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Instructor Perspectives on Case-based Learning and Student Engagement in Occupational Therapy Curriculums

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This is to certify that the doctoral dissertation by

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Abstract

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MS, Harding University, 1996

BS, Washington University, 1992

Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Students who are not engaged in the classroom become clinicians who are not successful in clinicals and entry-level work. This prompted occupational therapy (OT) educators to explore active teaching and learning strategies that have proven successful in various professional programs. This study explored OT instructors' perceptions and experiences of case-based learning (CBL). This single case, qualitative study utilized content and thematic analysis to analyze interviews, brainstorming activities, and reflective journals from eight participants. Participants were OT professors who utilized CBL strategies. First and second cycle coding was used to categorize data then codes were reviewed for emerging themes. Content analysis was used to analyze the supporting documents. Six common themes emerged from the interviews and were supported and reinforced by the brainstorming activity and reflective journal entry. The themes were: (a) the role of life experience in student engagement; (b) CBL's resemblance to OT practice and its real-life context; (c) CBL is a natural way to learn and teach clinical skills; (d) CBL is effective in engaging students whenever and however presented; (e) students appreciate CBL strategies; and (f) although professors used other active learning techniques, CBL was used more often and was felt to be more effective. All themes supported the use of CBL to increase student engagement and participation in OT classrooms. The results of this study may promote positive social change by helping instructors prepare students to become effective therapists. Better educational preparation can lead to positive social change as effective OT interventions ultimately lead to better client care that positively impacts clients' health, function, and well-being.

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Dedication

To my father, Robert Lee Lewis, who taught me the value of education. You ingrained the importance of education in all of your children and sacrificed so much to ensure that we had positive educational and life experiences. Your influence spurred me to go higher. I truly wish you were here to celebrate this accomplishment with me.

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Thank you to my husband, Kenneth, for your love and unwavering support during this academic journey. Without you, I would not have been able to accomplish this milestone.

Thank you to my mother, Johnnie Mae Lewis, for always being my faithful cheerleader. Thank you to my son, Brandon, my daughter-in-law, Sarah, and my grandchildren, Khaden and Kolsen. You guys kept me uplifted and entertained during my spare time. I'll forever be grateful for your love and support.

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Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Introduction

Occupational therapy (OT) is a client-centered discipline that enables individuals and groups to participate in important life activities. OT practitioners use their knowledge of the relationship between the person, the context, and the person's engagement in valued occupations to design occupation-based interventions that enable change and growth in client factors and skills needed for successful participation (American Occupational Therapy Association [AOTA], 2014b) in the person's chosen occupations.

Knowledge of occupation and how occupation impacts health and well-being is at the core of OT practice. The scope of practice of OT has become more complex, and the skills required to meet these requirements can be met only with graduates with enhanced clinical reasoning, problem-solving, interprofessional, evidence-based practice, and leadership abilities (Brown, Crabtree, Mu, & Wells, 2015). 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" (AOTA, 2014a, p. 18). For students to gain the skillset required to make evidence-based clinical decisions, they must have the ability to think critically and apply knowledge gained in the classroom in clinical settings.

One issue in higher education is low levels of student engagement leading to poor learning performance (Lim, 2017) and ultimately to poor performance in clinical and entry-level work settings. Lecturing has continued as the leading instructional strategy in most classrooms (Gilboy, Heinerichs, & Pazzaglia, 2015; Prober & Heath, 2012).

Lecturing alone has been condemned by many as an ineffectual way to help students acquire essential knowledge and skills (Gilboy et al., 2015; Hattie, 2008; Schwerdt & Wupperman, 2010). The literature suggests that lecture is a form of passive learning that takes teaching space away from challenging student thinking, guiding them to solving practical problems, and encouraging the explicit application of material through active learning (Bergman & Sams, 2012; Gilboy et al., 2015).

Educators may choose to vary their teaching strategies to ensure that all students gain the knowledge and skills necessary for evidence-based practice. Educators can provide active learning activities and opportunities that emphasize student involvement in the classroom foster communication, student engagement, creativity, self-directedness, and critical thinking (Cassum, Hussein, & Gul, 2017). When only traditional or passive learning strategies are used, OT students may not be actively engaged in the learning process. The students may have difficulty applying the knowledge learned in the classroom to clinical situations. Instructors need to use creative learning strategies, as traditional learning strategies are unable to contend with evolving challenges in health care systems (Arhin & Cormier, 2007; Cassum et al., 2017).

Various active learning strategies are used by educators in professional programs to increase student engagement. The strategies include but are not limited to team-based learning, project-based learning, flipped classroom, collaborative testing, and case-based learning strategies. These learning strategies are beginning to be used more consistently in OT curriculums, but little research has been done to demonstrate their effectiveness. Case-based learning, an active learning strategy, has been used to improve clinical

knowledge and skills, enhance teamwork and collaboration, and promote deeper learning in health-care related fields (McLean, 2016).

In this study, I explored the perceptions and experiences of OT instructors who use case-based learning strategies in their classrooms. The findings of this study may provide a new understanding of the perspectives and experiences of OT instructors implementing an innovative learning environment. The findings may lead to positive social change as students who are engaged in the learning process will be able to employ evidence-based practice to provide effective and efficient interventions during OT treatment sessions.

Chapter 1 is an introduction to the study. This chapter includes background information for the study, the problem statement, and the purpose of the study. The research question is included and is based on the conceptual framework and research methodology of the study that is described in this chapter. The chapter also includes definitions of keywords, assumptions, limitations, and the significance of the study.

Background

Declining student engagement and participation resulting in limited comprehension of content knowledge has driven the search for alternative teaching and learning strategies for OT students (Nott, 2015). To promote student engagement, instructors have begun to use active learning strategies to enhance learning and retention of course content (Burgess & Medina-Smuck, 2018) in programs such as OT. Previous research has focused on active learning strategies that have been implemented into

professional programs to increase student engagement, promote critical thinking, and improve student grades. These strategies, including

CBL, have been proven successful in many professional and health-care related programs (Murphy & Stav, 2018).

Case-Based Learning

Case-based learning (CBL) is an active learning strategy that has been used to promote learning and increase student engagement. It has been a staple of graduate and undergraduate education in a variety of health disciplines including health sciences (Curran, Sharpe, Forristall, & Flynn, 2008), instructional design (Jonassen & Hernandoz-Serrano, 2002), nursing (Kaddoura, 2011), education (Kolodner, 1997), medicine and health professions (Thistlethwaite et al., 2012), paramedics (Williams, 2009), and in OT (Bazyk & Jeziorowski, 1989; Liu, Schneider, & Miyazaki, 1997; Lysaght & Bent, 2005; Neistadt & Smith, 1997; Van Leit, 1995). There is evidence for the use of this educational model; however, it has not linked case-based learning specifically to clinical reasoning in OT (Boyt Schell & Schell, 2008; Falk-Kessler & Ciaravino, 2006; Lederer, 2007; Mattingly, 1991; Murphy & Stav, 2018; Rogers, 1983; Unsworth & Baker, 2016; Vogel, Geelhoed, Grice, & Murphy, 2009).

Use of realistic cases in CBL to help students in health and allied health professional education apply knowledge and link theory to practice may be an effective method to prepare students for clinical practice (Knecht-Sabres, Egan, Wallingford, & Kovic, 2015; Thistlethwaite et al., 2012). Case studies can support learners in building upon previous knowledge and encouraging them to prioritize information, search for

evidence, synthesize data, and make clinical decisions (Kim et al., 2006; Knecht-Sabres et al., 2015).

The use of purposefully designed clinical cases was also found to promote students' confidence in their clinical reasoning and OT related skills (Knecht-Sabres et al., 2015; Knecht-Sabres, Kovic, Wallingford, & St. Amand, 2013). Thistlethwaite et al. (2012) found that students enjoyed CBL and felt that it enhanced their learning. They also found that teachers enjoyed CBL because it engaged students, motivated students, and fostered learning. The results also suggested that CBL encouraged successful learning in smaller groupings, by having more engaged learners, and well-defined learning endeavors carefully correlated with plausible clinical practice situations.

In OT curriculums, case studies or CBL has been used to highlight different aspects of the OT Process across the continuum of care to offer opportunities for students to apply and generalize knowledge of the various aspects of client-centered care in various practice contexts (Knecht-Sabres Egan, et al., 2015). Case-based reasoning in OT education has been used to engage students in learning and to support collaboration among students by using text-based cases, client simulations, client interviews, and videotaped cases of therapists and patients. (Bazyk & Jeziorowski, 1989; Liu et al., 1997; Lysaght & Bent, 2005; Neistadt & Smith, 1997; Neistadt, Wight, & Mulligan, 1998; Van Leit, 1995).

Murphy and Stav (2018) also examined the efficacy of CBL and observed that students who used video case studies and a clinical reasoning learning activity demonstrated improved performance on the posttest in all measures of reasoning. Nicola-

Richmond and Watchorn (2018) found that students responded positively to the use of both web-based and paper-based case studies as the case studies provided experiences that were real, evoked empathy, and allowed participants to develop greater self-perceived information gathering and assessment skills.

CBL may increase student engagement and participation in OT curriculums when instructors understand the benefits of incorporating the learning strategy throughout the curriculum. Whether instructors use case studies in one classroom or several throughout the curriculum, the result could be increased student engagement and participation. If a case study is used to learn more about a diagnosis, such as rheumatoid arthritis, the same case study can be used to further promote knowledge about the impact of rheumatoid arthritis when treating an aging adult client. The discussion of the case can stimulate the learning process and help students make appropriate treatment decisions in clinical situations.

This study was needed because student engagement is critical to the learning process. If OT instructors understand that active learning strategies such as CBL can increase student engagement and promote learning, and they will be more apt to utilize the strategies in the classroom to ensure student success.

Problem Statement

The problem that I addressed in this study was the need for OT graduates in the United States to be effective in clinical settings to support the future occupational needs of society. The AOTA has recognized population health issues, including productive aging, as vital practice areas in the 21st century. In this United States, a rapidly aging

population, increased longevity, the transforming work world, and aging adults' concentration on quality-of-life concerns are some of the issues that will increase the need for services in this area (AOTA, n.d.c). OT practitioners in this practice area work with the five million Americans living with Alzheimer's Disease and their families or caregivers by focusing on the person's residual abilities, and adaptations and modifications to preserve functional participation for as long as possible (AOTA, n.d.c). The practitioners also help people maintain their autonomy, independence, and sense of worth by providing assessment, training, and support to help older adults prevent falls and remain injury-free, make home modifications that allow them to be safe and comfortable in their homes as they age. The AOTA states that practitioners can also help people with low vision function at the maximum level by actively preventing accidents and injury, teaching new skills, modifying the task or environment, and promoting a healthy lifestyle, thus ensuring that aging adults can successfully participate in their daily activities.

Traditional teaching methods such as lectures may not be successful in preparing future occupational therapists for practice. Wolff, Wagner, Poznanski, Schiller, and Santen, (2015) suggest that learners do not retain a significant portion of what is taught during lectures, leading to disengagement in the learning process. Decreased student engagement and participation are significant issues for OT students as students who are not engaged in coursework tend not to be successful in clinical rotations and entry-level work. Engagement may be described as the holy grail of learning as manifold advantages ensue when learners are engaged in their education, including increased enthusiasm and

success (Sinatra, Heddy, & Lombardi, 2015). According to Hampton and Pearce (2016), student engagement is a better prognosticator of learning and personal development. Positive correlations between engagement and outcomes such as grades, critical thinking, ability to apply knowledge in the practice setting, self-esteem, satisfaction, and persistence to get tasks accomplished have been demonstrated (Hampton & Pearce, 2016).

