences to assist healthcare students gain the necessary clinical and interpersonal skills needed for entering healthcare professions. The skills that students can gain from participation in simulation experiences have shown to be effective for increased clinical competencies, as well as overall confidence integrating other personal and professional abilities (Ohtake, Lazarus, Schillo, & Rosen, 2013). The following literature review
will provide a deeper understanding into the history of simulation, the basics of simulation, and why simulation is beneficial to use for preparing students in healthcare fields such as occupational therapy.
Literature Review

Simulation is an emerging tool being utilized in healthcare education to prepare students for clinical learning experiences and entry level practice as future clinicians. Simulation provides health care students with realistic situations that occur in their professional fields in a controlled and safe environment. While simulation has been widely accepted and shown to be an effective educational tool in many healthcare education programs, many occupational therapy programs are still in the initial phases of use (Cook et al., 2011).

The following literature review will offer a brief introduction to occupational therapy as a profession and to the education necessary to become a practitioner. This information is necessary for understanding the current processes of the educational programs and the direction the occupational therapy profession is headed. The mandated changes in education and the changes in healthcare will then be discussed to lay a foundation for understanding the need for alternative educational approaches in the profession. Simulation will then be introduced and examined as a viable educational tool in the occupational therapy curriculum. Simulation will be explored in depth to understand the different types of simulation and how they can be effectively implemented into the doctoral occupational therapy curriculum at the University of North Dakota.

Occupational Therapy

Occupational therapy is a healthcare profession founded in 1917 that assists people across the lifespan to do the things they find necessary or meaningful, through the use of therapeutic activities known as occupations (American Occupational Therapy Association, 2018c). The primary goal for occupational therapy practitioners is to enable people to live life to its fullest through health promotion, health prevention, restoring prior level of function, or finding new
ways to do tasks after an injury, illness, or disability. Occupational therapists can be found in a variety of settings including, but not limited to, hospitals, outpatient clinics, inpatient rehabilitation clinics, psychosocial settings, elementary schools, pediatric clinics, and community settings.

Regardless of the setting, occupational therapists are trained to approach and treat all clients using the same process. The *Occupational Therapy Process* is used to guide practitioners through the process of evaluation to determine appropriate goals, creation and implementation of interventions, and outcome measures to ensure that goals are attainable and being met (American Occupational Therapy Association, 2014). Although occupational therapy is an evidence-based practice that is deeply rooted in science, practitioners strive to treat using a more holistic perspective and approach (AOTA, 2018c).

Degrees in occupational therapy are currently earned at the masters and doctoral level for occupational therapists, while occupational therapy assistants earn degrees at the associate level. Typical occupational therapy programs are three years, combining both didactic course work and fieldwork experiences. The American Occupational Therapy Association (2009) explains, “The purpose of fieldwork education is to propel each generation of occupational therapy practitioners from the role of student to that of practitioner” (p. 821). Although all programs differ slightly on the required amount and types of placements, each program must provide students with the opportunities to participate in both level I and level II fieldworks. Level I fieldworks are designed to enrich the didactic coursework and allow the students opportunities for direct observation and participation in the occupational therapy process in a variety of settings (Ozelie & Both, 2016). Level II fieldworks occur during the final stage of the didactic learning and allows students to take a more independent role in providing occupational therapy services to
clients. Occupational therapy services are provided through application of theory and knowledge gained in the classroom and through implementation of occupation-based and evidence-based practice (Ozelie & Both, 2016).

The American Occupational Therapy Association (AOTA) and The Accreditation Council for Occupational Therapy Education (ACOTE) have created official guidelines and documents that govern the length and type of fieldworks required for both occupational therapy and occupational therapy assistant students. For level I fieldworks, there is not a minimum number of hours required; each educational institution sets their own requirements. However, for level II fieldworks, the standards specify a minimum of 24 full-time weeks for occupational therapy students and 16 full-time weeks for occupational therapy assistant students (AOTA, 2018b). Although the types of fieldwork settings are not specifically defined, it is recommended that students be exposed to a variety of clients across the lifespan in a variety of placements (AOTA, 2018b). Traditionally, common fieldwork settings chosen by academic institutions for placements of students include physical dysfunction settings, psychosocial settings, and pediatric settings.

**Changes in Education**

With best practices in education and healthcare practice continually evolving, it is necessary for professions to keep up to date with the latest trends and needs. In 2014, the American Occupational Therapy Association Board of Directors published a position statement supporting the idea of moving all entry-level occupational therapy education programs to the clinical doctoral level and all entry-level occupational therapy assistant education programs to the baccalaureate level by 2025 (Brown, Crabtree, Mu, & Wells, 2015). Currently, all occupational therapy programs are dual-entry; some programs are offered at the master’s level
and some programs offer doctoral degrees. All occupational therapy assistant programs are currently only offered only at the associate’s degree level. AOTA (2014b) outlined the following five reasons for endorsing the idea of moving to entry-level OTD education by 2025:

1. The existence of two entry-level degrees (currently a master’s degree and clinical doctorate) is confusing to external audiences and the profession itself.

2. There is a need for occupational therapists who are “able to rigorously implement evidence-based practice, [understand] care delivery models, and [are] prepared to meet the future occupational needs of society” (p. 18).

3. New occupational therapy graduates need to exhibit professional autonomy so they can take on leadership positions within the healthcare system.

4. The “increased focus on primary care, interprofessional care teams, and specialization in practice has required increased content in the entry-level academic programs” (p. 18).

5. There has been a trend within other healthcare professions toward making the clinical doctorate their standard entry-level education to practice, and occupational therapy needs to remain competitive.

While there are arguably good reasons for the entry level degree for occupational therapy to become a doctoral degree, the drawbacks must be considered as well. According to Brown et al. (2014), the negative effects primarily identified were the increased duration of the programs and the increased costs as compared to the master’s degree programs. Brown et al. (2014) further discussed how both the increase in cost and duration of the programs could adversely impact the opportunities for students of disadvantaged and lower socioeconomic backgrounds. The other primary concern noted was with the increase in costs of attending school, since it is unlikely that salaries will increase correspondingly (Brown et al., 2014).
Fieldwork Placements

According to the Academic Programs Annual Data Report: 2014-2015, during the 2014-2015 academic school year in the United States, there were seven accredited doctoral occupational therapy programs, 159 accredited master’s occupational therapy programs, and 213 accredited occupational therapy assistant programs (American Occupational Therapy Association [AOTA], 2015). During that same time, there were 44 total programs up for accreditation candidacy and 48 total programs in their initial stages of applying to become accredited programs (AOTA, 2015). During the 2017-2018 academic school year in the United States there were 20 accredited doctoral occupational therapy program, 162 accredited master’s occupational therapy programs and 215 accredited occupational therapy assistant programs (American Occupational Therapy Association [AOTA], 2018c). Of the 162 accredited master’s program, 45 are in the process of transitioning to the doctoral level (AOTA, 2018c). With the continued increase in programs receiving accreditation approval yearly, many programs are beginning to face challenges in finding fieldwork placements for the growing numbers of enrolled students. Another even bigger concern is that the new doctoral program standards require an additional 14 weeks of fieldwork experiences, above the currently required 24 weeks required at the master’s level (American Occupational Therapy Association, 2011).

Fieldwork shortages have been identified nationally with primary concerns being related to the increased demand for placements and challenges related to the needs for supervision (Evenson, Roberts, Kaldenbery, Barnes, & Ozelie, 2015). While the number of facility placements has been described as an issue, clinicians’ willingness to accept students has also been identified as a growing concern. As fieldwork is the primary link from course work to practice, it is necessary to consider alternative educational formats to provide the experiences
that students gain from traditional fieldwork. In addition to shortages in facility access and clinician involvement, it is necessary to consider other factors impacting occupational therapy fieldwork education. These additional factors include productivity demands (Bethea et al., 2014), changes in Medicare reimbursement guidelines (AOTA, 2013), and generational expectations of technology in education (Hills et al., 2012).

**Productivity**

Productivity is the measurement by which many healthcare professions, including, occupational therapy, quantify and reflect their workload. According to Winistorfer, Scherton, and Slater (2016), “contemporary occupational therapy practice is influenced by the expectations for objective, quantifiable, functional outcomes and also by efforts to generate units of service for reporting and reimbursement” (p. 1). Additionally, workload expectations and productivity measurements are utilized as tools to ensure that staffing resources are matching service delivery and reimbursement is being maximized (Winistorfer et al., 2016).

While the intent of productivity requirements is logical, occupational therapy practitioners find that these requirements are not always practical. Practitioners are being expected to still provide quality care, while maintaining higher caseloads to offset decreases in reimbursements. Additionally, practitioners are expected to manage direct client care, and document services in less time than they have previously been allotted (Winistorfer et al., 2016). These influences, the authors noted, impact practitioners’ willingness to supervise occupational therapy students during fieldwork rotations (Winistorfer et al., 2016).

Though occupational therapy clinicians reported benefits of supervising students for level II fieldworks, they also reported many drawbacks. The benefits to supervisors included the opportunity to share knowledge in a teaching role, exposure to current knowledge and trends
related to the field, service to the profession, and positive influence for future patient and practitioner relationships (Ozelie, Janow, Kreutz, Mulry, & Penkala, 2015). On the other hand, the drawbacks identified by clinicians were an increase in stress due to the time and resource demands of having a student, and increased documentation requirements that come with a larger caseload (Ozelie et al., 2015). These demands leave clinicians with the difficulty of efficiently balancing student needs with productivity expectations. Finally, the changes in reimbursement guidelines are considered a drawback as they impact the ability of students to contribute to the productivity requirements.

**Medicare B**

Historically, occupational therapy students have been able to participate in the delivery of services to patients under the supervision of practicing clinicians across practice settings. As healthcare constantly evolves, reimbursement guidelines change as a result. For both students and clinicians, it is important to have a thorough understanding of these guidelines in order to ensure full reimbursement of services rendered. The settings where reimbursement changes appear to have the largest impact on access for fieldwork students are the settings that serve Medicare B patients. According to the *OT/OTA Student Supervision & Medicare Requirements* (2016):

Under the Medicare Part B outpatient benefit, the services of students directly assisting a qualified practitioner (OT) are covered when the type and level of supervision requirements are as follows: Students can participate in the delivery of services when the qualified practitioner (OT) is directing the service, making the skilled judgment, responsible for the assessment and the treatment in the same room as the student, and not
simultaneously treating another patient. The qualified practitioner is solely responsible and must sign all documentation. (p. 4)

Prior to these Medicare changes, students were able to provide services to clients under the supervision of practicing clinicians, although it was not always direct supervision in the same room. The model of indirect supervision allowed facilities to increase direct patient care, and provided the students with a sense of autonomy as their skill sets increased over the course of each level II fieldwork. Unfortunately, the new Medicare guidelines have created more work for the practitioners who take on students, as they must now minimize their caseloads in order to ensure direct supervision occurs with the student. Prior to these changes students were able to provide assistance to facilities, in return for facilities excepting students for the level II fieldworks. With the changes and the continued push for productivity, practitioners are struggling to be able to accept students in order to meet the time demands of facility expectations and full reimbursement. As these demands have changed the way that facilities can be involved with occupational therapy student education, additional studies also suggest that students entering higher education at this time are coming with different learning expectations.

**Generation and Technology**

Compared to graduates of previous generations, students entering higher education and workforce settings have different expectations and skill sets. These new generations of students, known as Generation Y, Millennials, and Generation Z, have been exposed to vast amounts of technology during their developmental years including computers, Internet, mobile phones, and computer games (Adams et al., 2017; Hills et al., 2012). As these generations of students have started entering higher education with increased abilities in the use of technology, students need, and expect technology to be a part of their learning (Adams et al., 2017; Hills et al., 2012). With
technology being so widely accepted and utilized in society it is not surprising that along with students, parents, and employers even expect universities to use technology heavily in their programs (Diamond, 2008). Employers believe that active learning experiences and training that integrates technology bolsters employability (Adams et al., 2017). Without changes in educational approaches to accommodate the new ways of learning, institutions are setting themselves up for students questioning the credibility of the programs and institutions as a whole (Adams et al.; 2017; Hills et al., 2012). Because of this, it is essential to ensure that technology is effectively introduced, understood, and highly utilized in educational settings (Diamond, 2008).

In order to determine the most effective strategies for educating these generations of students who are more competent with technology, Hills et al. (2012) conducted a study surveying occupational therapy educators at a variety of institutions about these expectations. It was determined that students are often in a rush to get to an end point, often causing limitations in their abilities to increase their clinical reasoning skills. In order to avoid students moving through educational activities too quickly or losing interest, Hills et al. (2012) suggested that short and constant feedback was the most effective strategy to use. They also found that these generations of students tend to get bored easily and need active participation. To avoid the problem of limited attention, Hills et al. (2012) recommended that educators provide face-to-face instruction with clear structure, make tasks more practical, and allow for the experiential hands on component. Furthermore, they described how students want immediate feedback, prefer to work in groups, and struggle with accepting criticism (Hills et al., 2012). It is also important to note that although this generation of students have been shown to respect authority, they are also not afraid to challenge it (Hills et al., 2012). The use of simulation labs as an educational tool is ideal for matching identified learner needs with teaching strategies (Wang, 2011).
experiences allow students to work in groups, are hands on experiences, and are shorter in duration. After the simulation experience, the debriefing provides the students with immediate and constructive feedback, not only from faculty members, but their peers and standardized patients as well.

**Experiential learning**

The primary purpose of higher education is to prepare students for success in future careers and roles. Varying adult learning theories have been used for teaching and training students for future practice. Experiential learning theory is becoming a preferred approach for occupational therapy education (Coker, 2010; Knecht-Sabres, 2013). Experiential learning is simply learning through doing (Merriam, Caffarella, & Baumgartner, 2007). Merriam et al. (2007), stated that learning occurs as a result of experiences that impact the individual at the mental, physical, and emotional level. According to Giles, Carson, Breland, Coker-Bolt, and Bowman (2014), educators must strive to ensure the topics are being connected to the subject matter of the experience in order for the students to fully understand and grasp the meaning behind the content. Knecht-Sabres (2013) stated the benefits of experiential learning are supported by the fact that students tend to only remember a small portion of what they hear, and are able to remember the majority of what they actually do. In order to successfully implement experiential learning into programs, four elements must be embedded in the curriculum: “(a) students need to have concrete experiences, (b) students need to reflect on those experiences, (c) students need to conceptualize their experiences and (d) students need to assess the practical application of what was learned” (Knecht-Sabres, 2013, p. 25).

In high fidelity simulation, adult learners are expected to be self-directed, self-regulated, and to use their previous knowledge and experiences to guide their actions and reasoning when
participating in simulation experiences (Shea, 2015). When considering these expectations and the four elements of experiential learning, it is clear that experiential learning is an appropriate theory to guide the creation of the simulation experiences.

**Simulation**

Occupational therapists play an important role in people’s lives as integral members of healthcare teams. As healthcare workers, occupational therapists are expected to demonstrate confidence, interpersonal skills, technical skills, and clinical reasoning. Many of these skills cannot be entirely learned in classroom settings, rather they are learned through hands-on practice. To obtain these skills, medical settings can be simulated for comparable environments and patient encounters, allowing students to apply and refine their skills in a safe environment. Increasing evidence has shown that practices related to simulation encourages students to integrate knowledge and reasoning abilities by making real-time decisions (Bethea et al., 2014). Simulation is simply defined as a tool for learning and practicing that replaces real experiences with guided activities in a realistic environment or situation (Bennett et al.; 2017; Bethea et al., 2014; Gibbs & Dietrick, 2017). Simulation can come in many forms intended to replicate real scenarios, including but not limited to, written case studies, videos, role-playing, and the use of mannequins or actors, referred to in simulation literature as standardized patients.

While there is a significant amount of research related to preparing nursing students, medical students, and pharmacy students for clinical rotations using simulation labs, research related to occupational therapy programs is not as prevalent (Ozelie & Both, 2016). Bethea et al. (2014) reported that occupational therapy education still remains in the early stages of using simulation as an educational tool overall. As healthcare demands are changing it is necessary for
programs to ensure students are equipped with the knowledge and experiences necessary to develop the skills for entry level practice (Bethea et al., 2014).

**History of Simulation.** While high fidelity simulation is one of the latest trends in training healthcare students, simulation in healthcare education is not a new concept. Simulators have been a part of clinical education since the 1950s (Laschinter et al., 2008). The first type of simulators that were used taught basic skills such as intravenous insertion, catheterization, and mouth-to-mouth resuscitation using static models (Laschinter et al., 2008). In the 1960s, the first full sized medical mannequin was developed and was known as the Harvey cardiac mannequin. This mannequin could simulate 27 cardiac conditions by varying blood pressure, number of breaths, pulses, heartbeats, heart sounds, and murmurs (Laschinter et al., 2008).