Declining student engagement and participation, and the resulting inadequate consolidation of content knowledge, has prompted the exploration of alternative teaching and learning strategies for OT students (Nott, 2015). To promote student engagement, instructors are beginning to use active learning strategies including CBL to enhance learning and retention of course content (Burgess & Medina-Smuck, 2018). Per Khan, Egbue, Palkie, and Madden (2017) the integration of active learning into courses is crucial to engage students, regardless of the environment. If active learning strategies increase student learning and retention, they can be used in OT curriculums to engage students and increase success in clinical rotations and entry-level work. Students who are prepared can deliver services that benefit clients by ensuring that they can successfully participate in the daily activities and occupations they need or want to do (AOTA, n.d.) This benefits society by promoting increased health and wellbeing of people of all ages, regardless of disease or disability, which is the goal of OT intervention.

The success of these active learning strategies and OT instructors' perceptions and experiences when using these strategies in the classroom has not been adequately explored. Active learning strategies have proven successful in increasing student

engagement in various professional educational programs, but there is little literature regarding the use of active learning strategies, including case-based learning, to increase student engagement in OT programs. There is also a paucity of literature on OT instructors' perceptions and experiences when implementing active learning strategies in the classroom.

Purpose of the Study

The purpose of this qualitative case study was to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning. Researchers use case studies to help learners develop critical thinking skills, to assess student learning, or as practice exercises to prepare learners for a more authentic application of skills and knowledge gained by working on the case (Walker, Leary, Hmelo-Silver, & Ertmer, 2015). Case studies are presented in various ways that incorporate other aspects of active learning, including video case studies, case simulations, and case-based team projects. In this study, I focused on instructor use of case studies, presented in either of the manners above, to promote student engagement and participation.

Research Questions

The central research question that I addressed in this study was: What are the perceptions and experiences of OT instructors who use CBL strategies in their classrooms?

Conceptual Framework

The theoretical base for this study was the theory of adult learning or andragogy, experiential learning theory, the transformative learning theory, and situated learning. Knowles's (1973) theory of adult learning (andragogy) addresses characteristics of adult learning and suggests that adult learning is problem-centered rather than content-oriented and experience (including mistakes) provides the basis for learning activities. I used this theory as support for this study in order to acquire insights into active learning strategies that promote opportunities for adult learning.

Kolb's (1984) and Kolb and Kolb's (2009) experiential learning theory proposes that learning is a process that includes feedback on the effectiveness of the learning efforts and that education must be conceived as a continuing reconstruction of experience. I used experiential learning in this study to develop insight into the use of feedback and experience in the learning process. In transformative learning theory, Mezirow (2000) suggested that learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience as a guide to future action. I used the transformative learning theory in this study to develop insights into how experience results in learning.

Lave and Wenger's (1991) situated learning suggests that learners acquire the skill to perform by engaging in the process under the attenuated conditions of legitimate peripheral participation (LPP). Lave and Wenger (1991) asserted that learners participate in the actual practice of an expert but only to a limited degree with limited responsibility for the ultimate product as a whole. I used this theory in this study to develop insight into

the social engagements that provide contexts for learning to take place. Each theory suggests that experience or active learning strategies are important to the learning process and thus should promote student engagement in educational curriculums including OT curriculums.

Nature of the Study

The nature of this study was a qualitative case study (Yin, 2017). Yin (2009, p. 18) defined case study research as an "empirical inquiry that investigates a contemporary phenomenon (the 'case') in-depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident." I chose a qualitative case study because it is the design that is used when the researcher seeks to explain the *how* or *why* of a social phenomenon or when the question requires a comprehensive and *in-depth* discussion of the phenomenon (Yin, 2017, p.4).

In this study, I explored OT instructors' perceptions and experiences when using the active learning strategy of CBL in the classroom. Participants included in the study were OT instructors who use CBL strategies to increase student engagement in the classroom. I collected data via interviews of the participants, a review of a brainstorming activity that supported the use of CBL techniques, and reflective journal entries written by the instructors. According to Yin (2011) memoing, coding, document analysis, and thematic analysis are useful in understanding data. Therefore, I performed data analysis through memoing, coding, document analysis, and thematic analysis.

Qualitative research was consistent with understanding instructor perspectives of active learning strategies and student engagement in OT curriculums, which was my primary

focus in this dissertation. The use of active learning strategies to increase engagement in adult learners should be consistent with the assumptions of Knowles's andragogy, Kolb's experiential learning, Lave and Wenger's situated learning, and Mezirow's transformative learning theories. I examined OT instructors' experiences using CBL in the classroom. This qualitative case-study illustrates how CBL can be used to promote student engagement and inform instructors of the educational strategies that can be incorporated into OT curriculums.

Definitions

Behavioral engagement: Behavioral engagement is participation in learning and academic assignments and is typically demarcated as positive conduct (Finn & Rock, 1997; Sinatra, et al., 2015), involvement in scholarly tasks (Heddy, Sinatra, Seli, & Mukhopadhyay, 2014; Sinatra et al., 2015), and partaking in extra-curricular activities including athletics and clubs (Finn & Voelkl, 1993; Sinatra et al., 2015).

Case-based learning: CBL prepares students for clinical practice by using realistic clinical cases. Theory is connected to practice using inquiry-based learning methods (Thistlethwaite et al., 2012). A modern definition of CBL is that CBL is a form of learning, which involves a clinical case, a problem or question to be solved, and a stated set of learning objectives with a measured outcome (McLean, 2016).

Cognitive engagement: Cognitive engagement is a psychological investment (Sinatra et al., 2015; Wehlage & Smith, 1992).

Emotional engagement: Emotional engagement is considered learner's emotional responses to academic subject areas (Pekrun & Linnenbrink-Garcia, 2012; Sinatra et al.,

2015; Skinner & Belmont, 1993) and positive and negative emotions can enable initiation of attention and engagement (Broughton, Sinatra, & Nussbaum, 2011; Heddy & Sinatra, 2013; Sinatra et al., 2015).

Occupational therapy: In its simplest terms, occupational therapists and OT assistants help people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations) (AOTA, n.d.)

OT Process: Describes the actions therapists perform when delivering services that are client-centered and focused on engagement in occupations (AOTA, 2014a).

Student engagement: Student engagement is a combination of behavioral engagement, emotional engagement, and cognitive engagement.

Study engagement: Study engagement is defined as a constructive, rewarding, study-related state of mind exemplified by energy, commitment, and concentration (Ketonen et al., 2019; Salmela-Aro & Read, 2017; Salmela-Aro & Upadyaya, 2012; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). Study engagement is associated with academic motivation and functioning as engaged students value studying, receive better grades, and report lower levels of academic withdrawal and work avoidance (Tuominen-Soini & Salmela-Aro, 2014).

Assumptions

This study was based on several assumptions. My first assumption was that OT instructors are utilizing CBL in their curriculums. This assumption was important because the use of this active learning strategy was the basis of the study and has been proven to increase student engagement. My second assumption was that OT instructors

who utilize CBL would be willing to discuss their perceptions and experiences regarding their use of active learning strategies during the interview process. This assumption was important as the information provided during the interview would provide the data that would be analyzed.

My third assumption was that OT instructors who utilize CBL would be willing to engage in brainstorming activities and complete a reflective journal to support their use of case-based learning. This assumption was also important as these activities would provide data that would be analyzed during the study and that could impact the findings of the study.

Scope and Delimitations

In this study, I explored OT instructors' perceptions and experiences when using the active learning strategy of CBL in the classroom. I focused specifically on instructors' perspectives and experiences with CBL using realistic case studies. This area is an under-researched area in OT that can potentially provide insight into the active learning strategies that promote student engagement. I conducted a qualitative case study to gather information on instructor perspectives. I did not perform a quantitative or mixed methods study as the qualitative method was more appropriate to gather information on instructor experiences and perceptions.

Ravitch and Carl (2016, p. 128) stated that qualitative researchers "deliberately select individuals because of their unique ability to answer the study's research questions." Recruitment and purposeful sampling techniques involved key informants who utilize CBL techniques in OT classrooms and were able to knowledgeably address

their experiences in using the techniques. I used snowballing to recruit other participants as needed. I did not use other sampling techniques to recruit participants as other techniques may have resulted in participants who did not meet the study criteria.

The participants recruited for the study met the following inclusion criteria (a) was a registered occupational therapist (OTR); (b) was a faculty member or former faculty member in an OT or OT assistant program; (c) had at least three years or more experience teaching in an OT curriculum; (d) actively utilized CBL techniques/strategies in classes taught in the OT curriculum or actively used the techniques when teaching; (e) over 18 years of age; and (f) able to provide informed consent. Potential participants were excluded from the study if (a) he/she was not a registered occupational therapist (OTR); (b) he/she was not a faculty member or former faculty member in an OT or OT assistant program; (c) he/she did not have three years or more experience teaching in an OT curriculum; (d) he/she did not actively utilize CBL techniques/strategies in classes taught in the OT curriculum or did not actively use the techniques when teaching; (e) was under 18 years of age; (f) was unable or unwilling to provide informed consent.

The conceptual framework that I used to form the basis of the study involved several theories of adult learning including Knowles (1973) theory of adult learning (andragogy), Kolb's (1984) and Kolb and Kolb's (2009) experiential learning theory, Mezirow's transformative learning theory (2000) and Lave and Wenger's (1991) situated learning theory. No other theories were utilized as a basis for the study. I planned to interview and gather artifacts that supported the use of CBL from 8-12 OT instructors

from established OT programs to explore perceptions and experiences when using the active learning strategy of CBL in the classroom. I did not interview faculty members from other programs or disciplines as the study focused on OT faculty perceptions. I hoped the findings of the study would provide insights into the use of the active learning strategy to promote student engagement. The findings of the study should transfer to other teaching populations who use CBL strategies.

Limitations

Limitations, challenges, and/or barriers that needed to be addressed when conducting this study included finding OT faculty who met the inclusion criteria of active use of CBL strategies and sufficient time in the teaching role to implement CBL strategies. Another limitation could have been sample size. The interview process is time-consuming and finding faculty who use

CBL techniques could include travel time and expense in addition to the interview time. I interviewed 8-12 OT faculty across the country either face-to-face or via electronic means.

Depending on time and financial constraints, the study could have had a small sample size. Ravitch and Carl (2016, p. 128) stated that qualitative researchers "deliberately select individuals because of their unique ability to answer the study's research questions." Finding key informants could have been problematic as many OT instructors are well versed in clinical practice but lack the educational background in teaching methods and strategies that is necessary to ensure student engagement. Another challenge could have been obtaining information from the brainstorming activity and

reflective journal that supported the instructor's reports of how CBL strategies were incorporated in their classrooms. While conducting the study, I was dependent on OT instructors' willingness to participate and provide the information.

I was a professor in an OT program and actively used CBL in the classroom. This could have biased the study as I believed that the strategies were beneficial in increasing student engagement. To address the limitations of the study, I planned to use triangulation, memoing, and member checking. I also planned to utilize purposeful sampling techniques, including key informants and snowballing to ensure that a representative sample of the population could be found.

Significance

This research filled a gap in understanding by focusing specifically on the active learning strategy of CBL that could be used to increase student engagement in OT curriculums. This project was unique because it addressed an under-researched area of OT education as there is limited information in the literature regarding the use of or the effectiveness of active learning approaches that increase engagement and participation in OT curriculums. The results of this study provided a new understanding of the perspectives and experiences of OT instructors implementing an innovative learning environment.

According to Hampton and Pearce (2016), student engagement is among the better predictors of learning and personal development and researchers have demonstrated positive correlations between engagement and outcomes such as grades,

critical thinking, ability to apply knowledge in the practice setting, self-esteem, satisfaction, and persistence to get tasks accomplished.

Students who are not engaged in the learning process tend not to be successful in clinical rotations and entry-level work. This lack of engagement can have a significant impact on the field of OT as stakeholders including clients, instructors, clinical instructors, and employers who hire these students are all impacted by the lack of student engagement. Increased student engagement can lead to positive social change as evidenced by better client care. Students who are engaged in the learning process will be able to employ evidence-based practice to provide the most effective interventions during OT treatment sessions. If clients receive better care because of therapists who are well prepared and able to create appropriate interventions, there should be a positive impact on function and well-being.

Summary

Decreased student engagement has elicited the exploration of active learning strategies in OT curriculums. The purpose of the qualitative case-based study was to explore OT instructors' perceptions and experiences when using the active learning strategy of CBL in the classroom. The study was focused specifically on instructors' perspectives and experiences with CBL using realistic case studies. The study addressed an under-researched area of OT education and provided insights into active learning strategies that promote student engagement. Research supports the use of active learning strategies, such as CBL to increase student engagement.

I used theories of adult learning to guide the research. Knowles' andragogy Lave and Wenger's situated learning, Kolb's experiential learning theory, and Mezirow's transformative learning theory all provide insight into the active learning strategies in higher education. I proposed to answer the research question of what the perceptions and experiences of OT instructors were who use CBL strategies in their classrooms. Interviews with open-ended questions of OT and allied health instructors were potential sources of data, although finding appropriate faculty who met the inclusion criteria was problematic. Examples of activities that could be used during instruction were collected to support the instructors' reports of how the case-based strategies were implemented in their classrooms. I hoped the study would provide a new understanding of the perspectives and experiences of OT instructors implementing an innovative learning environment. The next chapter, Chapter 2, is a review of the literature related to CBL strategies.

Chapter 2: Literature Review

Introduction

Case-based instruction has been proven to increase student engagement and may support their success in clinical settings after graduation. The problem that I addressed in this study was the need for OT graduates in the United States. to be effective in clinical settings to support the future occupational needs of society. To promote student engagement, instructors are beginning to use active learning strategies to enhance learning and retention of course content (Burgess & Medina-Smuck, 2018). The purpose of this qualitative case-based study was to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning.

Traditional students enrolled in OT programs are currently Generation Y or Millennials, born between1982 and 2002. It is important to understand the learning styles and the educational needs of these students as they differ from previous generations. It is also important to understand how teaching and learning strategies have evolved and changed, especially concerning meeting the needs of current students.

Generation Y Students

Students exhibiting decreased engagement can be found in many university classrooms. Low levels of student engagement lead to poor learning performance (Lim, 2017) and ultimately to poor performance in clinical and entry-level work settings. Traditional graduate students who are currently enrolled in professional programs are

Generation Y or Millennials. A review of the literature indicated that Generation Y students learn differently from previous generations. Hills, Levett-Jones, Warren-Forward, and Lapkin (2016) stated that Generation Y students prefer doing to observing, want to be given clear expectations, want responsibility for their work tasks, want to work in a team, prefer to self-evaluate before feedback, and feel that access to the internet is essential for their learning.

Recent studies also found that some aspects of Generation Y's attitudes and behaviors have been observed in OT students. Jamieson, Kirk, and Andrew (2013) surveyed 358 Generation Y registered nurses and found that having a job that allowed for work-life balance and work-life separation was important. A study by Hills, Boshoff, Gilbert-Hunt, Ryan, and Smith (2015) surveyed 66 OT practice educators regarding their perceptions of the stereotypical Generation-Y OT students. The authors found positive and negative behaviors associated with this generation of students. Positive behaviors included that educators referred to them as (a) enthusiastic, go-getters, innovative, adaptive to change, creative, and willing to try new things; (b) articulate, assertive, confident, can bring new ideas to the profession; (c) knowledgeable in technological advances and appreciative of technologies that assist patient care; (d) self-directed, motivated, fast learners; (e) good at multi-tasking; (f) goal-oriented solution seekers with a preference for a hands-on approach to learning; and (g) interested in tasks that can be completed quickly and can be seen.

Negative characteristics of Generation-Y identified by Hills, Boshoff, Gilbert-Hunt, Ryan, and Smith (2015) from educator reports included difficulty with time

management identified as difficulty managing personal and work responsibilities with study responsibilities. Hills, Boshoff, Gilbert-Hunt, Ryan, and Smith (2015)found that many of the students worked part-time and had family or other responsibilities. They were reported to have difficulties fulfilling all roles. Failure to understand that the requirements of the service override their personal needs. They were reported to be more focused on personal needs than their work organization's needs. Their approach to learning indicates a desire to be an expert too quickly. Educators reported that the students did not want to learn gradually but rather preferred to jump in and do, without the necessary background knowledge. Eagerness for learning was interpreted by professors as demanding and disrespectful and as an unwillingness to slow down and learn concepts gradually. They had difficulty engaging in deeper learning with a tendency to take a skimming approach to information gathering. The students lacked effective clinical reasoning and displayed poor ability to reflect. They were reported to have difficulty accepting criticism and feedback and lacked attention to detail and instructors felt the students were demanding, self-focused, and did not show enough respect to their teachers. The authors identified issues with professional behaviors, including being casual communicators, wearing inappropriate or casual clothes, only acting proactively in areas that they deem important, being easily bored and self-focused, more likely to call in sick, poor work etiquette relating to technology use, and poor documentation or writing skills because of reliance on technology for communication. Although current traditional students are considered technologically savvy, other aspects of their behavior can potentially contribute to decreased engagement in the classroom.

Passive/Active Learning

Several studies compared the effects of passive and active learning strategies on student engagement and performance. Littlewood, Shilling, Stemland, Wright, and Kirk, (2013) studied the active learning strategy of high-fidelity simulation and found statistically superior performance was associated with the SIM experience compared to the discussion and SIM resulted in a markedly superior demonstration of understanding of key clinical concepts. Subramanian, Timberlake, Mittakanti, Lara, and Brandt, (2012) also found medical students taught using simulation had a significantly higher mean score for the postintervention and long-term retention tests, demonstrating that simulation is an effective learning modality compared with lecture format and promotes long-term retention. Wolff, Wagner, Poznanski, Schiller, and Santen, (2015) found learners retain very little of what they hear in lectures and are often unable to apply what they heard in lectures. They suggested active learning strategies, including case-based learning, can be used to increase retention and facilitate knowledge transfer to improve patient care, result in more meaningful learning, and can be used to increase learner engagement.

The studies suggest the use of active learning techniques results in improved knowledge retention and creates a deeper understanding of the material than passive learning by focusing on the learner's needs and requiring the active participation of learners. Bonwell and Eison (1991) concurred, suggesting true learning requires active participation from students. These studies indicated that although passive learning strategies continue to be used by many educators, the strategies may not be as effective as

active learning strategies in increasing engagement in students. In this study, I focused on the active learning strategy of case-based instruction or

CBL and how it could be used to increase student engagement and participation. In this study, I focused specifically on instructors' perspectives and experiences with CBL using realistic case studies presented in various manners.

College Instructors and Implementing Change

Many college instructors, especially in OT programs, were clinicians before becoming educators. Often universities recruit clinicians to fill faculty positions—many with limited or no official education in the principles of teaching and learning (Kalensky & Hande, 2017). Because of this, they may not be well versed in learning theories and educational techniques that address student engagement. The instructors are usually specialists in an area of practice and teach those specialties. The clinical or research expertise may enhance student learning, but incongruities between clinical and academic practice inhibit adequate preparation for new faculty (Kalensky & Hande, 2017; Schriner, 2007). It may be common for these instructors to use traditional teaching and learning techniques such as lectures, labs, and tests because they have not been exposed to educational curriculums. The instructors are typically not aware of how to align the course to meet specific learning outcomes or to gauge whether students are engaged in the learning process (Lockhart-Keene & Potvin, 2018).

This chapter introduces typical learners in current OT curriculums, includes a description of the literature search strategy and a review of the literature. I present the literature review in several sections. The first section is a discussion of the evolution of

OT education and curriculums. In the second section, I include research related to learning theories regarding student engagement, the importance of student engagement, types of engagement, and the roles of the educators and students in increasing engagement. In the third section, I present research related to case-based learning, its benefits and advantages, and its use in OT curriculums. I conclude the chapter with a discussion of themes and gaps in the literature that emerged from this review.

Literature Search Strategy

The search strategy that I used in this literature review included extensive keyword searches and database alerts for current research. The databases I used to find peer-reviewed journal articles published within the past 5 years and historical data included Google Scholar, EBSCO, PubMed, ERIC, ProQuest, Arkansas State University Library databases, and Walden Databases. I also created Google scholar alerts related to student engagement and OT. I searched these databases using the following keywords: *OT education, student engagement, case-based learning, passive learning, active learning strategies, higher learning, OT curriculums, learning strategies, motivation,* and *case studies. I* searched the phrases individually and using a Boolean search strategy. I expanded the literature search to include *problem-based learning,* as some articles included CBL as a part of problem-based learning or used it interchangeably with problem-based learning. I selected articles if they specifically used case-studies or case-based learning.

Conceptual Framework

The theories that supported this study were the theory of adult learning or andragogy, experiential learning theory, the transformative learning theory, and situated learning.

Andragogy

Knowles's (1973) theory of adult learning (andragogy) is about characteristics of adult learning and Knowles suggested that adult learning is problem-centered rather than content-oriented and experience (including mistakes) provides the basis for learning activities. Knowles, Holton, and Swanson, (1998) and Ozuah (2016), suggested the principles of this theory are that (a) adults need to know the value of what they are learning; (b) adult learning is self-directed; (c)they bring experience into the learning situation; (d) their orientation to learning is problem-centered, task-centered, or life-centered; (e) their motivation to learn is extrinsic; and (f) their readiness to learn is dependent on an appreciation of the relevance of the topic. OT students are adult learners who enter the program presumably ready, willing, and able to learn. I used this theory to support the study by providing insights into adult learning and active learning strategies that promote opportunities for adult learning.

Experiential Learning

Kolb's (1984) and Kolb and Kolb's (2009) in their theory of experiential learning proposed that learning is a process that includes feedback on the effectiveness of the learning efforts and that education must be conceived as a continuing reconstruction of experience. In experiential learning, students are enabled to learn through doing while

experiencing, and through ‘hands-on practice’ and ‘reflection’ (Fry, Ketteridge, & Marshall, 2015; Hill, 2017; Kolb, 1984). A key concept of experiential learning is that “learning is rooted in the situation in which the person participates, not in the head of that person as intellectual concepts” (Fenwick, 2003, p. 25; Giles, Carson, Breland, Coker-Bolt, & Bowman, 2014). Battaglia (2016) suggested that active learning and teacher-student relationships are emphasized in OT curriculums through the modeling and feedback that shapes behaviors and promotes skill development which are principles of experiential learning. I used the theory of experiential learning to support the study by providing insight into the use of feedback, experience, and experiential learning techniques to promote learning.

Transformative Learning

Mezirow, in his transformative learning theory (2000), suggested that learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience as a guide to future action. Davis (2006) and Bouchard (2018) found that integrating new information into existing information to make learning meaningful involves reflection on previous assumptions. Stansberry and Kymes (2007) and Bouchard (2018) found that transformative learning takes place through experience, reflection, and discourse when learners make choices or act based on the new understandings. Caffarella (1999) suggested that learning takes place in stages as transformation occurs. I used the transformative learning theory to support the study by providing insights into how experience results in learning that can transform the novice into an expert.