Over the years, simulated patients continued to evolve, and studies continue to assess their effectiveness in different capacities such as education. Laschinter et al. (2008), reported that, in 1987, students who practiced their skills on mannequins prior to working with real patients were better able to interpret findings compared to students who only practiced on real patients. As technology continues to evolve, mannequins are now able to more closely mimic authentic physiological conditions through software controlled by computers (Laschinter et al., 2008).

**High-Fidelity and Low-Fidelity.** When using simulation as an educational tool it is important to understand the different types of simulation and which have shown to be more effective. Simulators are often classified into two broad categories: low-fidelity simulation and high-fidelity simulation (Abdulmohsen, 2010; Ozelie & Both, 2016). The level of fidelity refers to the extent to which the simulation imitates authenticity in terms of equipment, environment, and psychological reactions (Shea, 2015). Low-fidelity simulation may include case studies,
computer simulation, static equipment or role-playing (Ozelie & Both, 2016). Low-fidelity simulators are often motionless and lack the realism of authentic environments or situations. Low-fidelity simulators are generally used to teach basic technical skills (Abdulmohsen, 2010). Hedge, Neville, and Pickens (2015) stated that students who participated in the use of low-fidelity simulation reported increased self-awareness, confidence, and empathy following role-playing with educators or mock patients. However, the students did not report any increased abilities to administer assessments, or changes to their clinical skills after role-playing (Hedge et al., 2015).

High-fidelity simulation, on the other hand, has gained prevalence in educational training among healthcare professionals and educators. High-fidelity simulation adds to the didactic course work and clinical training by providing students with an opportunity to practice clinical skills in a realistic environment, without real-life consequences (Ozelie & Both, 2016). High-fidelity simulations commonly use mannequins that are controlled by computers. The computers allow the mannequins to produce physical symptoms that can be relayed on medical monitors. The mannequins can talk, breath, blink, and respond either automatically or manually to physical and pharmacological interventions (Abdulmohsen, 2010). Another type of high-fidelity simulation uses live actors to simulate patient roles allowing students to apply treatment, interventions, and knowledge in a structured environment where they feel comfortable to practice and do not fear making mistakes (Ozelie & Both, 2016). While both low-fidelity and high-fidelity simulation offer different approaches to hands-on learning activities, high-fidelity simulation has shown to have increased benefits and outcomes. According to Ozelie and Both (2016), low-fidelity simulation lacks the kinesthetic and hands-on component that high-fidelity simulation allows.
Bethea et al. (2014) identified the primary types of simulation being used in occupational therapy education and labeled them. For the purposes of this project, the following terms will be used when discussing simulation: standardized patients, human patient simulation, computerized software simulation, virtual reality simulation, and simulated training equipment. Standardized patients are people who are not part of the educational program who are trained to play the roles of patients, family members, healthcare providers, or others. Human patient simulation is the use of full body mannequins, both low fidelity and high fidelity (Bethea et al., 2014). Computerized software simulations are programs that provide simulated cases and required students to answer questions about evaluation and treatment based on the person and their diagnosis. The primary purpose of computer software simulation is to allow students to practice their decision-making skills as they are provided with feedback (Bethea et al., 2014). Simulated training equipment is designed to teach students more specific skills related to one task, such as using simulated driving equipment (Bethea et al., 2014).

**Skills Gained from Simulation.** While studies on outcomes of simulation in occupational therapy education are limited in comparison to other health care professions, results in related healthcare fields have indicated effective outcomes in the student’s personal and professional skill sets related to participation in simulation. In healthcare professions, a certain degree of competencies in personal skills are needed to effectively connect with patients (Taylor, 2008). Two primary personal skills that are necessary are communication and empathy (Taylor, 2008). While there are different ways that these skills can be developed, Gibbs et al. (2017) found that these skills were obtained more quickly through experiential learning tasks, such as engagement in simulation. Additionally, Hedge, et al. (2015) reported that following simulation experiences, students reported increased self-awareness, confidence, and empathy due to the
level of autonomy and real connections they felt they achieved in simulated experiences. In addition to the personal skills requirements needed by students throughout healthcare settings, clinical skills are also a necessary component. The clinical skills that occupational therapy students will need in practice vary from setting to setting.

With the increasing demands for entry level preparedness when entering a healthcare profession, occupational therapy students commonly report feeling the most unprepared for acute care settings (Gibbs et al., 2017). The complexities of an acutely ill patient in an intensive care unit are quite different than patients seen across other practice settings. Patients who are admitted to intensive care units have life threatening or unstable conditions and are in need of close monitoring (Gibbs et al., 2017). Occupational therapy fieldwork supervisors and students report that students are expected to immediately immerse themselves in the setting and effectively manage the complexities of the practice (Gibbs et al., 2017). Because of this, special attention needed to prepare students for this setting has led to finding more effective ways of educating students for the demands of this intense setting. Studies looking at simulation experiences as a valuable tool for preparing students have shown positive outcomes for addressing the confidence issues in these types of settings.

Ohtake et al. (2013) specifically reported an increase in the student’s confidence in their technical, behavioral, and cognitive skill performances through self-report measures from “somewhat confident” before the simulation, to “confident” after the simulation experience in an intensive care environment. Gibbs et al. (2017) additionally found simulation to have a positive impact on occupational therapy students’ knowledge, comfort, and confidence after participating in a simulation where planned critical events occurred in an intensive care environment. These critical events were planned in advance by the faculty, but were unexpected by the students for
the purpose of assessing how they responded. The students who received feedback and recommendations on their responses were shown to increase their overall confidence in their skills. Prior to students entering fieldworks and practice it is necessary to provide them with as many opportunities as possible to develop and refine both their soft skills and clinical skills.

**Why Simulation is the Answer.** Based on the research demonstrating the difficulties occupational therapy practitioners and occupational therapy education programs face in preparing students for practice, it is clear that simulation is a viable technique to help reduce challenges (Bethea et al., 2014). Implementing simulation into educational programs can assist students in gaining the necessary skills to become qualified entry level practitioners (Hedge et al., 2015). The following section will describe in greater detail how simulation can be used in occupational therapy programs. This section will look at using simulation as a component of fieldwork experiences and how simulation can be implemented into a curriculum. The discussion of implementing simulation into an occupational therapy program will consider the process occupational therapy programs have used that have shown to be beneficial. While the simulation experience itself is a primary area of the focus, the debriefing session after the simulation will be strongly emphasized, as it is one of the main components where learning occurs during the simulation experience.

**Simulation for Fieldwork.** Due to the limited fieldwork placements available to occupational therapy students, programs have had to find alternative ways to provide students with the experiential learning opportunities that allow them to gain the same skills they would on traditional fieldwork rotations. Simulation has been suggested as a potential tool to replace part of fieldwork experiences. While no programs have suggested replacing an entire fieldwork with simulation, there have been studies designed to determine if parts of the experience could be
replaced with simulation to free up more space availability at placement sites (Bennett, Rodger, Fitzgerald, & Gibson, 2017; Watson, Wright, Morris, McMeeken, Rivett, Blackstock, et al., 2012).

Watson et al. (2012) conducted two randomized control trials in order to determine the effects on student’s clinical competencies if one week out of four weeks of a traditional fieldwork was replaced with a simulated learning experience. Through careful preparation, simulations were set up for the week to allow students the opportunity to complete evaluations and treatment sessions on simulated patients. After completing the one-week session in the simulation labs, students then completed the final three weeks at a traditional placement. Clinical competencies of students who had completed one week in the lab and three weeks in traditional placements were compared to students who had completed four full weeks in traditional placements, using the scores from a specified assessment tool (Watson et al., 2012). Scores indicated that students’ achievement of clinical competencies were comparable in the simulated group to the traditional placement group (Watson et al., 2012).

According to Bennet et al. (2017), Australia is facing similar issues with limitations in placement availability and are using simulation labs for placing students 20% of the time they are on fieldwork rotations. It is important to note that while studies demonstrate the use of simulation as an effective instructional tool, simulation labs will never replace the real-patient learning experiences in clinical environments. However, replacing limited portions of fieldwork with simulation creates more available fieldwork placements for students and allows students the opportunity to increase their skills and confidence before coming into fieldwork settings.

Implementing Simulation. Various components of simulation experiences need to be carefully considered when planning and preparing to implement. Shea (2015) reported the “key
components of implementing simulations are: (a) high-fidelity learning environment, (b) learning objectives, (c) case scenario, (d) participant engagement, and (e) debriefing” (p. 2).

**Learning objectives.** Developing learning objectives is an important step when designing a simulation experience. The objectives should align accordingly with the program’s expectations of academic abilities and professional skills (Shea, 2015). The objectives for the simulation experience also need to match the broad course objectives and the assigned academic standards for the course. Once the learning objectives have been identified, the next step is to create the actual scenario.

**High-fidelity learning environment.** After matching the objectives, special consideration needs to be given to the physical realism and the environment. Physical realism focuses on the mannequin and the environment itself. Shea (2015) states that the client’s physical condition, mental status, and pertinent medical history are specific components that need to be considered when designing the cases. While physical realism is important, Sabus and Macauley (2016) suggest that the psychological fidelity is more important. Though it is unlikely that all simulation experiences will be able to be performed in actual simulation labs, the benefits of increased psychological fidelity, such as wearing uniforms and carrying identification, increased student’s awareness and attention to the simulation (Bradley et al., 2013). The more the psychological fidelity mirrors real life encounters, the more students believed their self-awareness and professional behaviors were considered. (Bradley et al., 2013). Another aspect of fidelity that Sabus and Macauley (2016) recommend considering is utilizing as many opportunities as possible to incorporate diversity, inclusion of family, support networks, and different racial, ethnic and psychosocial factors. Sabus and Macauley (2016) provided a simulation planning template that practitioners can use when creating simulation experiences to ensure all
components of the simulation are considered. Additional findings suggest using a real person adds a positive element to the experience (Bradley et al., 2013).

**Case scenario.** Simulation cases should be created based on the learning objectives of the course and the learning activity. During the simulation experience, the session is largely student-led and the participants decide the direction and course of action for each clinical scenario (Shea, 2015). In many instances, students are divided into either active learners or observers. The active learners are those who actually participate in the hands-on simulation and the observers watch live footage broadcasted to a separate room (Shea, 2015).

Another component that was introduced, but not supported by all, was the use of time-outs during the simulation experience. Time-outs allow students a temporary pause if they are stuck or becoming overwhelmed. While there is limited research supporting the use of a time-out, it was found to be used more commonly as a reflection-in-action for increasing self-awareness verses responding to adverse feelings or events (Bradley et al., 2013). While having a pause to reflect on what is going on can be beneficial for students, the simulation experiences are designed to mimic real life experiences. Bradley et al. (2013) explains how allowing these reflection times during the experiences inadvertently takes away from the realism of the encounter. Additionally, with the debriefing that occurs at the end, students already have an opportunity to reflect.

**Participant engagement.** Before beginning the simulation, student briefing needs to occur in order to fully prepare students for the experience (Bradley et al., 2013; Sabus & Macauley, 2016). Differing approaches that have been found useful for preparing the learners including summaries describing the mannequins and the environments or allowing the students to enter the environment/lab for an orientation period (Sabus & Macauley, 2016). Some
components of orientation, or briefing, that Sabus and Macauley (2016) recommend are ensuring that students focus on the learning objectives instead of focusing on the technical aspects, understanding that a sense of anxiety is common, and reinforcing that although the environment is as life-like as possible, it is not real. The importance of the simulation lab as a safe learning environment needs to be conveyed. Likewise, the importance of confidentiality with individual and peers’ engagement in the activity and discussions during debriefing needs to be understood (Shea, 2015). In some instances, having the students sign confidentiality agreements may be beneficial.

**Debriefing.** Debriefing is a process that best occurs immediately after the simulation experience to give students the chance to process what occurred during their simulation. Debriefing, also referred to as guided reflection, is led by the instructor and allows students more time to specifically assess their decisions, actions, communication, and ability to deal with any unexpected events (Shinnick, Woo, Horwich, & Steadman, 2011). While many educators believe that simulation and debriefing are important components of learning, others believe that debriefing is the most essential part of the learning process (Shinnick et al., 2011). In a study conducted by Shinnick et al. (2011), a two-group experimental design found that learning does not only occur exclusively in the actual hands-on portion of the simulation experience, but also in the debriefing. Shinnick et al. (2011) agreed that debriefing was the most important component of simulations, and attributed it to the time students spend debriefing, the feedback that students receive from instructors, the insights gained from other peer’s perspectives, and the opportunity to problem solve without the worry of harming a patient.

Although debriefing has been identified as a critical component of the process for assessing the level of learning and skill acquisition for students, measuring these skills are also
done throughout the entire process. Techniques commonly used to assess the objectives are observation as students take part in the experience, formal feedback after the simulation, and assessment techniques such as exams or demonstrations. Providing feedback to the student after the simulation experiences has been shown to be effective. Shea (2015) outlines the different aspects of feedback and how they are beneficial for the student learners.

Group reflection during debriefing has been shown to be one of the most important steps in maximizing learning during the simulation process (Shea, 2015). Shea (2015) discussed how the debriefing process should be broken up into three steps; defusing, discovering, and deepening. During the defusing process students are allowed to freely vent or share their emotional reactions that occurred during and after the simulation. During this time, students are asked to additionally describe the simulation experience and what took place in an objective manner (Shea, 2015). During the discovery phase students are asked to recognize personal behaviors that took place during the experience that facilitated or impeded the process (Shea, 2015). They are asked to expand on this and provide rationales. As the students begin to gain insight, the instructor who has been serving as a facilitator assists them in making clinical connections during the process of deepening (Shea, 2015). This scaffolding process allows for various forms of assessment of students during their learning process by considering abilities to reflect, demonstrate self-awareness, and apply skills learned.

**Limitations/Barriers of Simulation.** While simulation has shown to be an effective tool to use for educating occupational therapy students through hands-on learning in the times of advancing technology, there are limitations and challenges for implementation. The primary challenges identified have included the use of time necessary to prepare and the number of faculty necessary to implement the simulation experiences for students, the cost of establishing a
simulation laboratory, and the scheduling issues involved in simulations (Bethea et al., 2014). Depending on the type of simulation, the time frames will significantly vary. With low-fidelity simulation times frames are not as much of a concern, whereas high-fidelity simulation time frames have to be limited to allow enough time for all students to go through the experience. Generally, high-fidelity simulation encounters last between seven to ten minutes, followed by a 15-20-minute debriefing period. A typical class size of 32 to 34 students could require up to six hours utilizing four faculty members to allow each student an opportunity to participate (Gibbs, et al., 2017). In addition to the time to prepare and implement, another time constraint needs to be considered for scheduling and coordination of simulation labs. As more healthcare educational groups integrate simulation labs into their curriculum, access to the simulation labs becomes a concern.

**Summary**

This literature review demonstrated how changes in healthcare and proposed mandates in occupational therapy education are having a direct impact on how students have previously been prepared for fieldwork and entry level practice. While simulation has been used for over six decades for training healthcare professionals, its uses have recently become more prevalent. Current literature has identified that simulation increases are due to changes in healthcare guidelines, the growing demand of fieldwork placements, and the generational expectations of technology. Competent practitioners and patient safety being of highest priority, simulation shows great promise for being a useful tool in preparing occupational therapy students for the demands of entry level practice. The following section will provide an overview of the simulation curriculum that will be designed for the occupational therapy doctoral curriculum at
the University of North Dakota utilizing simulations as a technique for educating and preparing students for practice.
Simulation Design

While well-executed simulations can be initially time consuming and resource intensive, research continues to support the powerful impacts of utilizing simulation as an educational tool. With decreasing availability in fieldwork placements and changes in healthcare delivery, approaches to training quality entry level occupational therapy practitioners must shift from traditional methods to more creative instructional methods. Simulation has shown great promises in serving as an educational tool for preparing competent occupational therapists as they successfully transition into the workforce (Herge, Lorch, DeAngelis, Vause-Earland, Mollo, & Zapletal, 2013; Silberman, Panzarella, & Melzer, 2013).

The following sections will review how simulations are currently being used in the University of North Dakota master’s occupational therapy curriculum and the proposed changes to strategically incorporate more simulations into courses for the doctoral program beginning in the fall of 2019. An in-service will be created to teach faculty about simulation and the proposed process for future implementation of simulation across the curriculum. The process for creating the simulation experiences will then be discussed, followed by an overview of when the simulations and in-service will be implemented.