Situated Learning

Lave and Wenger (1991), in their situated learning theory, suggested that learners acquire the skill to perform by engaging in the process under the attenuated conditions of legitimate peripheral participation (LPP). Lave and Wenger asserted that learners participate in the actual practice of an expert but only to a limited degree with limited responsibility for the ultimate product as a whole. Nicolini, Scarbrough, and Gracheva (2016) suggested that participation is necessary for learning and that situated learning is related to engagement, belonging, inclusiveness, and developing identities. Clarke, de Visser, and Sadlo (2019) found that the planning of and carrying out OT interventions increased student awareness of self and moved them from peripheral to central participation as they took responsibility for developing within their role. I used this theory to support this by providing insights into the social engagements that provide contexts for learning to take place.

The theories I selected focus specifically on adult learners and provide details on how and why adults learn in classroom and life situations. In each theory, the theorists suggested that experience and active learning strategies are important to the learning process and thus should promote student engagement in educational curriculums including OT curriculums. OT students are adult learners who are typically Generation Y or Millennials. The needs of these learners were discussed previously and can potentially be met using the selected theories to guide the learning process.

Literature Review Related to Key Concepts

Evolution of OT Education and Curriculums

As with other professional programs, the purpose of OT education is to prepare students for professional practice. To this end, "a college's purpose is not to transfer knowledge, but to create environments and experiences that bring students to discover and construct knowledge for themselves, to make students members of communities of learners that make discoveries and solve problem s" (Barr & Tagg, 1995, p. 15; Nolinske & Mills, 1999). From the founding of the profession in 1917 and the first established curriculums in 1918, the profession's educational standards and curriculums have evolved and changed with advances in medicine, technology, and ideologies.

The current OT curriculum varies by the educational institution. A curriculum is a transaction among external and internal resources and constraints, the program's and profession's philosophies, the institution's and program's missions, philosophies of teaching and learning, intended outcomes, curricular threads, content, sequences, and assessment strategies (Hooper, Atler, & Wood, 2011; Hooper, Krishnagiri, Price, Taff, & Bilics, 2018). Many professional programs have signature pedagogies that determine how the profession educates its practitioners. Signature pedagogies embody definitive teaching processes plus accompanying assumptions regarding which knowledge is most important; how best to impart knowledge to students; and what values, beliefs, and personalities are particular to the profession (Hooper et al., 2018).

Ashby, Adler, and Herbert (2016) suggested that professional identities can also guide curriculums and curricular choices. They found curriculum designers need to

consider that students feel education and professional socialization have the most influence on the formation of professional identity. In OT, practitioners' professional identities develop, based on what students learn about the profession's culture, an occupational perspective of health, views of humans as occupational beings, and occupation-based-models (Ashby et al., 2016).

Curriculums are also described as programs in which topics, learning approaches, and views of a field vie with one another for consideration as core knowledge (Hooper, et al., 2018; Kelly, Luke, & Green, 2008). In OT's first educational program, Eleanor Clark Slagle, a founding member of AOTA, conceptualized OT as habit training; a curriculum at the Henry B. Favill School of Occupations that emphasized helping patients with mental illness acquire habits through meaningful time use and purposeful activity (Hooper et al., 2018; Presseller, 1984). The profession has evolved over the past decades and now focuses on promoting participation in everyday occupations.

As previously stated, the purpose of an educational program for the OT profession is to prepare students for practice. Professional OT (OT) programs prepare students for practice through methods that include didactic course work, experiential learning opportunities, and fieldwork (Knecht-Sabres et al., 2013). Traditional OT courses require students to take notes, pose questions, and discuss the content. Instructors in traditional courses use teaching methods consisting of a straight lecture or a mixture of lecture, discussion, case studies, supplemental readings, assigned medical condition and appropriate intervention, and a comprehensive exam (Nolinske & Mills, 1999). Leonardelli and Gratz (1986) suggested that the greatest challenge for the instructor was

to devise problems that confront and stimulate the student, and for the instructor to supply enough resource materials for the successful completion of the OT process. The OT process includes all components of practice, such as evaluation, intervention, re-evaluation, and discharge [of patients receiving OT services for any qualifying diagnosis].

As technology changes, healthcare and the needs of the OT learner also changes. The rapid changes in the health care industry affect clinical practice, and OT education must attempt to anticipate those changes and prepare competent clinicians for the future (Leonardelli & Gratz, 1986). Nolinske and Mills (1999) suggested that due to technological changes and increased workplace demands, lecture-based educational approaches cannot sufficiently prepare learners in professional and technical OT programs. Grenier (2015, p.7), referring to fieldwork education, suggested that "students are not simply learning about diagnoses, documentation, and client interventions while on-site; they are also learning valuable skills relating to teamwork, professional communication, and ethics." OT students must learn to apply the information learned in class to clinical situations.

Various instructional methods are used to help students learn and apply information. According to the OT Education Research (OTER) Agenda– Revised (Fitzcharles, 2018), instructional methods are the specific strategies used to promote learning (e.g., tutorials, reflective journaling, cases, concept mapping, technology, simulation, lectures). This OTER agenda established goals for educational programming in OT to promote student learning. Goals established included: (1) Given a particular

pedagogy, identify best practices in instructional methods that maximize learning; and (2) Identify optimal, coherent systems within which instructional methods can achieve entry-level competency in OT students (Fitzcharles, 2018).

Throughout the history of formal OT education, three signature pedagogies have been employed: (1) relational learning, (2) affective learning, and (3) active engagement ("learning-through-doing") (Battaglia, 2016; Shaber, Marsh, & Wilcox, 2012;). The first model, relational learning, relates to learning that occurs through human connections. This learning highlights the importance of teacher-student relationships through mentorship, apprenticeship, and modeling and suggests the human connections made between mentor and student, and ultimately therapist and patient are essential (Battaglia, 2016; Shaber et al., 2012). Shaber et al. (2012) suggested that the relationship fosters emotional intelligence which transforms or socializes students into the profession and helps to align them with the professional standards, values, beliefs, attitudes, and behaviors. They suggested that emphasis is placed on educators bringing their experiences into the classroom by sharing their stories of clinical practice which provides content for a case-based approach to learning and engages students emotionally with the content. Educators share the details and the clinical reasoning process and challenge students to develop an intervention that allows the shaping of behavior through modeling reasoning, process, and effect (Shaber et al., 2012).

The second model, affective learning, is based on transforming personal identity. This model is based on transforming personal identity and involves changes in attitudes, beliefs, and values through the teaching of transformative topics (Battaglia, 2016).

Through the shaping of character, students become part of the culture of the educational program, its customs, and ways of relating to others while exploring events that impact the lives of patients (Battaglia, 2016; Shaber et al., 2012). Affective learning includes teaching topics of empathy, grief, or compassion, which generate emotional reactions that lead to changes in the students' attitudes and beliefs (Shaber et al., 2012). Learning takes place in a structured environment that uses scaffolding to move the student from self-focus to focusing on others as they develop a professional identity. Shaber et al. (2012) stated that the instructor creates a safe, supportive learning environment that allows students to reflect on their own experiences. The authors suggested that content is delivered through readings, lectures, and presentations then guided disclosure and small group discussions before reassembling for instructor-led large group discussion. As students grow professionally, they can engender their own professional identities that are developed through the process.

The last model, active engagement, is considered learning by doing. This model has been used in many forms over the history of OT education, and the importance of learning-by-doing and teacher-student relationships is emphasized because modeling and feedback provided shapes behaviors and developed skills (Battaglia, 2016). Shaber et al. (2012) proposed that educators can provide opportunities for active engagement through methods including simulation, labs, practical exams, in-class activities, group discussions, group presentations, and demonstrations followed by hands-on engagement and service-learning. The authors suggested that in OT education, the OT process can be replicated by applying it to students by allowing them to learn by

doing. Active learning is considered as a cycle of learning content, applying the content, then sharing and reflecting on the experience (Shaber et al., 2012).

Grenier (2015) found that students preferred educational opportunities where educators encouraged discussion, allowed independence while providing guidance, took advantage of teachable moments, and modeled intervention. The techniques described can be considered active learning strategies that engage students in the learning process. CBL is a model of active engagement and the focus of this study.

CBL is used in OT curriculums to promote learning and increase student engagement by allowing learning by doing and critical thinking as students proceed through the assigned cases.

When students are engaged, they are immersed in the learning process. OT education reflects the full continuum of cognitive processes reflected in the revision of Bloom's (1956) original taxonomy-- remembering, understanding, applying, analyzing, evaluating, and creating (Anderson & Krathwohl, 2001; Griswold, Overson, & Benassi, 2017). Students must learn new concepts, apply them to clinical examples, and analyze and evaluate nuances to select from appropriate options (Griswold et al., 2017). Bloom's revised taxonomy differentiates learning into categories of cognitive skills ranging from lower-order skills requiring less cognitive processing to higher-order skills requiring deeper learning greater degrees of cognitive processing (Adams, 2015). Adams indicated that the revised taxonomy begins with knowledge, which is the foundational cognitive skill, and increases in complexity to comprehension, application, analysis, synthesis, and evaluation. Adams suggested that critical thinking begins at the analysis stage and the

ability to create intervention plans involves synthesis and evaluation, which is the pinnacle of the taxonomy, incorporates the lower levels of cognitive skills. The revised taxonomy applies to OT education as evaluation and development of treatment plans are common clinical tasks that involve the higher and a lower level of cognitive skills.

MacKinnon (1987, p.161) and Stern (1997), stated: "The basic objective of educating OT students is to go beyond the transmission of professional knowledge, to develop critical thinking, creative problem-solving skills, decision-making ability and flexibility of personality." Experienced therapists use clinical reasoning to divide their observational data into meaningful patterns and configurations based on their past observations and problem-solving strategies (MacKinnon, 1987; Rogers, 182, 1983). Stern (1997) described the development, implementation, and assessment of a problem-based learning course for an OT program. Eleven students were enrolled in the class and the author examined their overall perceptions of the problem-based learning experience, their perceptions of the course's potential to integrate and synthesize elements of the academic program, and specific course elements that contributed to the integrating function. The author found students' experience with the case-based course was instrumental to their perceived ability to integrate and synthesize skills including specific content knowledge, the ability to think and reason through clinical situations, the application of clinical skills, and facilitation of the interpersonal skills needed to function successfully as an occupational therapist on the health care team. The author concluded that the course was realistic because the content was presented in the same manner students would approach clinical situations.

Mitchell and Xu (2011) also asserted that critical reasoning is central to OT practice, and educators seek to promote its development in students. They suggested that OT education programs aim to teach students to apply theory, evidence, knowledge, and skills to the therapeutic use of occupations as they work with people who have a variety of disabilities and impairments in a wide range of environments. The authors sought to answer the question of whether entry-level Masters of OT students have higher levels of critical reasoning than

entry-level Bachelor of OT Students upon matriculation. The authors compared the critical reasoning of four classes of students entering a Bachelor of OT program with the critical reasoning of five classes of students entering an entry-level Master of OT program using the

Watson–Glaser Critical Thinking Appraisal (WGCTA). The results of the study suggested that increasing the credit hours of prerequisite coursework did not result in students who were more adept at critical reasoning as measured by the WGCTA. The authors concluded that focusing on critical reasoning and problem-solving using interactive techniques and requiring outside study and reading might be effective in advancing OT students' critical reasoning.

Unsworth and Baker (2016) conducted a methodical evaluation of professional reasoning literature in OT. Professional reasoning or clinical reasoning, as it was originally termed in the OT literature by Rogers (1982), described the thinking processes used by occupational therapists when planning, conducting, and reflecting on their practice (Unsworth & Baker, 2016). One hundred and forty (140) peer-reviewed articles

published over 33 years were identified and categorized to determine the nature and volume of the professional reasoning literature in OT and whether the targeted professional reasoning literature addressed the development of professional reasoning and the transition of therapists from novice to expert. The authors found limited evidence to support educators/supervisors to grow professional reasoning among novices. Unsworth and Baker concluded that further research is needed to develop better methods to access therapists' professional reasoning and validate tools to measure professional reasoning as well to evaluate which educational approaches are most effective in nurturing and maturing student professional reasoning skills. Gibson et al. (2000) used a case study to examine the clinical reasoning skills of a novice versus an experienced therapist. The two participants were the same sex and worked in the same workplace but had differing levels of experience. The participants were interviewed with questions focusing on the thinking procedures that therapists underwent while creating treatment plans for patients. The authors found that experience is vital to clinical reasoning and suggested that educators who explicitly state their thought processes while discussing cases or presenting information in classes may link clinical reasoning theories and help students apply them.

Vogel et al. (2009) utilized the WGCTA to determine whether critical thinking skills improved in students during academic programs in OT and physical therapy (PT) and what factors contributed to the change. The authors followed PT and OT students in traditional 2-year curricula that utilize a variety of teaching strategies to help develop critical thinking skills including problem-based learning modules, small group discussion

and problem-solving, case studies, clinical observation, and evidence-based practice assignments. The authors found a significant difference from pretest to post-test scores of the OT students and attributed the differences to the fact that the OT curriculum specifically described the critical thinking process early in the first semester of the first year, where students examined the processes of clinical reasoning, decision-making, and evidence-based practice. In contrast, the PT curriculum did not explicitly outline the critical thinking process until the end of the program. The authors concluded that educators should make students aware of the critical thinking process early in the curriculum, then continue to use teaching strategies that promote the application of critical thinking.

Clinical reasoning is important in creating OT interventions. Lane, Ledford, and Gast (2017) suggested the identification of effective and efficient interventions for people with or at-risk for disabilities is critical in OT. They suggested that each client presents his or her own unique set of strengths and challenges; this variation leads to the need for individualization of interventions. Through education, practitioners teach students to utilize their skills to create interventions that help clients increase function and participate in meaningful occupations. When practitioners use high-quality interventions, the likelihood of significant changes in clients' adaptive and functional skills increases, leading to an improved quality of life for clients (Lane et al., 2017; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). To create high-quality interventions, students need to be able to integrate information learned about diagnoses, clients, and clients' needs.

The American Occupational Therapy Association's Maturing of the Profession Task Group Report to the Ad Hoc Committee for Future of Occupational Therapy Education (AOTA, n.d.-b, p. 16), stated that programs have traditionally used the apprentice method (mentor-mentee model, relational approach) together with experiential learning and case analysis methods to convey the knowledge, skills, and attitudes deemed important to the student learning the process of OT (assess, plan, intervene and achieve selected outcomes for and with clients)". The report also asserted that the opportunity to problem-solve complex case examples with an expert (master clinician) to gain practice in clinical reasoning must be maintained (AOTA., n.d-b.). Suggestions from this report included that leadership should "encourage educational programs to prepare students to think, problem-solve, and plan ahead to a changing world and not to limit training students to performing techniques that are learned by rote and repetition" (AOTA., n.d.-b, p. 32). To learn the necessary skills and be able to implement them in interventions, students need to be engaged in the learning process.

Learning Theories Related to Student Engagement

Higher education institutions are accountable for student learning and engagement and within higher education teaching, innovation aims to enhance, support, and develop students' knowledge (Fry et al., 2015). Learning theories are used in higher education to explain how students learn and how educators can promote learning and student engagement. OT students are adult learners. Traditional students are typically Generation-Y or Millennials, and non-traditional students are generation X and baby-boomers. Because students in these generations learn differently and utilize technology to

different extents, several learning theories were selected to guide the study. The theories selected to provide a theoretical base for this study include the theory of adult learning or andragogy (Knowles, 1973), experiential learning theory (Kolb, 1984; Kolb & Kolb, 2009), situated learning (Lave & Wenger, 1991), and the transformative learning theory (Mezirow, 2000). The principles of constructivism, which theorists use to postulate that the learner is responsible for constructing his or her knowledge from experience, are found in transformational learning, experiential learning, situated learning, and reflective practice (Giles et al., 2014; Merriam, Caffarella, & Baumgartner, 2007). The learner's role is to obtain knowledge and explore, test, and build knowledge then alter their awareness, opinions, and principles (Taylor & Hamdy, 2013). Theorists suggested that experience and active learning strategies are important to the learning process and thus should promote student engagement in OT curriculums.

Theory of adult learning (andragogy). In Knowles's (1973) theory of adult learning (andragogy) he addressed characteristics of adult learning and suggested that adult learning is problem-centered rather than content-oriented and experience (including mistakes) provides the basis for learning activities. The theory supported the study by providing insights into active learning strategies that promote opportunities for adult learning because it focuses specifically on the learning needs of adult learners. Knowles addressed adults' motivation to learn, provides information on adults' readiness to learn, and details the strategies that promote learning in adult learners. Taylor and Hamdy (2013) created a guide that described and explored regularly used learning theories and in what manner the theories can be used to improve student learning and faculty teaching.

In the guide, they suggested the main difference between adults and children is that adults are motivated to learn in different ways. Knowles et al. (1998) and Ozuah (2016), in a commentary, discussed learning theories and agreed that adult learners vary from child learners in the following aspects:

- The need to know (Why do I need to know this?). The first assumption is that adults need to know the utility and value of the material that they are learning before embarking on learning.
- The learners' self-concept (I am responsible for my own decisions). The second assumption of andragogy is that the self-concept of the adult learner is self-directing and autonomous.
- The role of the learners' experiences (I have experiences which I value, and you should respect). Adults tend to come into adult education activities with a greater volume and higher quality of experience than younger children and practitioners of adult learning theory tend to employ experiential techniques, such as simulation exercises, problem-solving activities, case methods, laboratory methods, and group discussions.
- Readiness to learn (I need to learn because my circumstances are changing). The fourth assumption of andragogy is that in adults, readiness to learn is dependent on an appreciation of the relevance of the topic. Adult learners tend to become ready to learn things that they believe they need to know or be able to do to cope effectively with real-life situations and problems.

- Orientation to learning (Learning will help me deal with the situation in which I find myself). An adult's orientation to learning is problem-centered, task-centered, or life-centered.
- Motivation (I learn because I want to). Adults are responsive to extrinsic motivation, they are most driven by internal pressure, motivation, and the desire for self-esteem and goal attainment.

OT students are adult learners. Students who enter a Master of OT program or a Doctor of OT program may bring life experiences including work experiences, personal experiences, and past educational experiences. The adult learning theory of andragogy supports the present study by providing insights into active learning strategies that promote opportunities for adult learning. The students presumably enter the therapy program motivated and ready to learn. They can make decisions regarding if, when, where, and how they will study. Adult learners are also able to schedule their time and solve problems related to the learning process. Andragogy is one theory that details adult learning needs and provides insight into how to motivate adults by promoting student engagement. Another learning theory that promotes student engagement is Kolb's (1984) and Kolb and Kolb's (2009) experiential learning theory.

Experiential learning theory. In Kolb's (1984) and Kolb and Kolb's (2009) experiential learning theory, the authors proposed that learning is a process that includes feedback on the effectiveness of students' efforts and that education must be conceived as a continuing reconstruction of experience. In experiential learning, students are enabled to learn through doing while experiencing, and through 'hands-on practice' and

'reflection' (Fry et al., 2015; Hill, 2017; Kolb, 1984). A key concept of experiential learning is that "learning is rooted in the situation in which the person participates, not in the head of that person as intellectual concepts" (Fenwick, 2003, p. 25; Giles et al., 2014). Knowledge is constructed from a base of prior knowledge; learners are not a 'blank slate' and knowledge cannot be imparted without the learner making sense of it according to his or her prior conceptions. Therefore, learners learn best when they can construct personal understanding based on experiencing things and reflecting on those experiences (Hill, 2017).

Hill (2017) utilized experiential learning to encourage nursing students to learn the practical skills required for a physical examination of human organs. The author found that experiential learning, inclusivity, and student-centeredness have led to positive student experiences and when students are engaged in their learning and joining a wider learning community, they can develop their skills and equip themselves for lifelong learning in a complex and challenging healthcare environment.

Knecht-Sabres et al. (2013) revised an adult practice course to reflect the needs of adult learners and the complexities of current practice by providing opportunities for students to use clinical reasoning and psychomotor skills. Students were required to consider the entire OT process for each clinical case scenario including conducting an OT evaluation, implementing OT intervention, or training the family before discharge. The authors found that adult learning strategies and experiential methods enhanced students' self-perception of their level of comfort and skill on essential OT-related competencies. They suggested that the use of a series of complex and progressively challenging client

cases, opportunities which foster sound clinical reasoning skills, and the application of the OT process improved students' perception of their clinical reasoning and their level of comfort and skill required for current practice (Knecht-Sabres et al., 2013).

Schaber (2014) in the AOTA conference keynote address stated active learning incorporates the key tenets of professional practice by applying the OT process. She suggested that from OT's beginnings in psychiatric institutions to the present, the profession has preserved the pedagogy of training on-site and actively engaging with clients or learning through doing.

Battaglia (2016) agreed that active learning and teacher-student relationships are emphasized n OT curriculums through the modeling and feedback that shapes behaviors and promote skill development. OT instructors have the role of preparing students to design and implement interventions that will increase a client's functional abilities. The students learn techniques then instructors provide opportunities to reinforce learning through simulation, case-studies, or with standardized patients.

Goldbach and Stella (2017) designed a course with components of a clinical setting to address readiness for fieldwork and engage students in the OT process with volunteer clients. The authors found that participation in experiential allowed students to apply concepts learned in didactic coursework through simulated clinical practice experiences and increased their perceptions of preparedness for Level II fieldwork**.** Experiential learning opportunities help students to gain knowledge and experience through doing. As students gain experience, they should be able to incorporate previous knowledge into practice to make better clinical decisions. In this sense, learning becomes

meaningful as students can reflect on what was successful based on previous experiences. The student, through experience, transforms from a novice to an expert. This process is the basis for the transformative learning theory.

Transformative learning theory. Mezirow, in his transformative learning theory (2000), suggested that learning is understood as the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience as a guide to future action. Adults develop a body of associations, concepts, values, and feelings based on their experiences that are responsible for how people comprehend their experiences and define their worlds (Bouchard, 2018; Mezirow**,** 1997**).** Learning, in this theory, can only be meaningful when new information is integrated with existing information as it "involves critical self-reflection of deeply held assumptions" (Bouchard, 2018; Davis, 2006, para. 16**).**

Transformative learning takes place through experience, reflection, and discourse and is considered to have taken place when learners make choices or act based on the new understandings (Bouchard, 2018; Stansberry & Kymes, 2007**).** Transformative learning takes place in stages. According to Merriam and Caffarella (1999) and Bouchard (2018), Mezirow's theory has ten stages that adults experience when transforming. These stages include (a) experiencing a disconcerting dilemma; (b) examining self; (c) critically assessing assumptions (d) recognizing that others share similar experiences; (e) exploring options for action; (f) building self-confidence; (g) forming a plan of action; (h) acquiring skills and information for implementation; (i) practicing a new plan and roles; and (j) reintegrating into society with new perspectives.

As OT students transform into expert clinicians, they are able to make clinical decisions based on experience. During the learning process, OT students work with clinical instructors who mentor them through fieldwork rotations. Students participate in practice with expert guidance. This type of guided mentoring forms the basis of the situated learning theory.