UND Curriculum

Currently the master’s occupational therapy program at the University of North Dakota incorporates various low-fidelity and high-fidelity simulation activities throughout the curriculum. While the simulation labs are only being utilized in the first year of the program, students do have opportunities for other hands-on learning experiences. Though simulation experiences have shown to be valuable based on informal student feedback, there are no formal procedures in place to implement or assess the simulation experiences in the occupational
therapy curriculum. With the occupational therapy program shifting from a master’s degree to a doctoral degree in the fall of 2019, it is an appropriate time to create simulation opportunities that can be incorporated into the new curriculum based on latest trends and research supporting the use of these experiences.

At this time, occupational therapy faculty at the University of North Dakota are in the process of wrapping up the development of the second semester courses for the doctoral curriculum. As integration courses are a part of each semester, the doctoral occupational therapy curriculum committee suggested that simulation experiences be designed for these courses. The new doctoral curriculum is based on experiential learning and concept-based teaching. Simulation experiences are a suitable way for students to demonstrate the concepts learned in an experiential manner based on the two theoretical models (Knecht-Sabres, 2013).

**Faculty Training**

The faculty training will follow a similar format used to create this project. The faculty will be introduced to simulation, the problems that have been identified in literature causing an increased need for simulation in educational program, and why simulation is the appropriate solution. Following this information, faculty will review the learning process that was selected for the doctoral curriculum and how creating simulations should follow this progression. The blank template that will be used for all future simulations will be reviewed and one completed session will also be reviewed.

**Simulation Creation**

For this project, both high-fidelity and low-fidelity simulation experiences will be created for implementation into the doctoral curriculum in the occupational therapy program at the
University of North Dakota. The progression of the designed simulation experiences will increase in level of critical thinking necessary for successful completion throughout the semester. In addition to the simulations, an educational in-service session will be designed to orient the occupational therapy faculty members at the University of North Dakota to the types of simulations available, the proposed process to implement the simulations, how to structure effective debriefing sessions, the proposed process to create future simulation experiences, and potential evaluation methods. Feedback from faculty members will be welcomed to improve the format if necessary.

The courses from which simulation experiences would benefit the most have been determined in collaboration with members of the University of North Dakota Occupational Therapy doctoral curriculum committee. The broad learning objectives have already been established by the doctoral curriculum committee and been approved by the university and the American Council for Occupational Therapy Education. The objectives for each simulation experience will be created based on the content, identified course standards, and topics covered in other courses. The six simulation experiences created will follow the formats that have shown to be effective in current occupational therapy and other healthcare literature (Sabus & Macauley, 2016; Shea, 2015). The student briefing sessions prior to the simulations will reflect the recommendations for orientation to the experiences and the realism suggested by Sabus and Macauley (2016). The simulation experiences will be created to ensure the intended outcomes are met most efficiently using the key components of high fidelity simulation identified by Shea (2015). The key components Shea (2015) suggested were: consideration to the physical environment, creation of specific learning objectives, drafting of the case scenario, identification of participant engagement expectations, and setting guidelines for the debriefing process.
Collaboration with the occupational therapy doctoral curriculum committee and the faculty members assigned to the integration course will continually take place throughout the curriculum development. Collaboration will be necessary to ensure that correct content is being covered, learning objectives are being met through the simulation experiences, and the standards assigned to the course are being addressed. Following the sessions, Shea’s (2017) defusing, discovering, and deepening debriefing format will be used as the process for guided reflection following the simulation experience.

**Implementation**

All courses and curriculum outlines for the new University of North Dakota’s Occupational Therapy doctoral program have been approved by the American Council for Occupational Therapy Education and the University of North Dakota’s School of Medicine and Health Science Curriculum Committee. While three faculty members make up the doctoral curriculum committee in the occupational therapy department, the other faculty members in the occupational therapy department have worked collaboratively on creating courses for the doctoral curriculum over the past two and a half years. Each faculty member in the occupational therapy department has been assigned to courses based on their areas of expertise, instructional background in current courses, and areas of interest.

As of the fall of 2018, two semesters of the new doctoral curriculum have been fully designed. As a result, the occupational therapy doctoral curriculum committee recommended that simulation experiences be created for the second semester integration course that incorporates content learned in the previous two semesters. Additionally, the occupational therapy doctoral curriculum committee suggested that it would be more beneficial to create an in-service training for faculty members to orient them to the proposed process for designing future simulations,
rather than create simulations that may or may not be used in future semesters. In the current master’s curriculum simulation experiences are being used, but do not follow standard formats within or between courses. The in-service for occupational therapy faculty members will provide an overview of the types of simulations that are available, research supporting the effectiveness of using simulation as an educational tool, how to create simulations experiences, the suggested formats for implementation of the experiences, and potential measurement tools to assess effectiveness.

The simulation experiences will be implemented into the second semester fieldwork and integration course of the University of North Dakota’s Occupational Therapy doctoral program when it begins in the fall of 2019. The in-service training for the occupational therapy faculty members will occur at the end of the 2018 fall semester, or beginning of 2019 spring semester during a scheduled faculty meeting. The following simulation curriculum will include the syllabus for the course in which the simulation experiences will be embedded in, the six simulations in the order they occur in the course, and the materials that will be used to educate the occupational therapy faculty members.

The simulations will include the completed template that will be used for all simulation based activities, the preparation needed for each simulation, information that will be needed by the mock patients, sample questions for the debriefing, and an overview of how the skills can be measured in future tasks or activities The training session for the occupational therapy faculty members will include a PowerPoint presentation with a brief review of the occupational therapy doctoral program mission, vision, view of the learner, view of the educator to lead into simulation, and why it is a good fit for the experiential learning and concept-based teaching that was chosen to guide the curriculum. The PowerPoint will further provide education on
simulation and steps for successful implementation, along with the proposed template. Faculty will have time to discuss and offer suggestions for enhancing the process or simulation template.

Summary

While the occupational therapy program at the University of North Dakota is in the process of transitioning to a doctoral program, the faculty have the opportunity to explore and implement alternative ways of presenting course material. With the decision to base the doctoral curriculum around experimental learning and concept-based teaching, simulation has been shown to be an appropriate tool for educating doctoral occupational therapy students. The proposed simulation curriculum will include six simulation experiences that will be implemented into the second semester integration course, along with an in-service training for the occupational therapy faculty members on how to effectively design and implement simulations into courses. The following section is the simulation curriculum, which includes the simulation experiences for the integration course and the PowerPoint presentation for occupational therapy faculty members.
Simulation Curriculum

The following section will include the PowerPoint presentation that will be used for educating occupational therapy faculty at the University of North Dakota, the syllabus for the course the simulations were designed for, followed by the six simulations that have been created for implementation into the new doctoral curriculum. Along with each of the six simulations is a checklist that will be used to assess student’s skills during or after each simulation experience. Before each section of the simulation curriculum, a more in-depth explanation will be provided to further describe the intended purpose for creation and what is included in each section.

The first section of the simulation curriculum includes the PowerPoint presentation that has been created for the in-service to educate the occupational therapy faculty in the integration of simulations. The PowerPoint follows the same format seen in the literature review. The PowerPoint begins by identifying the need for simulation in occupational therapy education, the benefits of simulation, a background to the types of simulation, and the proposed process for implementation. Following the PowerPoint presentation is the syllabus that will be used for the Fieldwork and Integration course for which the simulations have been designed. The syllabus demonstrates the sequencing of the simulations, the objectives that have been written for the course, the standards for the course, and how skills will be assessed.

Following the syllabus are the created simulations that will be implemented into the Fieldwork and Integration course in the second semester of the occupational therapy doctoral program. The simulations begin as low-fidelity, and include thorough directions and expected outcomes. As the simulations progress, the simulations transition to high-fidelity, and the expectations and integration of applied skills increase. The order of simulations in the curriculum matches the order they will be introduced in the course:
• Transfer Lab, low-fidelity
• Vital Signs Lab, low-fidelity
• Navigating Hospital Environments, transition to high-fidelity
• Case Scenario #1, high-fidelity
• Case Scenario #2, high-fidelity
• Case Scenario #3, high-fidelity

Incorporated within each simulation is a skills checklist. Depending on the simulation, the skills checklists will be done during the simulation to assess successful completion of the skills by the occupational therapy students, or after the simulation to assess comprehension of their skills. The high-fidelity simulations that involve patients, either mannequins or standardized patients, will additionally include a patient history. The description of the faculty education and the PowerPoint presentation to educate the occupational faculty will follow in the next section.

Faculty Education

The following PowerPoint presentation has been created to educate the occupational therapy faculty at the University of North Dakota on integrating simulation into the occupational therapy doctoral curriculum. The PowerPoint covers why using simulation as an educational tool could be beneficial in the doctoral curriculum, how simulation fits with the selected Experiential Learning Theory for the doctoral curriculum, skills gained by occupational therapy students using simulation that have been identified in recent literature, and Shea’s (2015) recommended process for designing and implementing simulation experiences.

Throughout the PowerPoint presentation faculty will have the opportunity to review aspects of the doctoral curriculum, such as the learning process throughout the doctoral program and the progress of student learning by semester. This is important for selecting appropriate
simulation levels, writing objectives, and identifying outcomes. Additionally, during the presentation faculty will have the opportunity to review the template designed for creating all future simulations, as well as to review one of the designed simulations and offer suggestions for improvement if necessary. Faculty will then be asked to get in groups based on the courses they are working on. They will be given a blank template and asked to create a simulation based on what they have created so far for that course. Each team will have the opportunity to present as a way to share ideas and brainstorm which courses might be the most appropriate to incorporate simulation experiences into.
SIMULATION EXPERIENCES IN THE UND OCCUPATIONAL THERAPY DOCTORAL CURRICULUM

Nicole Harris

NEED FOR SIMULATION IN CLINICAL EDUCATION

- Transition to doctoral degree
- Competition for clinical site placements
- Reimbursement guidelines/productivity demands
- Student supervision guidelines
- Generational impacts on use of technology

(Bernal, Cavazos & Harrison, 2014; Hill et al., 2012)
EXPERIENTIAL LEARNING & SIMULATION

- Students need to have concrete experiences
- Students need to reflect on those experiences
- Students need to conceptualize those experiences
- Students need to assess the practical application of what was learned

(Knecht-Sadler, 2013)

TYPES OF SIMULATION

- High-Fidelity
  - Mannequins and standardized patients

- Low-Fidelity
  - Case studies, computer simulation, static equipment, and role playing

(Abdulmohsen, 2010; Otele & Born, 2016)
SKILLS GAINED FROM SIMULATION

- Self-awareness
- Confidence
- Clinical skills
- Critical thinking
- Communication
- Problem solving
- Decision making
- Technical skills
- Empathy
- Teamwork

[Gibbs & Dietlich 2017; Hedge, Pickens, & Neville 2015; Laschinger et al. 2008]

IMPLEMENTING HIGH-FIDELITY SIMULATION

Learning Objectives

High-Fidelity Learning Environment

Case Scenario

Participant Engagement

Debriefing

[Shea, 2015]
LEARNING PROCESS FOR UND OTD CURRICULUM

• Semester 1: Stage 1: Foundational Concepts
• Semester 2: Transition from Stage 1: Foundational Concepts to Stage 2: Critical Thinking
• Semester 3: Stage 2: Critical thinking
• Semester 4: Stage 2: Critical thinking
• Semester 5: Stage 2: Critical thinking
• Semester 6: Stage 2: Critical thinking (Level IIA)
• Semester 7: Transition from Stage 2: Critical thinking to Stage 3: Synthesis (Level IIB)
• Semester 8: Stage 3: Synthesis (Experiential)

HIGH-FIDELITY LEARNING ENVIRONMENT

• Physical realism
  • Mannequin/Standardized Patient
  • Environment
• Psychological fidelity
  • Wearing uniforms
  • Carrying identification
• Diversity, inclusion of family, support networks, different racial and psychosocial factors

(Sabus & Macauley, 2016)
CASE SCENARIO

SEE HANDOUT

PARTICIPANT ENGAGEMENT

- BRIEFING
  - Intro to environment, discuss anxiety, review confidentiality
- Active learners vs observers
- Standardized patients/mannequins
- Time-outs
- Freeze method
- Critical events
- Confederates

(Bradley et al., 2013; Sabus & Macauley, 2016; Shea, 2015)
DEBRIEFING

• Diffusing
• Discovering
• Deepening

(Shea, 2015)

ASSESSMENT

• Limited evidence in OT education (Bradley, Whittington & Mottram, 2013)
• Student feedback
• Observation
• Checklists (graded and non-graded)
• Standardized evaluation
  • Fieldwork Performance Evaluation (FWPE)
OTHER POSSIBLE TECHNIQUES TO INCORPORATE

• ICE Video Library
• SimuCase
• Optima Edu

EXAMPLE

• Review completed template
  • Any questions?
  • Any suggestions or recommendations for improvement?
SIMULATION FOR A PORTION OF FIELDWORK

- Australia – 20% of fieldworks are done in simulation labs
- Watson et al. (2012) – randomized control trials
  - No time in sim lab vs 1 week out of 4 weeks in sim lab
  - Clinical competencies were comparable on FWPE
- No recommendations to replace all of fieldwork with simulations
  (Bennet et al. 2017)

REFERENCES

REFERENCES CONT.


REFERENCES CONT.


Syllabus

The following syllabus has been created for the Fieldwork and Integration course in which the designed simulations will be embedded. The syllabus is helpful for illustrating the skills that are intended to be achieved throughout this course according to the assigned standards and objectives. The syllabus begins by providing a broad overview of the course as a whole. A brief description is then provided on how the course meets the established curriculum design created for the doctoral program. The American Council for Occupational Therapy Education (ACOTE) standards that have been assigned to the course are then offered. A table was created to demonstrate how the ACOTE standards meet the course objectives, curriculum threads, and assignments. This table was used as a reference throughout the creation of the simulation labs to ensure every aspect of the curriculum was being considered and integrated.

Following the table is the course schedule. The course schedule is necessary for demonstrating the sequence of the simulation labs and how much time will be devoted to each lab. The syllabus ends by breaking down how learning will be assessed. This portion of the syllabus is a helpful representation to demonstrate how much weight the simulations carry in the overall point values for the Fieldwork and Integration Course.
COURSE DESCRIPTION:
Integration courses are intended to apply content in the semester. Topics include application of OT process with specific emphasis on professional reasoning in the evaluation process.

RELATIONSHIP OF COURSE TO CURRICULUM DESIGN:
Situated in semester two of the OT professional program, this semester is the transition from foundational knowledge of occupation to critically thinking about occupation. This course is an opportunity to integrate and apply the major concepts of the semester. The course will begin with an emphasis on safety for evaluation in the OT Process. The course will then proceed to understanding documentation in the evaluation process followed by three case-based learning opportunities. The learning opportunities may be real individuals or paper cases. The semester ends with a one-week level I fieldwork experience focused on evaluation. The primary emphasis of this course is on the thread of Art and Science of Occupational Therapy with opportunities to engage in professional reasoning, OT process, research builder/user and the therapeutic relationship. The Professional Identity and Collaboration is addressed when students have opportunity engage in intra/interprofessional relationships and apply occupational performance theories within the case studies and on fieldwork. Diversity and Inclusive Participation is addressed when students consider cultural competence as it applied to the evaluation process. Innovative & Intentional Leadership is addressed when students evaluate leadership during level I fieldwork.

Students will utilize feedback provided during Level I fieldwork and throughout the class as they refine their professional development plan during the semester. As stated, the course allows for integration of content from all courses this semester. The course builds on semester 1 OT Process & Practice Contexts as students determine and provide rationale for assessment choice based on context. They will also be engaging in more detail of the evaluation phase of the OT Process. Students will utilize skills from Culture & Occupation as they engage with clients in case-studies and on Level I fieldwork.

Students will use knowledge from Research Foundations to evaluate evidence to support effective evaluation. Occupation & Analysis will be further built upon as students use the skills of observation in assessment. This course provides the foundation for Semester 3 as they continue to learn about evaluation and begin to understand in detail the intervention process.

ACOTE 2011 STANDARDS: Integration courses are intended to be secondary examples of meeting standards – emphasis is on bringing concepts together. Standards addressed: B.1.1; 1.2; 1.4; 2.1; 2.2; 3.2; 3.5; 3.7; 4.2; 4.4; 4.5; 4.6; 4.7; 4.8; 4.24; 4.26; 5.2; 5.8; 6.1; 6.2; 6.3; 6.4; 7.1; 7.2; 7.4

INSTRUCTOR:
Nicole Harris, MOT, OTR/L
Office location: Aley Hall, 303A
Phone: 307-268-3126
Email: nicole.c.harris@und.edu

Julie Grabanski, PhD, OTR/L
Office location: E333, School of Medicine & Health Sciences
Phone: 701-777-1740
Email: julie.grabanski@und.edu

Sarah Nielsen, PhD, OTR/L
Office location: E340, School of Medicine & Health Sciences
Phone: 701-777-2208
Email: sarah.k.nielsen@und.edu

Students wishing to meet with the instructor for more than 15 minutes should check for office hours posted on the instructor’s office door to arrange for a mutually agreeable time.

TEXTBOOK/SUPPLIES: (texts used in courses across this semester)


Tipton, D. (2017). *Personal and professional growth for healthcare*
Coursera professionals. Burlington, MA: Jones and Bartlett Learning


Supplemental Packet: UND Bookstore

Membership, American Occupational Therapy Association

**COURSE FORMAT/MEETS:**

3 credits: 1 credit: Level I Fieldwork Placement; 2 credits Lab: Up to 4 hours/week

**ACCOMMODATIONS:**

Students who are requesting disability accommodations for their courses are expected to register with Disability Services for Students (DSS). How to register can be found at [http://www1.und.edu/disability-services](http://www1.und.edu/disability-services) or by contacting DSS at 701-777-3425 (190 McCannel Hall)

For students in Casper, WY: once registered with UND DSS, the student will need to provide recommendations to the Disability Support Services Counselor at Casper College and work with that office to arrange delivery of the accommodations as necessary.

It is the student’s responsibility to register and obtain verification from UND DSS and notify his or her instructors and/or Academic Fieldwork Coordinator to request and arrange for accommodations. When requesting and working out arrangements for the specific accommodations, the student may be asked to provide proof of support from DSS (DSS Verification Accommodation document) updated each semester) to his or her course instructor(s) and to the Casper DSS if Casper DSS are assisting with accommodation delivery.

Students in Grand Forks authorized by the DSS office for test-taking accommodations should schedule exams through their course instructor. If the course instructor is unable to arrange for the specific accommodation students sign up with UND Testing Services for an accommodated test. Students in Casper can schedule through the Testing Center at Casper College. All scheduling on both locations must be completed at least two weeks in advance of the scheduled exam. Due to limited time and space students may be required to complete tests at alternate times.

**TITLE IX:**

**TITLE IX: Non-Discrimination Statement:**

As part of its commitment to providing an educational environment free from discrimination, UND complies with Title IX of the Education Amendments, which prohibits discrimination and harassment based upon sex in an institution’s education programs and activities. Title IX prohibits sexual harassment, including sexual violence, of students at UND-sponsored activities and programs whether occurring on-campus or off-campus. UND will take prompt action to investigate and resolve reports of sexual harassment or sexual violence in accordance with Title IX. It is important for students to understand that faculty are required by federal law to report to the Title IX Coordinator any incidents of sexual violence they become aware of,
even if those incidents occurred in the past or are disclosed as part of a class assignment. UND’s Title IX coordinator is Donna Smith, Director of Equal Employment Opportunity/Affirmative Action, 401 Twamley Hall, 264 Centennial Drive, Stop 7097, Grand Forks, ND 58202-7097, 701-777-4171, donna.smith@und.edu.

For further information, see the UND OT Student Manual or http://und.edu/student-affairs/dean-of-students/sexual-violation-protocols.cfm

**ACHIEVEMENT MEASURES:**

Student achievement will be measured by the student’s ability to participate in assigned application-oriented in-class activities, class participation, fieldwork evaluation, oral presentation, and written assignments.

**GRADING:**

Weighting of Evaluation Measures (approx.):

- Written & Verbal Assignments = 80%
- Lab Practical = 20%

Grades and Percentages:

- 92-100% = A Marked Excellence
- 83-91% = B Superior
- 75-82% = C Average
- <75% = Failure

A student with 75% or less at mid-term will receive a deficiency from the UND registrar’s office.

**COURSE OBJECTIVES:**

See attached course schedule.

**ATTENDANCE:**

See OT Student Handbook. Level I Fieldwork attendance is mandatory. In the case that you must miss fieldwork, please email the fieldwork agency and your small group instructor.

**LATE ASSIGNMENTS:**

See OT Student Handbook.

**LAST DAY TO DROP:**

Spring Schedule 2020.

**UND INCOMPLETE POLICY:**

It is expected that students will complete all requirements for a course during the time frame of the course. For reasons beyond a student’s control, and upon the request by the student or on behalf of the student, an incomplete grade may be assigned by the instructor when there is reasonable certainty the student will successfully complete the course without retaking it. The mark “I,” Incomplete, will be assigned only to the student who has been in attendance and has done satisfactory work up to a time within four weeks of the close of the semester, including the examination period, and whose work is incomplete for reasons satisfactory to his or her instructor.
Conceptual Framework for the Course: The first conceptual model that will be used in this course is the Intentional Relationship Model (IRM). The IRM views the therapeutic relationship as being comprised of four central elements: a) the client, b) the interpersonal events that occur during therapy, c) the therapist, and d) the occupation. The Intentional Relationship Model explains the process for a functional client-therapist relationship and incorporates guidelines for responding to common interpersonal events that occur during therapy (Taylor, 2008). The IRM serves as a complement to existing occupational therapy models with the view of use of the therapeutic relationship central to meeting the needs of the client during any therapeutic intervention. The IRM was selected for this course because the emphasis is on engagement in the occupational therapy process; specifically, evaluation and application of the IRM is a key component in client engagement.

The second occupational model will vary. During this semester, students are utilizing PEO and MOHO as they engage in their other coursework. Part of the intent of integration is to allow the student to apply different models across the course. In addition to PEO and MOHO, students may apply the additional models they have been exposed to in semester 1.
Integration and Fieldwork 2

Welcome!

Integration and Fieldwork 2 has been developed to assist you in integrating course content from across courses this semester. There are two components to this course, one is on campus learning and the other component is a one-week Level I fieldwork experience. Sessions prior to fieldwork will emphasize the purpose and requirements of level I fieldwork this semester, safety considerations, policies & procedures, including application of core values, ethics and the philosophy of occupational therapy when engaging in the evaluation process.

*Each student will actively use and seek to improve his or her communication skills*

Be aware of feelings and express them as they occur; ask for clarification if needed; share spontaneously about oneself; ask questions of one another actively; listen; provide support and/or confrontation as indicated; and give and receive feedback openly.

*Each student will assume responsibility for his or her own learning and self-development.*

Actively work on self-advocacy in learning process; seek out resources in planning activities, using instructors for additional support; take initiative to actively use time to further self-directed learning; ask for support from the course instructor before and during class if needed.

*Each student will invest time, energy, commitment, and ideas in the lab and Level I Fieldwork Experience.*

This is the student’s learning experience; he or she is encouraged to optimize the experience make the best of it for his or her peers. There is no such thing as the passive participant. By behaving passively, the student will be jeopardizing not only his or her learning experience, but depriving the student’s peers of his or her observations.

*Each student will submit assignments using professional writing, clear formatting and adhering to APA guidelines.*

Writing well is an important part of not only this course, but occupational therapy practice. Many times the written documentation of occupational therapy services/recommendations will be read in your absence and therefore needs to be clear, concise and complete. If you are unsure of your abilities or would like assistance with your writing, you are encouraged to utilize writing aids such as peer review/proofreading, the APA Manual or, for focused assistance, the UND Writing Center, as you strive to sharpen your writing skills.

The student who wishes to succeed in this course will plan to read assigned readings in advance, bring the text to class, and be prepared to share his/her ideas with others. An over-riding objective of this course (and the UND OT Curriculum) is to instill a value for life-long learning as evidenced by self-directed learning and initiation on the part of the student. We look forward to a thought-provoking and exciting semester!
## Course Objectives, Curriculum Threads, Assignments & ACOTE Standards

<table>
<thead>
<tr>
<th>Students Will:</th>
<th>Curriculum Threads and Macro Concepts</th>
<th>Assignments (described in Assignments section)</th>
<th>ACOTE Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the purpose and requirements of Level I Fieldwork this semester.</td>
<td>Professional Identity and Collaboration</td>
<td></td>
<td></td>
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<td></td>
<td>Professional Engagement</td>
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<td>x x x x</td>
<td></td>
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<tr>
<td>Demonstrate understanding of confidentiality and adhere to confidentiality</td>
<td>Art &amp; Science of OT: OT Process &amp; Professional Reasoning (ethical)</td>
<td></td>
<td>B.9.1</td>
</tr>
<tr>
<td>guidelines during fieldwork experiences.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adherence to safety policies and procedures during the course and fieldwork</td>
<td>Art &amp; Science of OT: OT Process &amp; Professional Reasoning (pragmatic)</td>
<td>x x</td>
<td>B.2.8; 5.12</td>
</tr>
<tr>
<td>experience. (transfers, vital signs, medical equipment).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Demonstrate understanding of infection control procedures.</td>
<td>Art &amp; Science of OT: OT Process</td>
<td>x x</td>
<td>A.4.11</td>
</tr>
<tr>
<td>Utilize the philosophy, core value, &amp; ethics during interactions to class</td>
<td>Professional Identity &amp; Collaboration: Occupational Therapy</td>
<td>x x</td>
<td>B.9.1</td>
</tr>
<tr>
<td>activities and level I fieldwork experience.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand aspects of etiology, symptomology, and precautions of a variety</td>
<td>Art &amp; Science of OT: OT Process</td>
<td>x x x x</td>
<td>B.1.3; 2.6</td>
</tr>
<tr>
<td>of medical conditions across the lifespan and its influence on the</td>
<td></td>
<td></td>
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<tr>
<td>evaluation process.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Use occupation-based theories to guide the valuation process.</td>
<td>Professional Identity &amp; Collaboration: Occupational Performance Theories</td>
<td>x x</td>
<td>B.3.1; 3.2; 4.8</td>
</tr>
<tr>
<td>Develop an occupational profile to inform further evaluation.</td>
<td>Art &amp; Science of OT: OT Process &amp; Professional Reasoning</td>
<td>x</td>
<td>B.4.4</td>
</tr>
<tr>
<td>Select, administer, and interpret assessment results.</td>
<td>Art &amp; Science of OT: OT Process &amp; Professional Reasoning</td>
<td>x x x</td>
<td>B.4.1; 4.2; 4.3; 4.6</td>
</tr>
</tbody>
</table>

### Assignments:
- **1**: Early assignment focusing on personal identity and collaboration.
- **2**: Mid-term assessment on professional reasoning.
- **3**: Fieldwork experience reflection.
- **4**: Final project on occupational performance theories.
- **5**: Essay on adherence to safety policies.
- **6**: Group presentation on infection control.
- **7**: Reflection on philosophy and ethics.
<table>
<thead>
<tr>
<th>Task</th>
<th>Domain</th>
<th>Assessment</th>
<th>Elements</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use occupation-based analysis to evaluate occupational performance.</td>
<td>Art &amp; Science of OT: OT Process &amp; Professional Reasoning</td>
<td>x</td>
<td></td>
<td>B.4.4</td>
</tr>
<tr>
<td>Consider factors that might bias assessment results including culture, disability status, and context and apply to the evaluation process.</td>
<td>Diversity &amp; Inclusive Participation: Cultural Competence</td>
<td>x</td>
<td></td>
<td>B.4.7</td>
</tr>
<tr>
<td>Collaborate with occupational therapy assistants in the evaluation being able to compare and contrast roles in the evaluation process.</td>
<td>Professional Identity &amp; Collaboration: Intra/Interprofessional</td>
<td>x</td>
<td></td>
<td>B.4.5; 9.8</td>
</tr>
<tr>
<td>Evaluate the need for referring clients for further evaluation both internal and external to profession.</td>
<td>Professional Identity &amp; Collaboration: Intra/Interprofessional</td>
<td>x</td>
<td></td>
<td>B.4.9</td>
</tr>
<tr>
<td>Document the evaluation process.</td>
<td>Art &amp; Science of OT: OT Process</td>
<td>x</td>
<td></td>
<td>B.4.10</td>
</tr>
<tr>
<td>Students will apply the Intentional Relationship Model in their fieldwork experience</td>
<td>Art &amp; Science of OT: Therapeutic Relationship</td>
<td>x</td>
<td>Diversity &amp; Inclusive Participation: Cultural Competence &amp; Justice</td>
<td>B.5.7</td>
</tr>
<tr>
<td>- Impact of self in the IRM</td>
<td></td>
<td></td>
<td>Professional Identity &amp; Collaboration Occupational Therapy</td>
<td></td>
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<tr>
<td>- Navigating difficult situations</td>
<td></td>
<td></td>
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<tr>
<td>- Mode shifting</td>
<td></td>
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<tr>
<td>- Recognizing inevitable interpersonal events</td>
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<tr>
<td>- Influence of culture on IRM</td>
<td></td>
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<tr>
<td>Analyze methods of professional reasoning utilized during the fieldwork experience.</td>
<td>Art &amp; Science of OT: Professional Reasoning</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpret research outcomes to make clinical decisions in the evaluation process.</td>
<td>Art &amp; Science of OT: Research Builder/Research User</td>
<td></td>
<td></td>
<td>B.1.7; 8.4</td>
</tr>
<tr>
<td>Evaluate evaluations for potential use in research process</td>
<td><strong>Art &amp; Science of OT:</strong> Research Builder/Research User</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Analyze and identify leadership skills, application of theories, and models of a leader on level I fieldwork.</td>
<td><strong>Innovative &amp; Intentional Leadership:</strong> Leadership</td>
<td></td>
<td></td>
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<tr>
<td>Identify strengths and areas of growth gleaned through the level I fieldwork experience that would be appropriate for their professional development.</td>
<td><strong>Professional Identity:</strong> Professional Engagement</td>
<td></td>
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</tbody>
</table>

<p>| | | | | B.9.6; 9.13 |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Out of Class Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Overview of Course</td>
<td>ICE Videos</td>
</tr>
<tr>
<td></td>
<td>Safety in Evaluation: Transfer Lab</td>
<td>Readings: R&amp;T, Chapter 26</td>
</tr>
<tr>
<td>Week 2</td>
<td>Lab Practical Exam: Transfers</td>
<td></td>
</tr>
<tr>
<td>Week 3</td>
<td>Safety in the Evaluation</td>
<td>ICE Videos</td>
</tr>
<tr>
<td></td>
<td>- Monitoring client’s vitals</td>
<td>Blackboard videos: Watch videos of breathing sounds</td>
</tr>
<tr>
<td></td>
<td>- Navigating hospital rooms and equipment</td>
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<tr>
<td>Week 4</td>
<td>Safety in Evaluation</td>
<td></td>
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<tr>
<td></td>
<td>- Lab Practical</td>
<td></td>
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<tr>
<td>Week 5</td>
<td>Documenting in the Evaluation Process</td>
<td>Sames Documentation Text, Chapters 9, 10, 15 &amp; 16</td>
</tr>
<tr>
<td></td>
<td>- Writing an Evaluation Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Electronic Documentation</td>
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</tr>
<tr>
<td>Week 6</td>
<td>Case #1 Preparation</td>
<td>Assessment and diagnosis review</td>
</tr>
<tr>
<td>Week 7</td>
<td>Case #1 Simulation Lab</td>
<td></td>
</tr>
<tr>
<td>Week 8</td>
<td>Case #1 Group time to prepare write-up</td>
<td>Case Study #1 Due Friday by noon</td>
</tr>
<tr>
<td>Week 9</td>
<td>Case #2 Preparation</td>
<td>Assessment &amp; Diagnosis Review</td>
</tr>
<tr>
<td>Week 10</td>
<td>Case #2 Simulation Lab</td>
<td></td>
</tr>
<tr>
<td>Week 11</td>
<td>Case #2 Group time to prepare write-up</td>
<td>Case Study #2 Due Friday by noon</td>
</tr>
<tr>
<td>Week 12</td>
<td>Case #3 Simulation Lab</td>
<td></td>
</tr>
<tr>
<td>Week 13</td>
<td>Case #3 Work individually to complete write-up for case study</td>
<td>Case Study #3 Due Friday by noon</td>
</tr>
<tr>
<td>Week</td>
<td>Activity</td>
<td>Notes</td>
</tr>
<tr>
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</tr>
<tr>
<td>Week 14</td>
<td>Preparing for Level I Fieldwork – Review Assignments</td>
<td>Level I Fieldwork Documents</td>
</tr>
<tr>
<td>Week 15</td>
<td>Level I Fieldwork</td>
<td></td>
</tr>
<tr>
<td>Week 16</td>
<td>Process Level I Fieldwork</td>
<td>Evaluation Report Due Friday by noon</td>
</tr>
</tbody>
</table>
Integration & Fieldwork 2: OT 442 Learning Assignments

#1 Lab Practical - Transfers
ACOTE Standards Addressed: B.2.8; 5.12 (transfers); 5.7
Objectives: 3,4,15
Total Points =50

Description: Students will engage in lab practical to demonstrate ability to safety transfer clients in preparation for engagement in the occupational therapy process.