Situated learning theory. According to Lave and Wenger (1991), learners acquire the skill to perform by engaging in the process under the attenuated conditions of legitimate peripheral participation (LPP). Learners participate in the actual practice of an expert but only to a limited degree with limited responsibility for the ultimate product. Giles et al. (2014) stated that from a situated learning perspective, the type of experience is critical and suggest that the experience must provide the just-right challenge for the student at the just-right time in his or her learning process. The role of the educator in situated learning is offering experiential opportunities requiring real-life problem solving and providing "just-in-time" assistance to enable confident action in situations where confident competence is lacking" (Fenwick, 2003, p. 121; Giles et al., 2014).

Nicolini et al. (2016) suggested that situated learning is related to engagement, belonging, inclusiveness, and developing identities. The authors suggested that participation is necessary for learning. Clarke et al. (2019) followed five OT students to determine how they coped with the challenges of undertaking a role-emerging placement. The authors found the support, trust, and validation that students received from those around them helped reduce their feelings of anxiety, confusion, and self-doubt. The planning and carrying out OT interventions increased student awareness of self as an

occupational therapist and moved away from the peripheral participation to more central participation as they took responsibility for developing the OT role (Clarke et al., 2019).

Providing opportunities that require students to synthesize and apply content from across the curriculum can offer a just-right challenge to students who are about to embark on Level II fieldwork (Giles et al., 2014). Lave and Wenger (1991) described learning as a process of becoming a member of a sustained community of practice. OT fieldwork experiences allow students to practice alongside professionals while working with real clients who have diagnoses that impact their functional status.

Importance of Student Engagement

Professional programs such as nursing, OT, and physical therapy provide opportunities for students to engage in clinical fieldwork experiences. Fieldwork or clinical rotations allow students to apply knowledge learned in the classroom to real-life situations. For students to apply knowledge, they must be engaged during the learning process. Student engagement was labeled the "holy grail of learning" (Manwaring, Larsen, Graham, Henrie, & Halverson, 2017; Sinatra et al., 2015, p.1) and in higher education engagement is linked to outcomes including grades, persistence, and college completion (Kuh et al., 2008; Manwaring et al., 2017; Robinson & Hullinger, 2008).

It is suggested that student engagement can be impacted by interventions and through changing contexts (Fredricks, Blumenfeld, & Paris, 2004; Lawson & Lawson, 2013; Manwaring et al., 2017; Skinner & Pitzer, 2012). Per Henrie, Halverson, and Graham, (2015), student engagement is important in any learning context and in

determining how to best use people and technology to engage learners in meaningful and effective learning experiences is an important endeavor.

Gray and Diloreto (2016) conducted a pilot study of graduate students enrolled in an online course to determine the mediating impact of learner engagement on student gratification and perceptions of learning. The authors found student engagement fully mediated the impact of both instructor presence and learner interaction on perceived student learning. They suggested active learning and student engagement are imperative for increased student learning and ultimately retention. Students who are not engaged in the learning process may not retain information that is critical to professional practice.

Types of Engagement

Student engagement can be a combination of behavioral engagement, emotional engagement, and cognitive engagement. Behavioral engagement is involvement in one's learning and academic tasks and is usually defined in one of three ways, including positive conduct (Finn & Rock, 1997; Sinatra et al., 2015), involvement in academic tasks (Heddy et al., 2014; Sinatra et al., 2015), and participation in school-related activities such as athletics and clubs (Finn & Voelkl, 1993; Sinatra et al., 2015). Methods of behavioral engagement include displays of effort, perseverance, communicative aspects of attention (such as making eye contact, leaning forward during conversations), and self-directed intellectual behavior such as demonstrating resiliency when faced with problems, and tenaciously seeking out information without prodding or help (Buhs & Ladd, 2001; Sinatra et al., 2015).

Milburn-Shaw and Walker (2017) suggested that prioritizing behavioral engagement can have a negative outcome such as promoting passive compliance. The authors stated that class attendance, turning in coursework, and making certain grades do not definitively denote full engagement as students may perform these and not be psychologically or emotionally engaged. The assumption was that full engagement requires more than the behavioral aspects.

Emotional engagement and cognitive engagement are also important factors in the learning process. Emotional engagement is defined as students' emotional reactions to academic subject areas (Pekrun & Linnenbrink-Garcia, 2012; Sinatra et al., 2015; Skinner & Belmont, 1993) and positive and negative emotions can facilitate activation of attention and engagement; (Broughton et al., 2011; Heddy & Sinatra, 2013; Sinatra et al., 2015).

Cognitive engagement is a psychological investment (Sinatra et al., 2015; Wehlage & Smith, 1992) and many of the dimensions of cognitive engagement overlap with dimensions of both behavioral engagement (i.e., effort) and emotional engagement (Sinatra et al., 2015). Milburn-Shaw and Walker (2017) suggested that cognitive engagement implies that learning for the test is not sufficient but requires involvement prompted by authentic interest in the topic being studied. The authors suggested that the focus of behavioral engagement is skills and grades but in cognitive and emotional engagement students focus on cultivating their intellect and personalities for "becoming not having" (Milburn-Shaw & Walker, p. 57). Students who are fully engaged in the learning process are engaged behaviorally, emotionally, and cognitively.

Another type of engagement that is necessary for learning is study engagement. Study engagement is defined as a positive, fulfilling, study-related state of mind characterized by energy, dedication, and absorption (Ketonen et al., 2019; Salmela-Aro & Read, 2017; Salmela-Aro & Upadyaya, 2012; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002).

Tuominen-Soini and Salmela-Aro, (2014) found that study engagement is associated with academic motivation and functioning as engaged students value studying, receive better grades, and report lower levels of academic withdrawal and work avoidance. Study engagement can also predict long-term positive outcomes, including educational aspirations, persistence, job possibilities, positive self-perceptions, and well-being (Li & Lerner, 2011; Salmela-Aro & Upadyaya, 2012; Salmela-Aro & Upadyaya, 2014; Tuominen-Soini & Salmela-Aro, 2014; Wang & Peck, 2013). Student engagement is a multidimensional phenomenon that is critical to the learning process.

Engagement is defined in many ways. While most researchers agreed that personal factors (i.e. cognitive factors) and situational factors (i.e. SES and ethnicity) are related to student academic outcomes (Lindt & Miller, 2018; Skinner, Kindermann, Connell, & Wellborn, 2006) they also realized that understanding how these factors impact student learning, performance, and success is also important (Lindt & Miller, 2018). Although students must be engaged to learn the materials presented, both faculty and student have a role in increasing students' level of engagement (Hunzicker & Lukowiak, 2012). The roles of educators and students will be discussed to highlight the responsibilities of each in the learning process.

The Educator's Role in Student Engagement

Educators are responsible for providing learning opportunities for students. Hill (2017) suggested that academics have a duty to their students to generate and implement creative ways of teaching and learning. Learning opportunities can be presented in several ways, including the use of active and passive learning strategies. Providing a variety of instructional modes enables students to learn according to their learning preferences, and different types of knowledge and skill lend themselves to different modes of instruction (Cahill & Madigan, 1984). Fredricks et al. (2004) suggested that student engagement is largely malleable, responsive to contexts, and susceptible to environmental change. The authors stated that student engagement is influenced by teachers, peers, family, community, and culture but maintained that the teacher assumes a crucial role in determining student engagement and suggest teacher support and caring are central to student engagement (Fredricks et al., 2004; Klem & Connell, 2004; Zhang, 2014).

Manwaring et al. (2017) investigated activity-level student engagement in blended learning environments in higher education. They also investigated whether emotional engagement facilitates cognitive engagement and how the modality of the learning activity influences engagement. Findings indicated student's self-efficacy was positively related to cognitive engagement and interest in the subject matters was positively related to their emotional engagement. The authors suggested both active learning and challenging activities were associated with higher cognitive engagement, despite lower emotional engagement. They agreed that student engagement is multifaceted and

malleable by instructor intervention. This suggested that instructors have a crucial role in supporting and guiding student learning.

The role of the instructor has changed over the years. Simpson and Dyer (1997, p.2) stated, “The role of the professor is changing from a performer on a stage or in a laboratory to one who creates the circumstances from which learning occurs.” Neistadt (1999) also discussed the role of the instructor suggesting that students are reluctant to rely on their own problem-solving and resource-gathering skills and want the course instructor to play an expert or disciplinarian role, providing all knowledge and ruling on all interpersonal disputes within teams. The role of the educator in OT curriculums is to prepare OT students to be successful during Level II fieldwork and future clinical practice. The burden on the educator is to develop effective activities and assessment tools that nurture competent and compassionate future clinicians (Giles et al., 2014). To impact learning, educators need to understand learning theories and strategies that promote student engagement.

Many adult learning theories are based on constructivism. Merriam and Bierema (2014) and Cahill (2015) suggested that instructors who value constructivism believe that learning takes place when students actively engage in, reflect on, and attach meaning to experiences. Transformative learning theory is based on constructivism and presupposes that learning takes place after a person has the opportunity to examine his or her practice or behaviors considering new experiences (Cranton, 2006). The author suggested that intense experiences or events are used by the instructor as catalysts that cause students to reflect on their habits of mind, or their personal beliefs and well-established ways of

viewing the world and making judgments. Patient simulations are an example of one such experience that has the potential to ignite this reflection and, ultimately, a shift in thinking (Giles et al., 2014).

Instructor use of active and collaborative teaching styles and interactions with students also stimulate student engagement (Umbach & Wawrzynski, 2005; Zhang, 2014). Studies have shown that employing such methods of active learning improves both students' learning and their attitudes towards learning (Armbruster, Patel, Johnson, & Weiss, 2009; Chickering & Gamson, 1987; Khan et al., 2017; Vygotsky, 1980), however, many educators still face challenges when integrating active learning into courses (Khan et al., 2017). Grenier (2015) found that educators who encouraged active student participation were viewed as facilitating the learning process. Grenier also found that students felt regular, constructive feedback was a key learning tool that allowed them to better understand their strengths and weaknesses, and relevant tasks and assignments aimed at developing OT skills were considered positive learning experiences.

Changes in the way students learn and want to receive information have created new directions in education. Technological advances and Millennial students who are tech-savvy have also dictated changes in the way educators teach. Higher education students view the Internet as a functional tool to support their learning (VanDerSchaaf & Daim, 2018). Martín-Gutiérrez, Mora, Añorbe-Díaz, and González-Marrero (2017) stated that virtual technologies encourage students to be active learners because VR/AR promote decision-taking when interacting with virtual environments, permitting

autonomous exploration, understanding complex concepts, creating new experiences, and learning by doing.

Although technologies can promote learning and engagement, often there is a lack of support and professional development and course professors must seek out technology tools and devote time designing entry points within their courses for the tools (Sutton & DeSantis, 2017). Technologies used in higher education include but are not limited to student portals, smartphones, social media, wikis, video conferencing, webinars, collaboration tools such as google docs. Millennials typically embrace frequent technology changes, but faculty may not. Sutton and DeSantis suggested educational technology innovations surpass many professors' abilities to integrate them into their teaching practice. The result is that faculty continue to utilize the tools they know best: blackboards, videos, whiteboards, and overhead projectors (Sutton & DeSantis, 2017).

Many of the traditional students in OT programs are Millennials. Lindt and Miller (2018) stated that educators can better research and engage Millennial college students in college classrooms when they consider the following: their teaching practices and delivery of course content, the way that courses are structured to create a warm classroom climate and learning environment, and the way that students are prepared and participate in class. Students have certain expectations of educators in the learning process (Lindt & Miller, 2018) as students felt the role of the instructor is keeping them engaged, including effectively delivering the content, making the course interesting, and demonstrating care and concern. Studies have also suggested that how teachers deliver content impacts student learning.