#2 Lab Practical - Monitoring Client and Navigating Hospital Rooms and Equipment
ACOTE Standards addressed: B.2.8; 5.12 (transfers); 5.7
Objectives 3,4,15
Total Points = 40

Description: Students will engage in lab practical to demonstrate ability to monitor client for safety and to manage medical equipment during evaluation process.

#3 Case Studies (3)
ACOTE Standards Addressed: B.1.3; 1.7; 2.5; 3.1; 3.2; 4.1; 4.2; 4.3; 4.4; 4.5; 4.6; 4.7; 4.8; 4.9; 4.10; 5.7; 8.4; 9.1; 9.8
Objectives: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18
Total Points: 150 points (50/case).

Description: The intent of the case studies is to provide opportunity for students to bring together information across courses. Each case study will require the student group to engage in the evaluation process following a particular occupation-based models. Each case will require engagement in professional reasoning process including developing the occupational profile, selecting additional assessments, administering and/or interpreting assessment data, and developing initial goals. The cases could be paper or working with an actual individual in groups.

Level I Fieldwork Assignments

#4 Professional Reasoning in Action:
ACOTE Standards Addressed: B.1.3; 2.6; 3.1; 3.2; 4.8; 5.7, 9.1
Objectives: 1, 5, 6, 7, 15, 16
Total Points = 25

Description: Students will complete a professional reasoning in action summary based on one client seen during the level I fieldwork experience. The entry focuses on analysis of a reasoning approach including the six steps of the interpersonal reasoning process and analysis of Professional Reasoning strategies (W&S Chp.30) utilized during the Level I fieldwork experience.

#5 Evaluation by Level I Agency and Self-Reflection
ACOTE Standards: B.1.3; 2.6; 2.8; 4.1; 4.2; 4.3; 4.6; 4.10; 4.11; 5.7; 5.12; 9.1
Objectives: 1, 2, 3, 4, 5, 6, 9, 14, 15, 20
Total Points = 100

Description: Level I fieldwork evaluation
#6 Evaluation Report
ACOTE Standards addressed: B.1.3; 2.6; 3.1; 3.2; 4.1; 4.2; 4.3; 4.6; 4.4; 4.7; 4.8; 4.10; 9.1
Objectives: 1, 2, 6, 7, 8, 9, 11, 14 Total points = 50

In collaboration with the Level I fieldwork educator, students will select and administer evaluation(s) with one client and write a formal evaluation report.

#7 Analysis of Occupational Therapy Leader
ACOTE Standards: B.9.6; 9.13
Objectives: 1, 19
Total points: 25

*Description*: Students will select an occupational therapy leader during the Level I fieldwork experience. Students will engage in an interview to understand their approach to leadership including analysis regarding leadership theory, style, and competencies.
Simulations

The following section contains the six simulations that will be included in the second semester Fieldwork and Integration course for the doctoral occupational therapy program at the University of North Dakota. The first three simulations are designed to teach foundational skills and begin using low-fidelity simulation techniques.

The three remaining case studies will be completed with mannequins or standardized patients based on diagnoses, assessments, and skills obtained in other courses over the previous two semesters. Skills will be assessed on an individual basis or as student groups through the use of a skills checklist. Included in each of the three simulation case studies are patient histories. The patient histories will be provided to students prior to meeting their patients, and will also be given to the actors playing the standardized patient or mannequin voices. All of the skills learned in the first three simulation experiences will again be assessed during the last three simulations to further evaluate skills.

The order of the simulations and skills assigned to each simulation has been carefully established based on the process of learning adopted by the occupational therapy faculty for the doctoral curriculum, the ACOTE standards assigned to the course, and the learning objectives assigned to the course.

Simulation #1: Patient Transfers

The initial simulation is a low-fidelity simulation that will take place in the classroom or classroom lab space to prepare students for safe and effective patient transfers. This low-fidelity transfer lab is designed for students to learn how to transfer patients by practicing transfers on their classmates using various techniques and adaptive equipment. Following the transfer simulation lab experience, a skills assessment will be completed through a lab practical in which
students will have to perform a transfer correctly. If a passing score is not achieved during the transfer lab practical, the students will need to redo the lab practical. This simulation lab will take place in the activities of daily living (ADL) lab in the occupational therapy departments, so that students have access to many different surfaces areas for practicing transfers such as: beds, showers, toilets, recliners, chairs, and couches. The ADL labs are set up to mimic apartments equipped with bathrooms and small kitchens. Below is the lab description providing more detailed information on the transfer lab, followed by the skills assessment that will be used to evaluate the student’s comprehension and abilities to complete safe and efficient transfers.
Patient Transfers Simulation: Lab Description

<table>
<thead>
<tr>
<th>Course Name</th>
<th>OT 442 – Fieldwork &amp; Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Name</td>
<td>Transfer Lab</td>
</tr>
<tr>
<td>ACOTE Standards</td>
<td>B.1.1; B.3.2; B.3.7; B.4.2; B.4.24; B.7.1; B.7.2</td>
</tr>
<tr>
<td>Level of Learner</td>
<td>Transition from foundational concepts to critical thinking</td>
</tr>
<tr>
<td>Type of Simulation</td>
<td>Low-Fidelity</td>
</tr>
<tr>
<td>Simulation Location</td>
<td>ADL Lab</td>
</tr>
<tr>
<td>Estimated Simulation Time</td>
<td>45-60 minutes</td>
</tr>
<tr>
<td>Estimated Debriefing Time</td>
<td>15-20 minutes as a large group</td>
</tr>
</tbody>
</table>

**Brief Description of Simulation**

Students will understand and demonstrate proper body mechanics and use of gait belts with common methods to transfer patients. Stations will be set up in ADL lab to learn and practice the following types of transfers: slide board, stand pivot, squat pivot, bed mobility, and floor transfers. Lab stations will instruct students on how to use different adaptive equipment such as walkers, canes, and wheel chairs. Students will also be asked to practice transfers simulating varying precautions such as: non-weight bearing, hemiplegia, and amputee.

**Simulation/Lab Setup**

1. Divide students up in to groups or pairs based on the number of stations and students.
2. Set up the room for six transfer stations.
3. Make copies of station instructions with pictures for visual demonstrations.
4. Materials needed:
   - Slide board
   - Shower bench
   - Adaptive Equipment (wheel chair, walkers, and canes)
   - Gait belts

**Briefing Process**

Provide a brief demonstration of how to do each transfer using different adaptive equipment and with various precautions. Demonstrate how to use adaptive equipment correctly if necessary.

**Prerequisite Knowledge**

Learners should possess the following competencies prior to participation in this simulation

Students should be familiar with various types of adaptive equipment.
Students should have a general understanding of precautions for different diagnoses and injuries.

**Associated Prep Work**

*Prior to the simulation students need to have completed*
Watch assigned ICE videos of demonstrations on different types of transfers

1. Bed Mobility: Scooting
2. Bed Mobility: Rolling
3. Bed Mobility: Supine to Sit
4. Bed Mobility: Sit to Supine
5. Sit to Stand: Moderate Assist
6. Sit to Stand: Maximum Assist
7. Sit to Stand: Two-Person Assist

<table>
<thead>
<tr>
<th>Cognitive Skills</th>
<th>Psychomotor Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
<td>Dependent bed mobility skills</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Proper body mechanics</td>
</tr>
<tr>
<td></td>
<td>Patient transfers</td>
</tr>
</tbody>
</table>

**Broad Course Objects Being Addressed**

1. Utilize the philosophy, core value, & ethics during interactions to class activities and level I fieldwork experience
2. Adhere to safety policies and procedures during the course and fieldwork experience. (transfers, vital signs, medical equipment)

**Learning Objectives for Simulation**

1. Students will demonstrate correct use of gait belt during transfers.
2. Students will demonstrate proper body mechanics when performing transfers.
3. Students will demonstrate appropriate selection of transfer based on precautions and adaptive equipment.

**Debriefing**

**Defusing (freely vent or share reactions):**
1. What transfers did you feel the most comfortable with?
2. What transfers did you struggle with?

**Discovering (recognize personal behaviors that took place during the experience that facilitated or impeded the process):**
1. How could being nervous or not confident impact transfers with clients?

**Deepening (Begin to make clinical connections):**
1. What clinical settings might you have to do transfers in?
2. What ways can you continue practicing and becoming more comfortable with transfers?
Patient Transfers Simulation: Lab Practical Exam

With a partner of your choosing, you will be assigned a transfer scenario from which to demonstrate a proper transfer.

Possible Transfer Scenarios:
One sided weakness
General weakness
Hip fracture with precautions
Paraplegic

Grading Rubric:

<table>
<thead>
<tr>
<th>Skill Being Evaluated</th>
<th>5 – Excellent</th>
<th>4 – Fair</th>
<th>3 - Redo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professionalism:</strong> Introduces self, explains transfer and instructions, demonstrates professional behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Selection of Transfer Method:</strong> Choses appropriate method for scenario provided</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correct Technique in Transfer:</strong> Follows safety guidelines and techniques learned</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correct Use of Body Mechanics:</strong> For the therapist and the client</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Safety Principles Applied:</strong> Preparing for the transfer (locking wheelchair breaks)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Application Response:</strong> Explains how to apply techniques to other contexts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Points Possible: ________/30

Please note a score of 23 or below will be failing, and the student will need to reschedule a time to complete an additional practical exam.
Simulation #2: Vital Signs

The second simulation is also a low-fidelity simulation that teaches students to effectively assess vital signs on other classmates. Like the transfer lab, the students will be introduced to the vital signs assessment through completing five different lab stations during the simulation lab, while practicing using different equipment to measure vital signs. Upon completion of the five lab stations in the vital signs simulation lab, students will again be assessed on their learned skills through a practical examination of skills. The vital signs simulation lab will take place in the classroom, as all equipment is easily accessible. Students will be encouraged to practice outside of class if necessary to master skills. Students will additionally be notified that they will again be assessed on abilities to properly take and report vitals in future simulation labs. Below is the lab description that provides a more in-depth description of the vital signs lab, the directions that will be placed for students at each vital signs lab station, and the skills assessment that will be used to measure the student’s abilities to properly assess vital signs.
Vitals Signs Simulation: Lab Description

<table>
<thead>
<tr>
<th>Course Name</th>
<th>OT 442 Fieldwork and Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Name</td>
<td>Vital Signs Low-Fidelity Simulation Labs</td>
</tr>
<tr>
<td>ACOTE Standards</td>
<td>B.1.1; B.3.5; B.3.7; B.4.2; B.4.4; B.4.5; B.4.6; B.4.8; B.7.2</td>
</tr>
<tr>
<td>Level of Learner</td>
<td>Transition from foundational concepts to critical thinking</td>
</tr>
<tr>
<td>Type of Simulation</td>
<td>Low-Fidelity</td>
</tr>
<tr>
<td>Simulation Location</td>
<td>In Class</td>
</tr>
<tr>
<td>Estimated Simulation Time</td>
<td>Approximately 45-60 minutes</td>
</tr>
<tr>
<td>Estimated Debriefing Time</td>
<td>Approximately 20-30 minutes as a large group</td>
</tr>
</tbody>
</table>

Brief Description of Simulation

Students will participate in five hands-on vital sign activities. Students will be asked to demonstrate understanding of proper techniques for taking vitals, interpreting results, and comparing results to standard ranges.

Simulation/Lab Setup

1. Determine how you want to divide students. Pairs will probably work best. Try to pair students who have done vitals before with students who have less experience.
2. Set up five Vital Sign stations: body temperature, heart rate, respiratory rate, breathing sounds, and blood pressure.
3. Make copies of station instructions.
4. Materials needed:
   - Thermometers (oral and aural)
   - Stethoscopes
   - Sphygmomanometers
   - Electronic blood pressure machine
   - Alcohol wipes
   - Timers/Stop watch

Briefing Process

Provide a brief demonstration on how to use equipment/materials.

Prerequisite Knowledge

Learners should possess the following competencies prior to participation in this simulation

General physiological responses related to vital signs.

Associated Prep Work

Prior to the simulation students need to have completed
Watch assigned ICE (International Clinical Educators) videos of demonstrations on how to take vital signs to familiarize with the process. Students will be provided with login information to access videos.

1. Acute Care Part 2: Monitoring Blood Pressure in Supine
2. Acute Care Part 3: Monitoring Blood Pressure in Sitting
3. Acute Care Part 4: Dizziness While Standing

### Cognitive Skills

Critical thinking

Problem solving

### Psychomotor Skills

Use of equipment for assessing vital signs

### Broad Course Objects Being Addressed

1. Select, administer, and interpret assessment results.
2. Adhere to safety policies and procedures during the course and fieldwork experience. (transfers, vital signs, medical equipment).

### Learning Objectives for Simulation

Upon completion of the lab, students will be able to:

1. Identify the four ways temperature can be assessed.
2. Name and identify the nine anatomic areas for assessing pulses.
3. Identify the correct procedure for assessing apical and radial pulses.
4. Demonstrate how respirations are measured.
5. Demonstrate the procedure for identifying proper blood pressure cuff placement.
6. Assess blood pressure by auscultation and automatic blood pressure monitor.

### Debriefing

**Defusing (freely vent or share reactions):**
1. Did you find this lab to be helpful?
2. What was the least difficult? What was the most difficult?

**Discovering (recognize personal behaviors that took place during the experience that facilitated or impeded the process):**
1. Did you have prior experience or practice with taking vital signs?
2. Did you become frustrated at any of the sessions?

**Deepening (Begin to make clinical connections):**
1. In what settings might you be required to take vitals?
2. Why is important to know the parameters for normal vital signs?
Vital Signs Simulation: Lab Station #1 – Body Temperature

Body temperatures is a measure of the internal heat produced by the chemical reactions of body functions, such as digestions, liver function, and muscle contraction. These internal chemical reactions assist the body in maintaining a balance called homeostasis. Although body temperature can vary slightly depending on age, weight, and daily activity levels, the average body temperature is 98.6° Fahrenheit, or 37.0° Celsius.

Large variations in body temperatures can indicate abnormal health conditions such as a fever, Hyperthermia, and Hypothermia. Hyperthermia is an increase in body temperature due to the body not being able to reduce heat. The most well-known type of Hyperthermia is a fever. A fever is an increase in the body’s temperature in response to an illness, infection, or disease. In practice a person is not considered to have a fever until the temperature reaches above 100.4° (38° C). Medical attention is not generally required for low grade fevers unless the fever is persistent or accompanied by other symptoms. However, when fevers approach 104° F and above, there can be other consequences, such as delirium, convulsions, and brain damage if not treated properly. Hypothermia, on the other hand, is low body temperature caused by heat loss. Hypothermia is generally cause by long exposure to cold temperatures or extreme blood loss. Anything below 96° F is classified as having hypothermia.

Activity:
1. Follow directions for each thermometer to practice taking temperature (make sure to use new covers for each user.)
   a. Oral
   b. Ear (Aural)
2. Record the temperature.
3. Do jumping jacks for one to two minutes; take your temperature using a different method.
4. Record temperature again.
5. Fan yourself and rest for a few minutes.
6. Take your temperature again using the same method you used previously
7. Record temperature again.
8. How did the temperatures change? Did the method you used to take your temperature impact the temperature? Which method did you prefer and why?

<table>
<thead>
<tr>
<th>Resting temperature</th>
<th>Oral:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aural:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Active temperature</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cooled temperature</th>
</tr>
</thead>
</table>
Vital Signs Simulation: Lab Station #2 – Heart Rate

The pulse, or heart rate, is the number of times the heart beats during a one-minute period. An adult who is healthy will have a pulse that ranges from 60-100 heartbeats per minute (BPM). This rate can vary depending on physical activity levels, sleep, periods of high stress, and disease or illness. A pulse can be found by palpating (pressing down) on areas of the skin where a large artery is close to the surface. The beats are then counted for a minute, or for 30 seconds and multiplied by two. The most common points for checking pulses are the radial artery at the wrist and the carotid artery at the neck. Other points are the temporal artery, facial artery, brachial artery, femoral artery, popliteal artery, posterior tibial artery, and dorsalis pedis artery, all shown in the diagram below.

Heart Rate/Pulse:
1. In sitting, have your partner bend their elbow to 90° and supinate hand.
2. Use your middle and index fingers, gently feel for the radial artery on the inside of your partner’s wrist. If you have difficulty feeling their pulse there, you can try to use the carotid pulse on the neck.
3. Slightly press down until you can feel the beats, count for 30 seconds.
4. To calculate the beats per minute multiply the number by 2.
5. Record the pulse rate in beats per minute (BPM).
6. Switch roles.
7. If time allows, try to find pulse in other locations on yourself or partner.

Figure 1. “Illustration from Anatomy and Physiology” by OpenStax College is licensed by CC 3.0
Respiratory function can be assessed through respiratory rates and breathing sounds. A respiratory rate is simply the number of breaths taken in one minute. This is done through inhaling oxygen in to the lungs and exhaling carbon dioxide. Respiratory rate is measured by counting the number of breaths a person takes while in a seated position. A healthy resting respiratory rate for an adult is 12-20 breaths per minute. Respiration rates can vary depending on activity, age, and health status.

Respiratory Rate:
1. In a seated position, have your partner sit straight up.
2. Have your partner take breaths at a normal rate. Count the number of breaths your partner takes in 30 seconds. Remember the respiratory rate consists of two phases, inhalation where the chest expands and exhalation where the chest contracts.
3. Multiple the number by two, to get the breaths per minute.
4. If unable to see expansion and contraction, feel breathing by putting your hand on your partner’s back if he/she is comfortable with it.

Figure 2. “Muscles Involved in Forceful Breathing In & Out” by Cruithne9 is licensed by CC 4.0
Breathing sounds are what is heard when a person takes a breath. These sounds can be heard through use of a stethoscope. A stethoscope is a medical instrument that can be used to hear internal sounds. Abnormal breathing sounds could suggest a complication in the lungs. Common identified lung sounds are clear, wheeze, stridor, and crackle.

- **Normal:** Free-flow of air throughout an unobstructed airway.
- **Wheeze:** A high-pitched sound that is usually due to a blockage of airflow in the trachea or in the back of the throat. Can often be heard without a stethoscope during exhalation. Commonly caused by asthma.
- **Stridor** – A high-pitched sound during inhalation due to a blockage of airflow in the trachea or larynx. Could indicate laryngitis, tonsillitis, or an allergic reaction.
- **Cackle** – A brief bubbling or rattling sound during inhalation. Crackles are usually caused by inflammation or infection somewhere in the airways. Common causes are pneumonia or COPD.

**Breathing Sounds:**
1. In a seated position, have your partner sit straight up. Ask them to relax and breathe at a normal rate.
2. Insert tips of stethoscope into ears.
3. Place the stethoscope on your partner’s chest over their lungs on the outside of their shirt.
4. Listen to breathing sounds for 30 seconds. Multiply the number by 2 to determine the respirations per minute.
5. Place the stethoscope on your partner’s back between the spine and shoulder blades. Determine if breathing sounds any different.
6. Record the type of sound you hear.
7. Switch roles with partner.
8. Examples of breathing sounds can be heard on Blackboard.

*Figure 3. “Stethoscope” by Jarould is licensed by CC 4.0*
Vital Signs Simulation: Lab Station #5 – Blood Pressure

Blood pressure comes from the blood being moved throughout the body as it pushes on the sides of the blood vessels. Blood pressure is given in a fraction format. The top number is the systolic blood pressure, and is the highest number the blood pressure reaches when the heart pumps. The bottom number is the diastolic blood pressure, and is the lowest number the blood pressure reaches when the heart relaxes between heart beats. Blood pressure is measured in millimeters of mercury. The standard systolic blood pressure for a healthy adult is 90-120 mmHg and 60-80 mmHg for diastolic blood pressure. A normal blood pressure is written as 120/80 mmHg. The devices used to measure blood pressure are a stethoscope and sphygmomanometer. The sphygmomanometer (aka blood pressure cuff), is composed of a cuff that can be inflated to restrict blood flow and measure the pressure. The cuff is generally placed around the arm directly above the elbow. The cuff is inflated and air is released slowly. When heart beat sounds are heard first this is the systolic number, and when they cease this is the diastolic number. Numbers are read from the pressure gauge.

High blood pressure is known as hypertension and is indicated when the systolic blood pressure is above 140 mmHg and the diastolic is above 90 mmHg. Common causes of hypertension are genetics, stress, anxiety, obesity, and a high sodium diet. On the other hand, low blood pressure, known as hypotension is indicated when systolic blood pressure is under 90 mmHg, and diastolic blood pressure is under 60 mmHg. Hypotension can be a result of loss of blood, infections, or hormonal imbalances.

Blood Pressure:

1. In a seated position, have your partner roll up their sleeve and place the cuff above the elbow with artery alignment mark lined up with the superficial arteries on the anterior aspect of the upper arm.
2. Inflate the cuff with the bulb until approximately 200 mmHg. Slowly release pressure with the pressure control valve while listening and watching the pressure gauge.
3. Record results.
4. Use the electronic blood pressure machine and compare results.
5. Switch roles with partner.
6. Which method do you prefer? Which method is more accurate? How comfortable are you with assessing blood pressure?
Vital Signs Simulation: Skills Assessment

Upon completion of the lab, students will be able to:
1. Identify the four ways temperature can be assessed.
2. Name and identify the nine anatomic areas for assessing pulses.
3. Identify the correct procedure for assessing apical and radial pulses.
4. Demonstrate how respirations are measured.
5. Demonstrate the procedure for identifying proper blood pressure cuff placement.
6. Assess blood pressure by auscultation and automatic blood pressure monitor.

Each pair will be asked to demonstrate ability to properly assess blood pressure by auscultation, and correctly document. Each person will then be asked to either identify the nine anatomical areas for assessing pulse, demonstrate the correct procedure for assessing apical or radial pulse, or demonstrate ability to measure respirations. The second task will be randomly drawn, and students will not know what they have to demonstrate until it is their turn.

<table>
<thead>
<tr>
<th>Skill Measured</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properly assess and document blood pressure on partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify nine anatomical areas for assessing pulse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess apical or radial pulse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure Respiration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A reminder will be provided that vitals will be assessed in simulations throughout the rest of the course. Students will be encouraged to check out equipment and practice if they still do not feel entirely comfortable taking vitals.
Simulation #3: Navigating Hospital Environment

During the third simulation experience the simulation transitions to high-fidelity simulation and students are oriented to the simulation labs. This third simulation experience was designed to provide an orientation to hospital settings and equipment commonly used in the hospital environment. The simulation labs currently used mimic hospital rooms with hospital beds and all the equipment that would typically be found in a hospital room. A mannequin will be positioned in bed with an actor playing the voice. While the students will not be directly performing services to the actor playing the patient, they will be interacting with them while they navigate through the environment.

A lesson plan was developed to provide directions on how students can should be oriented to hospital settings. The simulation lab description provides additional information on what aspects of the hospital environment the occupational therapy students should be familiar with and how the room should be set up to provide the most beneficial learning opportunities. Additionally, included in the navigating hospital environment simulation is a skills checklist to assess student learning of skills.
Navigating Hospital Environment Simulation: Lesson Plan

Day 1:
Students will watch ICE videos as a class to allow for an opportunity to ask questions and prepare for the introduction to simulation.

ICE VIDEOS:
1. Medical Management: Introduction to ICU Equipment Part 1
   • Demonstrations on how to prepare environment and working with the equipment in the ICU
2. Medical Management: Introduction to ICU Equipment Part 2
   • Demonstration on how to manage a patient on a ventilator while treating in the ICU
3. Medical Management: Introduction to ICU Equipment Part 4
   • Description of EKG Telemetry monitor and monitoring blood pressure while treating a patient in the ICU
4. Medical Management: Introduction to ICU Equipment Part 5
   • Description of Foley Catheter and how to manage while treating
5. Medical Management: Introduction to ICU Equipment Part 6
   • Description of how pulse oximeters measure oxygen saturations
     • During this time pass around pulse oximeter for students to try
6. Medical Management: Introduction to ICU Equipment Part 7
   • Demonstration on how to prepare the environment and the bedside chair prior to transferring a patient in the ICU
7. ICU Treatment Begins, Part 1: Preparing the room
   • Description of lines, monitoring devices, and equipment that need to be organized before beginning treatment in ICU
8. Managing Equipment in the ICU
   • Further examples of managing various equipment in ICU

Day 2:
In class simulation. Students will be divided into four groups and will be allowed to go in to hospital rooms to explore the setting and familiarize themselves with the rooms and equipment. They will have a checklist to complete while in the room. See following simulation for more detailed instructions.
Navigating Hospital Environment Simulation: Lab Description

<table>
<thead>
<tr>
<th>Course Name</th>
<th>OTD 442 – Fieldwork and Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Name</td>
<td>Navigating Hospital Environment</td>
</tr>
<tr>
<td>ACOTE Standards</td>
<td>B.3.7; B.4.2; B.7.2</td>
</tr>
<tr>
<td>Level of Learner</td>
<td>Transition from foundation concepts to critical thinking</td>
</tr>
<tr>
<td>Type of Simulation</td>
<td>Low-Fidelity to High-Fidelity</td>
</tr>
<tr>
<td>Simulation Location</td>
<td>Simulation Lab</td>
</tr>
<tr>
<td>Estimated Simulation Time</td>
<td>15-20 minutes per group</td>
</tr>
<tr>
<td>Estimated Debriefing Time</td>
<td>20 minutes as a large group</td>
</tr>
</tbody>
</table>

Brief Description of Simulation

Students will have 15-20 minutes in a simulation lab set up as a standard hospital room. During this time, students will have a checklist of equipment to become familiar with. Student will not be evaluated on their skills during this simulation, as all skills will be assessed in future simulations.

Simulation/Lab Setup

1. Divide students into four groups.
2. Each group will go into one of the simulation labs. There will be a mannequin in the room speaking to the students, however they will not need to provide any hands on assessment or treatment.
3. Make sure each room has a bed with railings that can all be adjusted, vital sign monitors, oxygen, medication lines, and any other available equipment that would be beneficial.

Briefing Process

Students will be instructed to spend time in the simulation lab becoming familiar with equipment that is commonly found in ICU and acute care settings.

Additional Faculty Instructions/Information

1. Make copies of room checklists for each student.
2. Have volunteers from the simulation lab or other faculty play the voice of the mannequins while students are in the simulation labs. The purpose is not focused on interaction with the patient, but it is good practice for them to interact with patients while completing other tasks.

Prerequisite Knowledge

Learners should possess the following competencies prior to participation in this simulation
Students should be familiar with basic equipment in hospital rooms, and the purpose of each piece of equipment.

**Associated Prep Work**
*Prior to the simulation students need to have completed*

- Watch assigned ICE Videos in previous class

**Cognitive Skills**
- Critical thinking
- Problem solving

**Psychomotor Skills**
- Use of basic hospital equipment

**Broad Course Objects Being Addressed**

1. Adhere to safety policies and procedures during the course and fieldwork experience. (transfers, vital signs, medical equipment).
2. Demonstrate understanding of infection control procedures.

**Learning Objectives for Simulation**

1. Students will demonstrate a basic understanding of how to identify equipment in hospital settings.
2. Students will demonstrate a basic understanding of how to utilize equipment in hospital settings.

**Debriefing**

**Defusing** *(freely vent or share reactions)*:

1. Describe your experience in the simulation lab.
2. What equipment did you find was the least challenging to use? What equipment was the most challenging?
3. Were you surprised when the patient in the room interacted with you?

**Discovering** *(recognize personal behaviors that took place during the experience that facilitated or impeded the process)*:

1. How did you feel about using the equipment?
2. Was there any equipment you have used or seen before?
3. Is there any equipment that was new or intimidating for you?
4. Were you comfortable with how you interacted with the patient while you explored the hospital room?

**Deepening** *(Begin to make clinical connections)*:

1. What equipment might you need to become more familiar with before future simulations and practice?
2. How could not knowing how to use equipment in hospital rooms be harmful?

**Actor roles and behavior overview: Brief overview of behavior during the Scenario**

- During the simulation casually visit with students. Students will not know that the mannequins will be visiting with them in the room.
- Ask them questions about what they are doing in the room and what different equipment in the room is used for.
- Just a reminder, their skills and answers will not be assessed, as this is just a basic introduction.

**Scenario events and expected actions: Events in chronological order**

1. Students will enter the room using standard precautions.
2. Students will have 15-20 minutes to practice using and understanding the equipment.
3. Once students are comfortable with the equipment or the time is up they will be asked to meet as a large group in the debriefing room.
Navigating Hospital Environment Simulation: Skills Assessment

<table>
<thead>
<tr>
<th>Skill</th>
<th>Completed</th>
<th>Need More Practice</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use of the hospital bed, adjusting height and railings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Reading the vital signs on the monitor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Identifying all of the lines and what they are for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Adjusting oxygen levels and tubing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Catheter placement on bed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Assessing environment for safety concerns</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Simulation #4: Case Study #1

During simulation number four, students begin to have the opportunity to integrate skills learned in the first three simulations, along with what they have been learning in their other coursework. Simulation four is a high-fidelity simulation that will take place in the ADL lab in the occupational therapy department, as the context is supposed to be a group home setting. With the ADL lab being set up as an apartment, the room is similar to what a group home room would look like. Actors will be in the rooms portraying standardized patients as the students’ assess them. During simulation four, students will be provided with a brief patient history on two patients. While they will only be actually seeing one of the patients, they will need to be prepared to see both. During preparation, students will need to review the patient’s diagnoses and select possible assessments that would be appropriate based on the patient’s diagnoses and contexts.

The simulation description will guide how the simulation experience will be carried out during the following class session. During the simulation the student’s skills will be assessed as a group. The primary focus of this first simulation is to help the students feel comfortable with interacting with patients, working collaboratively as a team, and selecting appropriate assessments based on diagnoses and context. The simulation description is included to provide a more detailed explanation of the simulation. Following the simulation description is the two patient histories that the students will receive, along with the skills checklist that will be used to assess student’s skills.
Case Study #1 Simulation: Lab Description

<table>
<thead>
<tr>
<th>Course Name</th>
<th>OT 442 – Fieldwork &amp; Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Name</td>
<td>Case #1: High Fidelity Simulation</td>
</tr>
<tr>
<td>ACOTE Standards</td>
<td>B.1.1; B.1.2; B.3.5; B.3.7; B.4.2; B.4.5; B.4.7; B.4.8; B.5.2; B.7.1; B.7.2</td>
</tr>
<tr>
<td>Level of Learner</td>
<td>Transition from foundational concepts to critical thinking</td>
</tr>
<tr>
<td>Type of Simulation</td>
<td>High-fidelity Simulation</td>
</tr>
<tr>
<td>Simulation Location</td>
<td>ADL Lab</td>
</tr>
<tr>
<td>Estimated Simulation Time</td>
<td>15-20 minutes per group</td>
</tr>
<tr>
<td>Estimated Debriefing Time</td>
<td>30-40 minutes in large group</td>
</tr>
</tbody>
</table>

Brief Description of Simulation

Students will be provided with two patient charts, Scott and Ryan, they will need to be prepared to see both patients, but will only be actually interacting with one of the patients. Students will need to be prepared to build rapport with the patient, develop an occupational profile, administer an assessment, assess results, and collaboratively create appropriate goals based on the results.

Simulation/Lab Setup

1. Divide students up into two or three groups based on number of students.
2. Groups will be given an assigned time frame that they will be going in to the lab.
3. The ADL lab will be used to mimic settings for the two patients.
4. Actors will be playing the role of the standardized patient.
5. Copies will need to be made of client charts, actor guidelines, and skills checklists.

Briefing Process

Students will not require an orientation to the setting, as they will already be familiar with the lay out of the ADL labs.

Prior to the simulation students will be assigned to groups, and will be randomly assigned one of the case studies/patient charts. Students will have the opportunity to review the checklist of skills that they will be evaluated on. Students will go in to the lab in groups of three, and will work collaboratively to gather information for an occupational profile through interview and observation. They will then administer one of the assessments they have selected as a group.

Additional Faculty Instructions/Information

1. 1-2 actors will need to be selected to play the role of the standardized patient. Possible actors could be another faculty member, students from other cohorts, or volunteers from the drama department.
2. Possible assessment selections will be identified from the evaluation course syllabus.
3. Students will interpret results from assessment and establish goals following simulation. This will be a separate assignment and turned in for a grade at a later date.
4. Skills checklist will be used during the assessment for evaluation of skills. This is not for a grade, just an assessment of what skills were demonstrated, and which skills need to be addressed further. It is anticipated that this will be discussed further during debriefing.