Hunt et al. (2016) analyzed the effect of content delivery media on student engagement, learning outcomes, and instructor behavior in two sections of the same lecture-based college Biomechanics course. The authors' findings indicated even though different media can be used to deliver the same content, the different instructional approach does not necessarily result in a change in the interaction between the instructor and student, or between the student and the content, or differences in student learning. The relationship between teaching and student learning is more dependent on the degree of student engagement than what the instructor is doing in class (Hora & Ferrare, 2014; Hunt et al., 2016; Lukowiak & Hunzicker, 2013).

Teacher enthusiasm can affect the learning process. Whether or not a teacher delivers content with enthusiasm can be a motivator or a deterrent to student learning. Enthusiasm was conceptualized as "an affective teacher characteristic reflected in the expression of enjoyment, excitement, and pleasure in the classroom" (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011; Zhang, 2014, p. 45). Teacher enthusiasm can function as a "spark to ignite the flame of curiosity of students and jump-start their intrinsic motivation to learn" (Patrick, Hisley, & Kempler, 2000; Zhang, 2014, p. 44). Teacher enthusiasm has been linked with effective teaching and optimal learning (Patrick et al., 2000) and with better teaching evaluations, positive attitudes toward teachers, better student performance, and improved classroom behavior (Natof & Romanczyk, 2009; Zhang, 2014).

Zhang (2014) also suggested that teacher enthusiasm is an effective predictor of student behavioral, cognitive, and emotional engagement, intrinsic goal orientation, and

academic self-efficacy. The author found that the more enthusiastic and dynamic teachers are, the more engaging students become behaviorally, cognitively, and emotionally. Instructors or teachers and how they deliver content is an invaluable part of engagement and learning.

The focus of the current research is CBL. In CBL, the teachers are the drivers of education, guiding and directing the learning (McLean, 2016; Nadershahi, Bender, Beck, Lyon, & Blaseio, 2013). McLean (2016) performed a literature review using the terms of CBL and medical education. Results indicated that CBL is a teaching tool used worldwide with impacts from simple knowledge gains to changing patient care outcomes. The author suggested that CBL allows the teacher more input into the direction of learning. Case studies have been used in many professional and healthcare programs to increase engagement but to be effective, instructors need to know how to facilitate the resulting discussions and support student learning.

Watson, Koehler, Ertmer, Kim, and Rico (2017) examined the facilitation choices made by an expert CBL instructor to gain insight into improving discussion facilitation strategies within online CBL learning environments. The authors found that the instructor has specific roles including designing, facilitating, summarizing, and expanding problem space as well as encouraging, supporting, challenging, and stretching students' learning by using social and cognitive congruence strategies and intentional application of content expertise.

Nadershahi et al. (2013) suggested that in dental curriculums discussion leaders need to be experts to provide students a deeper understanding of foundational knowledge

and must be trained to lead discussion groups. The authors stated that faculty work intentionally on developing the capacity of students to take full advantage of this teaching methodology. As demonstrated, the role of the educator in student engagement is important to the learning process, but the role of the student is equally important.

Role of Students

For college students to learn and retain material, they need to be engaged in the learning process. Fry et al. (2015, p.22) stated that "students in higher education must engage with and take considerable responsibility for their learning." Dismore, Turner, and Huang (2019) found that most educators feel that engagement requires commitment from the student as well as the teacher.

Students have a responsibility for their learning and their motivation to learn. Milburn-Shaw and Walker (2017) discussed student learning from the viewpoint of motive versus the will to learn. They suggested that students who are motive driven put effort into learning for rational, practical reasons such as a job or an increase in earnings. They differentiated the motive-based student from a student with a will to learn or the student who engages in the learning process because it is considered good. It can be assumed that in choosing to attend university and abiding by the rules, students are willing to learn and are engaged in learning (Milburn-Shaw & Walker, 2017). This assumption does not consider all aspects of engagement.

Student engagement is linked to various learning outcomes. Studies show that students who identify with the school are more likely to participate and be emotionally engaged (Fredricks et al., 2004; Landeen et al., 2017). Research in college students'

engagement suggests that students who are academically engaged have an increased likelihood of persisting beyond the first year of college (Lindt & Miller**,** 2018; Nelson Laird, Chen, & Kuh, 2008) and that students consistently engaged in college courses attain higher grades (Handelsman, Briggs, Sullivan, & Towler, 2005; Lindt & Miller**,** 2018; Yurco, 2014) especially when they have a rationale to do so. Fry et al. (2015) suggested students must become actively engaged in the process of learning to benefit and develop their graduate skills for higher education.

Giles et al. (2014) agreed and suggested that success in OT curriculums is measured by the student's ability to demonstrate safety and clear judgment during the evaluation, treatment, and documentation while maintaining a confident and well-organized approach throughout the process. Stefl-Mabry, Radlick, and Doane (2010, p. 65) concurred by arguing that students should not be considered as mere "passive consumers of information" but rather as collaborators in their own learning experience. Grenier (2015, p.8) also agreed that understanding the learning process that works best for students is "critical to maximizing learning outcomes."

Many factors can impact student learning. Lekwa, Reddy, and Shernoff (2019) stated that one of the factors impacting student learning outcomes is the degree of student attention and participation in learning activities. Students need to actively participate by asking questions and engaging in discussions. Dismore et al. (2019) found that students have the responsibility of overcoming their challenges to interaction. Students often hesitate to participate due to fear of being judged or ridiculed by their peers. If students are to engage in the learning process interacting in classroom discussions and asking

questions are important. Examples that support the use of case studies and CBL to promote student engagement can be found in the literature.

CBL as an Active Learning Strategy

Active learning strategies are used by educators in many college classrooms. Mangram, Haddix, Ochanji, and Masingila (2015) stated that active learning strategies allow students to develop a deeper, clearer meaning and understanding of what they are taught. They suggested that the active participation of the student in the learning process is important in the formulation of meaningful comprehension and the understanding of the content being learned. Active learning is a key element of many adult learning theories, especially those that are based on constructivism.

Since the advent of adult education, educators have realized that learners need to see the relevance and be actively engaged in the topic under study (Knowles, Holton, & Swanson, 2005; McLean, 2016). There are many active learning strategies, including simulations, peer teaching, and case studies. The method of active learning a teacher chooses will depend upon the situation (Mangram et al., 2015).

Auerbach, Higgins, Brickman, and Andrews (2018) suggested that college instructors are learners when it comes to becoming effective active learning instructors as most have little or no preparation in teaching or use of active learning strategies in the classroom. The authors suggested that instructors must develop a deep knowledge of how people learn. Dancy, Henderson, and Turpen (2016) explored how physics faculty learn about and use teaching innovations. They found that faculty self-reports are poor measures of using an instructional innovation, faculty frequently use innovations in ways

that are inconsistent with the recommendations of educational research due to either a lack of knowledge or a personal decision to modify, and they learn about innovations in ways that are neither expected nor supported by the disseminating curriculum and pedagogy.

Case-based Instruction

Teaching methods in college classrooms have changed over time. Traditionally, students in health care went to lectures and then transitioned into patient care as a type of on-the-job training, but now instructors recognize the value of illustrating teaching points with actual or simulated case studies (McLean, 2016). Content in the cases can be delivered using various methods that are considered CBL(CBL). McLean (2016) found that CBL was used in a large variety of fields of medicine and suggested that the media used to deliver sessions varied including live presentation, mixed modality, computer or web, book or pocket manual, live simulator, paper, or
self-learning. Case studies are used in many professional education curricula, including OT, nursing, and dental programs to help increase student engagement. McLean (2016) also found that CBL is a teaching tool used worldwide.

Case studies are considered beneficial to the learning process. Case studies offer active learning, a key component to instructional innovations in any classroom format (Grimes, 2019; Herreid & Schiller, 2013). Cases can be designed as individual or group activities, which makes them highly adaptable to whatever course or course setting, and highly customizable to nearly any discipline (Nilson, 2013). Instructors using case studies have the freedom to specify discipline-relevant content; by writing a relevant narrative to

engage students in using whatever competencies are necessary to progress toward the course learning outcomes.

Well-designed case studies often challenge students' preconceptions about how learning happens (Nilson, 2013) and present opportunities for students' realistic applications of content, resulting in a higher likelihood of learning transfer (Perkins & Salomon, 1992). Learning transfer can refer to taking the information learned in the classroom and applying it to clinical situations.

Case studies have multiple benefits. Grimes (2019) stated that case studies push students to think about problems with unclear answers, devise their process for learning content, and guide themselves rather than rely on instructor guidance. The author also suggested that case studies prompt students to consider the realistic implications of how they use course content in realistic scenarios that are relevant to their future practice.

A case study can be used and expanded to address various aspects of learning. Grimes (2019, p. 140) suggested that the continuous case: (1) adds increasingly realistic scenarios that often increase in depth of content and (2) builds on the uncertainty of good case design by creating an ongoing plot to encourage a sense of urgency in students as they advance through the story. Grimes also suggested that continuous case studies are effective as assignments, in-class activities, or as data collection tools to assess student learning. Instructors can take a continuous case study and use it to illustrate various learning concepts throughout the class.

Requiring students to apply clinical coursework from across the curriculum to a complex clinical scenario provides the springboard for transitioning from formal didactic

work to integrated clinical work (Giles et al., 2014). The authors described a model for a final comprehensive practical examination that uses both active learning strategies of simulated patient cases and reflective video analysis to assess student preparedness for Level II fieldwork. The authors also found that adequate time should be allowed for the development of objectives and case scenarios to ensure the effectiveness of the model. Nilson (2010), when discussing teaching strategies, suggested that case studies provide students with a different form of coursework that often holds their attention more effectively due to its realism, relevance, and direct connection to course objectives.

Chaplin (2009) examined the effect of instructional methods on the development of higher-order thinking skills by adapting her upper-level biology course to include case-based methods. The author demonstrated that using case studies to assess student learning resulted in higher critical thinking skills and increases in academic performance as students in the case-based course exhibited mastery of content to the same degree that students in the lecture-based course did, but also exhibited improved ability to process information using higher-order thinking on the last exam of the semester. The author also suggested case-based teaching that emphasized problem-solving and discussion significantly improved student performance on exams throughout the semester and enhanced students' abilities to correctly answer application- and analysis-type questions

Atkinson (2014) utilized a reverse case study approach to teaching Ph.D. students to use creative writing techniques to encode theory into their cases. The author found using case studies as teaching tools resulted in Ph.D. students' increased creativity by infusing creativity into the learning process. He suggested that when using CBL

approaches instructors should be present to guide and mentor students, create and promote an atmosphere of fun competition, monitor progress, and make corrections, and ensure students engage in self-reflection. Increased creativity is an example of how case studies and CBL techniques can be used to help students to think critically and engage in the learning process.

The literature also provides examples of case studies being used to increase motivation, critical thinking skills, and collaboration. Kulak**,** Newton, and Sharma (2017) explored the use of CBL in undergraduate biochemistry education to determine if the technique would improve the retention of key concepts. In the quantitative study, the CBL group performed significantly better on the retention test than the non-CBL group.

Hartfield (2010) interviewed biochemistry students to investigate student observations and perceptions of CBL activities and how these CBL activities integrate and align with the teaching and learning activities within the unit. The authors found biochemistry students in a non-CBL class opted for a surface approach from the beginning to the end of the course, while a CBL class did not exhibit this trend and performed significantly higher in the final exam.