<table>
<thead>
<tr>
<th>Prerequisite Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners should possess the following competencies prior to participation in this simulation</td>
</tr>
<tr>
<td>1. Understanding of the etiology, symptomology, and precautions for substance abuse and mental health.</td>
</tr>
<tr>
<td>2. Knowledge of assessments/evaluations for occupations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Associated Prep Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to the simulation students need to have completed</td>
</tr>
<tr>
<td>Review of cognitive and emotional diagnoses from OTD 439 course.</td>
</tr>
<tr>
<td>Review of cognitive and emotional assessments from OTD 440 course.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cognitive Skills</th>
<th>Psychomotor Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking</td>
<td>Administering Assessment</td>
</tr>
<tr>
<td>Problem Solving</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Broad Course Objects Being Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understand aspects of etiology, symptomology, and precautions of a variety of medical conditions across the lifespan and their influence on the evaluation process.</td>
</tr>
<tr>
<td>2. Utilize the philosophy, core value, &amp; ethics during interactions to class activities and level I fieldwork experience.</td>
</tr>
<tr>
<td>3. Understand aspects of etiology, symptomology, and precautions of a variety of medical conditions across the lifespan and their influence on the evaluation process.</td>
</tr>
<tr>
<td>4. Develop an occupational profile to inform further evaluation.</td>
</tr>
<tr>
<td>5. Select, administer, and interpret assessment results.</td>
</tr>
<tr>
<td>6. Use occupation-based analysis to evaluate occupational performance.</td>
</tr>
<tr>
<td>7. Consider factors that might bias assessment results including culture, disability status, and context, and apply to the evaluation process.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Objectives for Simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students will demonstrate ability to build rapport with patient through interview and conversation.</td>
</tr>
<tr>
<td>2. Students will select and administer appropriate assessment for selected patient.</td>
</tr>
<tr>
<td>3. Students will work collaboratively to interpret results and build goals for patient based on assessment.</td>
</tr>
</tbody>
</table>
## Debriefing

**Defusing (freely vent or share reactions):**
1. Describe the simulation experience.
2. What surprised you?
3. What went well?
4. What did you struggle with?

**Discovering (recognize personal behaviors that took place during the experience that facilitated or impeded the process):**
1. What did you do that you were proud of?
2. Was there anything you wish you had not done or said?
3. Did you recognize any biases or challenges that impacted your interaction with the client?

**Deepening (Begin to make clinical connections):**
1. How could your behaviors impact future treatment sessions?
2. What is one thing you will take away from this simulation or debriefing session for future practice?

## Actor roles and behavior overview: Brief overview of behavior during the Scenario
Please review case study below for a patient history and background information:
- Be lying in bed with your head covered when the student enters the room
- If student does not introduce themselves or explain why they are there, please ask or prompt
- Ask them to explain what occupational therapy is and why it would be beneficial
- Answer questions with brief answers so the students have to ask probing questions
- Try to appear somewhat withdrawn, but still somewhat interested in what services occupational therapy has to offer

## Scenario events and expected actions: Events in chronological order
1. Student will enter and introduce themselves and explain what occupational therapy is.
2. Student will get to know the patient through basic interview questions and conversation.
3. An assessment will be completed.
Case Study #1 Simulation: Patient #1 History (Actor Role)

Scott Marcus is a 25-year-old Caucasian man who was just transferred to transitional housing after spending two weeks in inpatient treatment for drug and alcohol abuse. Scott was self-referred to inpatient treatment following some legal trouble and being kicked out of the house he had been staying at off and on. He is currently unemployed, homeless, and has charges pending due to a number of bounced checks written over the past few months. Scott’s father recently passed away from liver disease at the age of 42. However, Scott reports that he hadn’t spoken to his father or mother in years due to their own drug addictions, and the abuse they inflicted on him as a child. Scott experienced both sexual and physical abuse, but will not provide any further details.

At the age of 16, Scott’s dad kicked him out of the house because he suspected that he was gay. Scott has an older sister whom he speaks to occasionally, but knows she avoids him because she does not want him around her children. Scott is not currently in a relationship, but has a few friends that he has stayed with off and on who are a part of the local gay community. When Scott first left home, he survived by becoming involved in sexual relationships with older men who were often abusive. Scott identifies himself as bisexual, not gay.

Scott began using alcohol at the age of 14, when he had his first sexual encounter. Afterwards he began using other drugs, including marijuana and various prescription drugs. By the time he was 17, he was using amphetamines and cocaine. Prior to entering treatment Scott reported using crack for about a year.

You will need to establish rapport with Scott and conduct an informal interview to gather information to build an occupational profile. You will then choose an appropriate assessment for Scott’s diagnosis and the setting to explore his occupational needs.
Case Study #1 Simulation: Patient #2 History (Actor Role)

Ryan Sampson is an 18-year-old Caucasian male who was brought to the emergency room 3 days ago by the campus police at the university he was attending. The Resident Assistant on Ryan’s floor had called the police after Ryan was knocking on other’s doors and accused other students of breaking in to his dorm room late at night.

In high school Ryan was academically successful and was always very involved in sports and other activities. In the past year his behavior has increasingly become “odd,” according to his family and close friends. He quit socializing completely, and no longer seemed to care about his appearance. He was often seen wearing the same clothes and appeared as if he hasn’t bathed in quite a while. When Ryan did communicate with friends or family his focus seemed to be on other students living on the same floor of his dorm, and how he believed they were breaking in to his room when he was gone or sleeping. Ryan was very seldom attending classes and had received a warning that he was on the verge of being placed on academic probation. Other students on Ryan’s floor said that when he did leave his room he appeared to be talking to people who weren’t there.

Last month when Ryan’s father came to visit, he had brought Ryan to the emergency room because he believed his son was taking drugs. Drug screens at the emergency room were negative. At the hospital Ryan refused to eat, claiming that the staff was trying to poison him. It was reported that Ryan’s great-grandfather had a serious mental health condition and resided in a state hospital for about 30 years. Ryan’s mother had left the family when Ryan was 5 and his sister was 3, and has had limited contact with them since she left. Ryan’s father reports that he is sure his ex-wife suffers from mental health issues as well.

Upon further evaluation, it was determined that Ryan was experiencing persecutory delusions, auditory hallucinations, and negative symptoms, all of which fit with the diagnosis of schizophrenia. Ryan’s father and sister have convinced Ryan to fully withdraw from college classes and sign himself into the local psychiatric unit for treatment where you are working.

You will need to establish rapport with Ryan and conduct an informal interview to gather information to build an occupational profile. You will then choose an appropriate assessment for Ryan’s diagnosis and the setting to explore his occupational needs.
## Case Study #1 Simulation: Checklist

**Student Names:**

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Task/Skill</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Students introduce themselves when entering the room</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students explain what occupational therapy is in a way that client can understand</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students ask appropriate questions to build rapport with client</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students ask probing questions to build on information obtained as needed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students demonstrate mode shifts as necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Group selects an assessment that is appropriate for the client’s diagnosis, level of function, and setting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students describe the assessment and reasoning for administration in a way that the client can understand</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students administer the assessment appropriately</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students explain that results from the assessment will be reviewed and goals will be established based on results</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students end session by thanking the client for completing the assessment and reviews how the results from the assessment will be used.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students demonstrate ability to work collaboratively as a team.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>All students interact with client. One person does not take charge.</td>
<td></td>
</tr>
</tbody>
</table>

**Faculty Observer Signature**

**Date**

**Additional Feedback:**
Simulation #5: Case Study #2

Simulation five follows a similar format as simulation four, and is also a high-fidelity simulation. Students will again be provided with two patient histories; while they will need to be prepared to see both patients, they will again only be seeing one. The patient histories provided in simulation five include patients with different diagnoses and in different contexts. This simulation will take place in the high-fidelity simulation lab as the cases are based around patients in a hospital. The patients the students will be interacting with will be the high-fidelity mannequins and their voices will be played by actors. Students will once again need to work as a team to determine appropriate assessments based on the patient’s histories and placements. While the students will ultimately be working as a team during this simulation, they will be interacting with the patients individually. The purpose of this is to increase the student’s confidence and abilities. A skills checklist will be completed for each individual student, rather than as a group. The case study simulation description provides a more detailed explanation of how the simulation will be carried out. Following the simulation description is the two patient histories that the students will receive, along with the skills checklist that will be used to assess student’s skills.
Case Study #2 Simulation: Lab Description

<table>
<thead>
<tr>
<th>Course Name</th>
<th>OT 442 – Fieldwork &amp; Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Name</td>
<td>Case #2: High-Fidelity Simulation</td>
</tr>
<tr>
<td>ACOTE Standards</td>
<td>B.1.2; B.3.2; B.3.5; B.3.7; B.4.2; B.4.4; B.4.7; B.4.24; B.5.2; B.5.8; B.7.1</td>
</tr>
<tr>
<td>Level of Learner</td>
<td>Transition from foundational concepts to critical thinking</td>
</tr>
<tr>
<td>Type of Simulation</td>
<td>High-Fidelity Simulation</td>
</tr>
<tr>
<td>Simulation Location</td>
<td>ADL Lab</td>
</tr>
<tr>
<td>Estimated Simulation Time</td>
<td>25 minutes per group</td>
</tr>
<tr>
<td>Estimated Debriefing Time</td>
<td>30-40 minutes as a large group</td>
</tr>
</tbody>
</table>

Brief Description of Simulation

Students will be provided with two patient charts, Lola and Qiang, they will need be prepared to see both patients, but will only be working with one during simulation lab day. As a group they will collaboratively review and pick 1-2 assessments that might be appropriate for the patient prior to meeting her. When students enter patient room they will need to introduce themselves, demonstrate standard precautions, explain what occupational therapy is, build rapport, and complete assessment. The assessment chosen can vary depending on area the students choose to assess. Possible choices include vision, balance, occupations, or pressure ulcers.

Simulation/Lab Setup

1. Divide students up into groups of 3 or 4 based on the number of students.
2. Simulation labs need to be setup as inpatient hospital rooms with mannequins as patients. lying in bed with head of bed raised to interact with students.
3. Access to equipment necessary to take vital signs needs to be available.
4. Copies will need to be made of client charts, actor guidelines, and skills checklists.

Briefing Process

Students will not require an orientation to the inpatient high-fidelity simulation labs, as they will have already been introduced to the labs in previous sessions.

Just before the simulation begins students will draw a number and that will be the order they go in to the room. A freeze method for simulation will be used. Each person will have 5-7 minutes in the room, when the time is up the facilitator will say freeze, and the next student will enter and pick up at the point where the previous student had left off, this will continue until the simulation is finished.
1. 1-2 actors will need to be selected to play the voice of the high-fidelity mannequins. Possible actors could be another faculty member, students from other cohorts, or volunteers from the drama department.
2. Possible assessment selections will be identified from the evaluation course syllabus.
3. Groups will review the assessments, interpret results, and establish goals following the simulation lab. This information will be turned in as a separate assignment on a later date. Skills checklist will be done during simulation.
4. See skills checklist for observation during assessment.
5. This lab builds on the first lab in skill sets, as each student is responsible for their own interactions, not as a group. Additionally, they are required to check vitals and document appropriately.

---

**Prerequisite Knowledge**

*Learners should possess the following competencies prior to participation in this simulation*

1. Have an understanding of the etiology, symptomology, and precautions for sensory related disorders and diagnoses.
2. Have an understanding of assessments used to assess sensory related disorders and diagnoses.

---

**Associated Prep Work**

*Prior to the simulation students need to have completed*

Review information related to diagnoses and sensory systems.
Review assessments that would be appropriate for Lola and Qiang.
Review how to properly assess and document vital signs.

<table>
<thead>
<tr>
<th>Cognitive Skills</th>
<th>Psychomotor Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
<td>Checking vitals</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Administering assessment</td>
</tr>
</tbody>
</table>

---

**Broad Course Objects Being Addressed**

1. Understand aspects of etiology, symptomology, and precautions of a variety of medical conditions across the lifespan and their influence on the evaluation process.
2. Utilize the philosophy, core value, & ethics during interactions to class activities and level I fieldwork experience.
3. Develop an occupational profile to inform further evaluation.
4. Select, administer, and interpret assessment results.
5. Use occupation-based analysis to evaluate occupational performance.
6. Consider factors that might bias assessment results, including culture, disability status, and context, and apply to the evaluation process.

---

**Learning Objectives for Simulation**
1. Students will demonstrate ability to build rapport with patient through interview and conversation.
2. Students will properly assess and document vital signs.
3. Students will select and administer appropriate assessment for selected patient.
4. Students will work collaboratively to interpret results and build goals for patient based on assessment.

### Debriefing

**Defusing** *(freely vent or share reactions)*:

1. Describe the simulation experience.
2. What went well?
3. What surprised you?
4. How did it feel interacting with a mannequin?
5. What part was the most difficult for you?

**Discovering** *(recognize personal behaviors that took place during the experience that facilitated or impeded the process)*:

1. How was your confidence level while working independently compared to when you were working in a group?
2. Are there any skills you demonstrated that you were satisfied with?
3. Is there anything you did or said during your interactions that you will be more cautious of in the future?

**Deepening** *(Begin to make clinical connections)*:

1. What behaviors, both positive and negative, could impact future interactions and how?
2. What is one thing you will take away from your interactions with the patients or from the debriefing session today?

### Actor roles and behavior overview: Brief overview of behavior during the scenario

- Be lying in bed, with head of bed raised and ready to interact with the students when they enter the room.
- If they do not introduce themselves, please prompt them to.
- Ask what occupational therapy is if they do not explain it.
- Demonstrate that you are wanting to get better and will do whatever is necessary to get there.

### Scenario events and expected actions: Events in chronological order

1. Student will enter the room and introduce themselves and explain what occupational therapy is.
2. Student will build rapport with the patient through basic interview questions and conversation.
3. An assessment will be completed.
Case Study #2 Simulation: Patient #1 History (Actor Role)

Lola Sanchez is an 88-year-old Hispanic female recently admitted to your inpatient facility after having several falls at home. She has early signs of dementia, but is being cared for by her husband in their home, with the assistance of their four children who all live nearby. Lola worked as a manager of the housekeeping staff at a local hotel until she was 67 and can no longer put in the long hours that the job required.

Five years ago Lola had a stroke, while she did regain full function, her health has never been quite the same. Mr. Sanchez reported that his wife was diagnosed with macular degeneration four years ago, causing her to slowly quit doing things she once enjoyed. As she has been withdrawn from doing meaningful activities, she has begun spending a large portion of her day in bed or in the living room recliner. With lack of movement during the day, Lola has begun using a walker, but still loses her balance easily. Mr. Sanchez believes that she has become so fearful of falling, that she often won’t get up to use the restroom and is occasionally incontinent. Large red sores have appeared on her bottom, and Mr. Sanchez fears they might be pressure ulcers.

You have been asked to be a part of the team evaluating Lola. You will need to determine what areas need to be evaluated, and what assessments will best address her needs. You will be asked to complete one assessment while meeting with Lola. You will only be assigned one assessment, but need to be prepared for all.

Faculty Guide: Possible areas that will need to be assessed:

1. Vision
2. Balance/Vestibular
3. Pressure Ulcers
4. Occupations
Case Study #2 Simulation: Patient #2 History (Actor Role)

Qiang Chan, a 66-year-old Asian woman, was admitted to the hospital following a fall in her living room while trying to walk to the bathroom. After examination and x-rays, it was determined that she did not have any significant injuries or broken bones.

Qiang was diagnosed with amyotrophic lateral sclerosis (ALS) two years prior. Since her diagnosis, Qiang’s disease has seemed to steadily progress. She lives at home with her husband, who had to retire in order to care for her. Their three children all live close by and help out as often as they can. Qiang used to be very active and prided herself on caring for their home and taking care of her grandchildren after school.

Qiang previously managed her gait difficulties by using bilateral ankle foot orthosis (AFO), a cane, and walker on weaker days. Recently she has been struggling with transfers and has considered looking in to purchasing a wheelchair. With the increased weakness in her legs and arms, Qiang has spent a lot of time in her recliner, which has resulted in a pressure ulcer. She reports that she is also having increased leg stiffness and back pain. Her husband is concerned that she might be dehydrated and possibly have a UTI, as this is fairly common for her. Two months ago, during an eye exam, Qiang was also told that she has glaucoma. There have also been noted concerns that Qiang may be experiencing vestibular issues in the recent months.

Faculty Guide: Possible areas that will need to be assessed:

1. Vision
2. Balance/Vestibular
3. Pressure Ulcers
4. Occupations
# Case Study #2 Simulation: Checklist

**Student Name:**

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Task/Skill</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Student introduces themselves when entering the room</td>
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<tr>
<td></td>
<td></td>
<td>Student use standard precautions when entering the room</td>
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<tr>
<td></td>
<td></td>
<td>Student explains what occupational therapy is in a way that client can understand</td>
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<tr>
<td></td>
<td></td>
<td>Student asks appropriate questions to build rapport with client</td>
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<td>Student asks probing questions to build on information obtained as needed</td>
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<td>Student demonstrates mode shifts as necessary</td>
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<td></td>
<td>Group selects an assessment that is appropriate for the client’s diagnosis, level of function, and setting</td>
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<td></td>
<td></td>
<td>Student describe the assessment and reasoning for administration in a way that the client can understand</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Student administers the assessment appropriately</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Student explains that results from the assessment will be reviewed and goals will be established based on results</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Student end session by thanking the client for completing the assessment and reviews how the results from the assessment will be used.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Student demonstrate confidence when interacting with client.</td>
<td></td>
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</tbody>
</table>

**Faculty Observer Signature**

**Date**

**Additional Feedback:**
Simulation #6: Case Study #3

During simulation six, students will be working independently to complete a high-fidelity simulation. Similar to previous simulations, a patient history will be provided. However, there will be no preparation time for exploring assessments. Students will need to select an assessment upon reading the history and be ready to see the patient. Additionally, during simulation six students will have the opportunity to work with an actor portraying an occupational therapy assistant. Both the patient and the occupational therapy assistant will be actors playing real people. This simulation will take place in the high-fidelity simulation lab that will be set up to represent an inpatient rehabilitation facility, which is similar to an inpatient hospital setting. Skills will be assessed on the student’s abilities to complete all tasks and provide leadership and direction to an occupational therapy assistant. The case study simulation description provides a more in-depth description on how this high-fidelity simulation will be carried out. Following the simulation description is the patient history that will be given to the students, and the skills assessment that will be used to evaluate the student’s skills.
Case Study #3 Simulation: Lab Description

<table>
<thead>
<tr>
<th>Course Name</th>
<th>OT 442 – Fieldwork and Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario Name</td>
<td>Case #3: High-Fidelity Simulation</td>
</tr>
<tr>
<td>ACOTE Standards</td>
<td>B.3.2; B.3.5; B.4.2; B.4.4; B.4.24; B.5.8; B.7.1; B.7.2</td>
</tr>
<tr>
<td>Level of Learner</td>
<td>Transition from foundational concepts to critical thinking</td>
</tr>
<tr>
<td>Type of Simulation</td>
<td>High-Fidelity</td>
</tr>
<tr>
<td>Simulation Location</td>
<td>Simulation Lab</td>
</tr>
<tr>
<td>Estimated Simulation Time</td>
<td>10-15 minutes per person</td>
</tr>
<tr>
<td>Estimated Debriefing Time</td>
<td>30-45 minutes as a large</td>
</tr>
</tbody>
</table>

**Brief Description of Simulation**

Students will be provided with the patient chart for Betty. Students will be individually seeing Betty as an occupational therapist, but will have an occupational therapy assistant in the room who will be an actor assisting them. Students will need to introduce themselves as they enter the room, explain to Betty that they will be getting her up and to the bathroom, students will instruct the occupational therapy assistant on the type of transfer they will be performing, and will perform the transfer while adhering to precautions and managing lines and tubes. During the transfer, a critical event will occur such as a drop in blood pressure or a loss of balance. Students will not be anticipating this event. Evaluation of how they respond to the event will be assessed and discussed during debriefing. Upon completion of the session, students will be asked to login to rehab optima and document the visit as a note. This simulation is intended to be an integration and assessment of all the skills learned over the course of the semester.

**Simulation/Lab Setup**

1. Set up 2-3 patient rooms with Betty in each room. While each scenario will not be exactly the same, the objectives and skills practiced will be comparable.
2. Betty will be lying in bed attached to oxygen and medication lines.
3. Copies will need to be made of client’s chart, actor guidelines, and skills checklists.

**Briefing Process**

Students will not require an orientation to the inpatient high-fidelity simulation labs, as they will have already been introduced to the labs in previous sessions.

Students will be put in groups of four. Each student will individually go into a different simulation lab at the same time, seeing the same patient scenario, just different actors. Students will be instructed to work collaboratively with the occupational therapy assistant to get the patient out of bed and to the bathroom. They will have 10-15 minutes to complete the scenario. Once the time is up, they will need to stop where they are, even if they are not finished. Students will be notified that they will not be marked down for incompletion.

**Additional Faculty Instructions/Information**
1. This simulation will require multiple actors for playing the roles of standardized patients and occupational therapy assistants. Students from other cohorts or volunteers from the drama department could be possible options to fill these roles.
2. Stand pivot transfers should be the type of transfer that students select.
3. The skills checklist for observation during assessment will be used.
4. This lab is an integration of all of the previous simulations.

<table>
<thead>
<tr>
<th>Prerequisite Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners should possess the following competencies prior to participation in this simulation</td>
</tr>
</tbody>
</table>

1. Have an understanding of neuromuscular related disorders and injuries.
2. Have an understanding of assessments used to evaluate neuromuscular related disorders and injuries.
3. Be able to select and execute safe transfers based on diagnosis and setting.
4. Be able to identify and manage equipment in hospital rooms.

<table>
<thead>
<tr>
<th>Associated Prep Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to the simulation students need to have completed</td>
</tr>
</tbody>
</table>

Review what was learned in hospital environment simulation.
Review transfers learned in simulation lab.

<table>
<thead>
<tr>
<th>Cognitive Skills</th>
<th>Psychomotor Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
<td>Checking vitals</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Transferring patient</td>
</tr>
<tr>
<td>Decision making</td>
<td>Administering assessment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Broad Course Objects Being Addressed</th>
</tr>
</thead>
</table>

1. Understand aspects of etiology, symptomology, and precautions of a variety of medical conditions across the lifespan and its influence on the evaluation process.
2. Utilize the philosophy, core value, & ethics during interactions to class activities and level I fieldwork experience.
3. Develop an occupational profile to inform further evaluation.
4. Select, administer, and interpret assessment results.
5. Use occupation-based analysis to evaluate occupational performance.
6. Consider factors that might bias assessment results including culture, disability status, and context and apply to the evaluation process.
7. Collaborate with occupational therapy assistants in the evaluation process, and be able to compare and contrast roles in the evaluation process.

<table>
<thead>
<tr>
<th>Learning Objectives for Simulation</th>
</tr>
</thead>
</table>

104
1. Students will demonstrate the ability to build rapport with patient.
2. Students will select an appropriate transfer technique for patient, based on context and diagnosis.
3. Students will demonstrate correct positioning and safety during transfer.
4. Students will demonstrate ability to effectively collaborate with an occupational therapy assistant.
5. Students will demonstrate an appropriate response to the critical event that occurs during transfer.

<table>
<thead>
<tr>
<th>Debriefing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defusing</strong> <em>(freely vent or share reactions):</em></td>
</tr>
<tr>
<td>1. How did you feel about the simulation experience?</td>
</tr>
<tr>
<td>2. What was it like to work alongside an occupational therapy assistant that you had not worked with before?</td>
</tr>
<tr>
<td>3. What part of the experience did you find the least difficult? What part of the experience did you find the most difficult?</td>
</tr>
</tbody>
</table>

| **Discovering** *(recognize personal behaviors that took place during the experience that facilitated or impeded the process):* |
| 1. What was your response to the critical event? |
| 2. Were you pleased with how you responded? |

| **Deepening** *(Begin to make clinical connections):* |
| 1. How did your response to the critical event impact how you might respond to future events? |
| 2. What is one thing you will take away from your interaction with the patient, occupational therapy assistant? |

**Actor roles and behavior overview:** Brief overview of behavior during the scenario
- Be responsive to student’s questions.
- Appear to be slightly fearful of getting out of bed because of your pain level. Discuss your pain level if students do not ask.
- After the critical event (loss of balance or blood pressure drop), reassure students that it was not their fault, but discuss how you want to get back in bed because you do not feel ready to transfer.

**Scenario events and expected actions:** Events in chronological order
1. Student will come in with an occupational therapy assistant and introduce themselves.
2. Student will build rapport with patient while preparing them for the transfer out of bed.
3. Student will explain transfer to patient and occupational therapy assistant actor.
4. During the transfer out of bed a critical event will occur.
5. Student and actor will transfer patient back to bed upon request.
Case Study #3 Simulation: Patient History (Actor Role)

Betty Klein is a 67-year-old Caucasian female, who had a right total hip replacement (THA) this morning. Betty has osteoarthritis in both hips, and reports pain that has been present in both hips for many years. Betty stated the pain was much worse in her right hip, causing pain to radiate down to her knee. Her surgeon recommended bilateral hip replacements eventually, but suggested she complete the right side first because of the intense pain and the amount of pain medication she was taking daily.

Betty has been widowed for 10 years and does not have any assistance at home. Prior to this surgery Betty was completing all of her ADLs and most of her IADLs independently, as long as she had extra time and could take rest breaks as needed. Betty lives in a small town house with three steps and a railing to enter the home. Betty’s bedroom is on the second level of the home, which requires her to go up and down ten stairs. Betty does not want to have to use a walker, but is willing to, if it means she can go home sooner. Betty is still on oxygen and his lines for medication administration.

You have been asked to go in with your occupational therapy assistant and get Betty up to use the bathroom. You will first need to select an appropriate assessment based on her precautions, the setting, and her level of function.
**Case Study #3 Simulation: Checklist**

**Student Name:**

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Task/Skill</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Student introduces themselves when entering the room</td>
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<tr>
<td></td>
<td></td>
<td>Student uses standard precautions when entering the room</td>
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<td>Student explains what occupational therapy is in a way that the client can understand</td>
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<td>Student asks appropriate questions to build rapport with the client</td>
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<td></td>
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<td>Student asks probing questions to build on information obtained as needed</td>
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<td></td>
<td></td>
<td>Student demonstrates mode shifts as necessary</td>
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<td>Student describes what transfer they will be doing and the correct process for completion</td>
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<td>Student works collaboratively with the occupational therapy assistant to complete the transfer safely</td>
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<td>Student demonstrates proper body mechanics and safety during the transfer</td>
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<td>Student responds appropriately to the critical event that occurs during the transfer</td>
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<td>Student ends session by thanking the client and occupational therapy assistant</td>
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<tr>
<td></td>
<td></td>
<td>Student demonstrates confidence when interacting with client and occupational therapy assistant.</td>
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</tbody>
</table>

**Faculty Observer Signature**

**Date**

**Additional Feedback:**
Summary

Based on the needs identified by the doctoral curriculum committee, six simulations were created for the second semester Fieldwork and Integration course of the doctoral curriculum for the North Dakota’s occupational therapy program. Rather than creating simulations for courses across the curriculum as initially planned, the doctoral curriculum committee recommended creating an in-service training for the occupational therapy faculty instead. By doing this, the faculty can incorporate simulations as an educational tool, as the courses and the content are being developed. The following section will provide a conclusion for the development of the simulation curriculum, review the research questions and answers to the questions, and discuss additional recommendations for the simulation curriculum following the faculty in-service training and for future simulation design.
Conclusion

Simulation is a tool that is increasingly being used in healthcare education to prepare students for future practice by learning and applying skills in a safe environment (Bethea et al., 2014). While occupational therapy programs are still in the initial stages of integrating high-fidelity simulation into course work (Bethea et al., 2014), it is important to consider the benefits of utilizing simulation as students work towards becoming qualified entry level practitioners. The occupational therapy department at the University of North Dakota is in the process of transitioning from a master’s program to a doctoral program in the fall of 2019. As the new curriculum is being created, it is an appropriate time to integrate simulations into learning, especially with the many changes in healthcare that are currently taking place.

The need for changes in occupational therapy education are being driven by the changes occurring in healthcare overall such as: the growing workforce demands, limited staff to oversee students during fieldwork experiences, competition for placement at clinical sites, reimbursement and productivity guidelines, and increasing safety regulations. In addition to the healthcare changes, the American Council for Occupational Therapy Education (ACOTE) has mandated that all occupational therapy programs offer degrees at the doctoral level by 2027 (Brown, Crabtree, Mu, & Wells, 2015). With the curriculum being rewritten in the occupational therapy department at the University of North Dakota to align with ACOTE’s new standards, designing simulations is both timely and necessary. The questions considered when designing the simulation curriculum were:

What are the simulation experiences that will meet the identified course demands, level of learning, and objectives in the University of North Dakota Occupational Therapy doctoral curriculum?
The simulation experiences that were found to meet the identified course demands followed the broad course topics already established in the second semester Fieldwork and Integration course. Through careful consideration of the adopted process of learning for the doctoral curriculum, course objectives, ACOTE standards, and topics, simulations were developed to be implemented across the semester. The simulations followed Shea’s (2015) recommendations for implementing simulations into curriculum. The progression Shea (2015) recommends follows a five step process for effectively implementing high-fidelity simulations. The five steps followed were creating learning objectives, designing a high-fidelity learning environment, creating a case scenario, considering participant engagement, and implementing an effective debriefing session. The debriefing session was designed to follow the three step process of diffusing, discovering, and deepening (Shea, 2015).

Creating simulation experiences for the second semester Fieldwork and Integration course were determined to be more beneficial at this point in the curriculum design process, rather than creating simulations across all semesters of the doctoral curriculum. Currently only two semesters of the doctoral curriculum have been fully designed. In order to create simulations that are the most useful, it is helpful to know what skills the students have and have not learned in courses. Six simulations were created progressing from low-fidelity to high-fidelity. The six simulations designed begin with practicing foundational skills in the classroom learning patient transfers and taking vital signs. In the third simulation, the students begin transitioning to high-fidelity simulation in the simulation labs and begin to explore and become familiar with hospital settings and equipment commonly used in these settings. The final three simulations are high-fidelity and require the students to demonstrate integration of skills and understanding of content learned across the semester in all courses.
What educational material will be used to train faculty who intend to implement simulation experiences into courses for the University of North Dakota’s Occupational Therapy doctoral curriculum?

Instead of creating simulations to be incorporated throughout the occupational therapy doctoral curriculum, it is more beneficial to teach faculty members in the occupational therapy department how to create high-fidelity simulations for future simulations. To fulfill the recommendations by the occupational therapy doctoral curriculum committee at the University of North Dakota, an in-service training was developed to be carried out during a scheduled faculty meeting in the spring of 2019. Six simulations were then created to be implemented into the Fieldwork and Integration course in the second semester of the occupational therapy doctoral curriculum, along with patient histories for the simulations, and skill assessment measures to evaluate student learning. The general syllabus for the Fieldwork and Integration course was also revised to match the changes for the course based on the designed simulations. As the in-service and simulations were created, recommendations for future implementation were noted.

**Recommendations**

The simulations created for this project were designed for the second semester Fieldwork and Integration course which integrates material created for the doctoral curriculum in the occupational therapy program at the University of North Dakota. It is anticipated that faculty will use what was learned in the faculty in-service training on developing simulations, and create additional high-fidelity simulations for learning opportunities in future semesters once more courses are developed and content is established.

Additionally, while the doctoral program for the occupational therapy program at the University of North Dakota will begin in the fall of 2019, the Fieldwork and Integration course
for which the six simulations have been designed will not be implemented until the spring of 2020. As the curriculum continues to be developed for the following six semesters after this course, it is recognized that there is a possibility that location of content between courses could change. With this in mind, the simulations that have been created are adaptable and can be revised if necessary.

In future creations of high-fidelity simulations, it will be helpful for faculty to collaborate when designing the case scenarios to ensure all practice areas are being covered. For the Fieldwork and Integration course, the simulation case scenarios were primarily focused on adolescent, adult, and elderly populations. Integrating a pediatric scenario is necessary to ensure occupational therapy students are prepared for all possible settings they could be working in as clinicians. Lastly, it would be beneficial to have simulations reviewed by the instructional design team at the University of North Dakota to determine if there are any additional recommendations for improving simulation labs with latest practices and trends in education. This should be done routinely to support effective teaching and learning.

**Summary**

The developed simulation curriculum is intended to be used as an educational tool for preparing qualified entry level occupational therapy practitioners graduating from the doctoral program at the University of North Dakota. In 2019, the first doctoral class of occupational therapy students will begin their journey to becoming occupational therapy graduates. With the continual changes in healthcare and healthcare education, it is necessary that the occupational therapy department at the University of North Dakota stay up to date with best practices for educating qualified occupational therapy practitioners. Through the use of simulation as an
educational tool, literature has shown many important skills that can be gained through continued participation.
References