Kulak et al. (2017) suggested that CBL encourages students to be accountable for their learning to develop critical thinking and transferable skills required outside of the classroom. CBL is also an "evidence-based instructional method that enables students to problem solve by gathering and applying pertinent information, retaining relevant knowledge, and improving communication skills" (Biggs & Tang, 2011; Kulak et al., 2017, p. 111). Many health professionals work in team environments where each

discipline has specific responsibilities for patient care. Case studies can be used to prepare students to collaborate with other team members. In the classroom, the instructor can use the case study to discuss the roles of each discipline in specific patient situations.

The use of case studies requires initial teaching and learning for integration and synthesis of the information presented in the case. Kulak et al. (2017) suggested that the types of CBL vary in terms of the nature of material provided, the method of presentation of case material, the amount of direction provided, and the level of need for expert facilitation. The authors found that students in the CBL class scored better than their non-CBL counterparts and demonstrated a significant difference in knowledge retention evidenced by improved scores on the retention test of key concepts nine months after completion of the course when CBL techniques were used in undergraduate biochemistry education to help improve the retention of key concepts.

Case studies have also been used to promote deeper learning. Iannotti, Chapnick, Eyler, Hobson, Sebert Kuhlmann, and Kreuter (2019) implemented a course in public health using case studies and small group discussion and found that faculty deepen learning with this active-learning method during small group discussions by posing questions around problem and solution analyses and facilitating in-class activities like debates, role plays, prioritization and ranking exercises, interpretation of infographics, and epidemiology exercises. The authors suggested that case information and resulting discussion allow students to engage in clinical reasoning and critical thinking.

Benefits and Advantages of Case-Based Learning

Case-based Learning--How Students Learn in These Settings

Many benefits and advantages of CBL are found in the literature. In nursing education, CBL is a participatory teaching-learning strategy that facilitates active and reflective learning and develops critical thinking and effective problem-solving skills (Azizi-Fini, Hajibagheri, & Adib-Hajbaghery, 2015; Li, Ye, & Chen, 2019). Li et al. (2019) evaluated whether CBL facilitated critical-thinking ability in students in nursing courses. The authors conducted a quasi-experimental, study of 80 nursing students in 2 classes considered CBL courses. The results of the study indicated a significant difference in the critical thinking ability score, indicating that CBL had a long-term effect on critical thinking ability.

Case-based Learning--Instructional Aspects

Thistlethwaite et al. (2012) reviewed the evidence relating to the effectiveness of CBL as a means of achieving defined learning outcomes in health professional programs. They found that lecturers present the cases in various formats, including guided inquiry, case seminars, role plays, and simulated patient care. Macho-Stadler and Elejalde-García (2013) implemented a problem-based learning (PBL) class with third-year physics students who had no previous PBL experience and explored student perceptions and academic impact. The authors found that although students felt the process of PBL was time-consuming, it helped them improve communication and teamwork skills. The authors stated that various learning outcomes can be realized when instructors apply CBL

and suggested that accessing real case allows students to gain knowledge about patient care.

Medical Instructors implementing case-based instructions--Doctors and Nurses

Forsgren, Christensen, and Hedemalm, (2014) examined one hundred three (103) course evaluations from nursing education that dealt specifically with the case method. The authors found that students reported an increased understanding of the profession and reported preferring case study over other techniques because it provided more opportunities for clinical skills application. Students reported stimulation of thinking and reflection, deeper knowledge about medical diagnosis and nursing, and increased ability to link the patient's symptoms and difficulties to their life situation. The authors also suggest that the use of CBL helps students obtain a better understanding of individual perspectives, which aids in the development of the mindset for cooperation and continuous knowledge development.

Braeckman, 't Kint, Bekaert, Cobbaut, and Janssens (2014) conducted a comparative study of fourth-year medical students to investigate the impact of passive versus active written case studies and real patients on perceptions and performance of undergraduate students. The results of this study indicated that the use of more dynamic techniques did impact students' learning. The authors found all presentations were just as efficient in accomplishing the learning goals but students encountering genuine patients appreciated the experience more. The findings indicated CBL in nursing curriculums provides better opportunities for students to improve their patient assessment skills and their nursing care experience.

Yoo and Park (2014) investigated the effects of CBL on the problem-solving ability of graduate nurses. The authors compared pre-test and post-test scores of nurses who received lecture-based instruction and those who received case-based instruction. Results indicated significant differences between the groups in problem-solving abilities. The CBL group scores were determined to be significantly higher than the lecture-based group scores on objective problem-solving ability.

Chan, Sit, Wong, Lee, and Fung (2016) also examined the CBL experience on perceived self-learning ability, clinical reasoning ability, and satisfaction in learning in nursing students using both traditional classroom and Web-based approaches. Findings indicated both formats increased learning and clinical reasoning, and the web-based CBL approach was more flexible but not superior to the traditional classroom CBL approach. CBL has been widely used in nursing education to promote the critical thinking abilities of nursing students. Given the widespread benefits of using CBL in nursing programs, it is reasonable to assume that the use of the method would be beneficial to other medical programs.

Higher Education Instructors Implementing Case-Based Instruction--Background Research

Throughout the literature, there are examples of the advantages of CBL in professional programs. Ilgüy, Ilgüy, Fişekçioğlu, and Oktay (2014) and McLean (2016) suggested that advantages of the case-based method include the advancement of self-directed learning, clinical analysis, clinical problem solving, and judgment by providing repetitive experiences in class and by enabling students to focus on the complexity of

clinical care. McLean also suggested that advantages include providing relevance to the adult learner, allowing the teacher more input into the direction of learning, and inducing learning on a deeper level. The author defined deeper learning as "learning that goes beyond simple identification of correct answers and is more aligned with either evidence of critical thinking or changes in behavior and generalizability of learning to new cases" (McLean, 2016, p. 44). She concluded that CBL had been shown to enhance clinical knowledge, improve teamwork, improve clinical skills, improve practice behavior, and improve patient outcomes.

The literature also provides examples of CBL as an active learning strategy. The authors of one study found that discussing a clinical case allows students to evaluate their understanding using a high order of cognition which encourages active learning and produces a more productive outcome (Gade & Chari, 2013; McLean, 2016). Another advantage of CBL is flexibility in using realistic cases that are relevant for the adult health-care learner and are accepted by faculty to teach specific learning objectives (McLean, 2016). The advantages of CBL are found throughout the literature, suggesting that it is a viable and beneficial active learning strategy. Although there are disadvantages of CBL reflected in the literature, the advantages are numerous. Other authors since have recognized the contributions of the case method to profound learning (Lockyer, Gondocz, & Thivierge, 2004) and building reflective reasoning skills in developing practitioners (Schön, 1992). CBL has been found to promote student engagement, clinical reasoning, and critical thinking which are vital to OT curriculums.

OT Instructors Implementing Case-based Models--Research Specific to OT

Many active learning strategies have been utilized in OT curriculums with varying degrees of success. Two strategies, PBL and case-based methods are becoming increasingly popular in OT education (Stern, & D'Amico, 2001) due to the need to increase student engagement and participation. The decline in engagement and participation is noted in students across educational programs in K-12 and higher education classrooms. To promote student engagement, many instructors now use active learning strategies to enhance learning and retention of course content (Burgess & Medina-Smuck, 2018).

Integrating active learning into course material and curriculums is crucial to engaging students, regardless of the environment (Khan et al., 2017). Ivey, Bowman, and Lockeman (2018) examined the impact of an interprofessional case simulation on the self-efficacy of physical therapy (PT) and OT (OT) students to explore student perceptions and better understand their engagement in learning. The authors found that both OT and PT perceived the opportunity to plan and problem solve as the most helpful aspect of the learning activity.

Allen and Toth-Cohen (2019) conducted a mixed-methods pilot study of 32 masters level OT students in the last didactic semester to examine progressively independent engagement with CBL on student performance, confidence, and anxiety in applying critical thinking skills in the clinical setting. The authors found that critical thinking, confidence, and anxiety improved.

CBL and Clinical Reasoning in OT Curriculums

The focus of the current study is the use of the active learning strategy of case-based methods or case studies. The literature has provided examples of the benefits and advantages of case studies and the success of the strategies in professional programs. Educators use active learning strategies such as case studies not only to promote engagement but also to enhance or develop clinical reasoning skills. Clinical reasoning helps OT practitioners make decisions regarding clinical practice, including evaluations, interventions, and discharge processes. Because clinical reasoning is the main process practitioners use to integrate client assessment information and develop intervention plans (Fleming, 1991; Parham, 1987; Rogers, 1983; Slater & Cohn, 1991), OT educators strive to teach clinical reasoning throughout their curricula (Neistadt et al., 1998).

The types of clinical reasoning that have been identified in the OT literature include narrative reasoning, interactive reasoning, procedural reasoning, pragmatic reasoning, and conditional reasoning (Neistadt, 1996). Clinical reasoning case studies, per Neistadt et al. (1998) utilized each of these types of reasoning. The authors described the types of reasoning including narrative reasoning which focuses on the client's occupational story, reflecting the activities and roles that the client values (Clark, 1993; Neistadt, 1996). Those who use interactive reasoning focus on the client as a person and examines the illness experience (Crepeau, 1991; Fleming, 1991). Proponents of procedural reasoning focus on identifying OT problems and treatment based on the client's disease or disability (Fleming, 1991; Mattingly & Fleming, 1994). Those who use pragmatic reasoning consider the treatment environment and the possibilities of treatment

within a given setting as well as the therapist's level of skill and experience (Creighton, Dijkers, Bennett, & Brown, 1995; Schell & Cervera, 1993). Proponents of conditional reasoning focus on continuous modification of treatment to enable the person to function in the future (Fleming, 1991). By using these different types of clinical reasoning, therapists view their clients not only as individuals with physical ailments, but also as social individuals within the context of family, environment, and culture (Fleming, 1991).

Case-based Learning—Types of Case Studies Used in OT Curriculums

Lysaght and Bent (2005) examined how the modality used to present a case study affects the learning process when teaching clinical reasoning skills to OT students. They presented cases via printed text (paper case), video, live, and CD-ROM/Internet and found that all case presentations could be used successfully in courses designed to build clinical reasoning skills.

Murphy and Stav (2018) explored the effect of video cases presented over an online platform combined with a clinical reasoning learning activity on the development of clinical reasoning skills in 61 entry-level OT students. The authors found the students in the control group using text-based case studies demonstrated improved performance from the pretest to the posttest in the overall score, percentile, deduction, analysis, inference, and evaluation but demonstrated a decreased score in induction. The students in the intervention group using video case studies and the clinical reasoning learning activity demonstrated improved performance on the posttest in all measures of reasoning.

Hunt (1951, p.175) called CBL “the use of problems to train the student to discover and then to fix in his mind ways of thinking that are productive in the chosen

field." He suggested this approach attempts to simulate the experience of meeting a real client in the clinical setting by presenting a clinical case in a controlled learning venue. Hunt also recommended the use of authentic issues and problems from real-life scenarios and the use of a series of cases over time to progressively advance learning in terms of conceptual and intellectual challenge.

Other authors suggested the case method contributes to deeper learning (Lockyer, Gondocz, & Thivierge, 2004) and building reflective reasoning skills in developing practitioners (Schön, 1992). Lysaght and Bent (2005), discussed previously, found the modality used to present case studies appeared to be less influential than the strengths of the overall instructional format, along with the amount and type of information provided. They suggested that authentic cases expose students to experiences they may face in fieldwork and professional practice and adds to the richness of the contextual and intrapersonal details of the case.

Types of case studies noted in the literature are paper cases, videotape cases, simulated client cases, and real client cases (Neistadt, 1987, 1992, 1996; Van Leit, 1995). Different types of case studies are used to emphasize specific types of clinical reasoning more heavily than others (Van Leit, 1995). Van Leit discussed how each type of case is used to promote reasoning as follows:

- Paper cases tend primarily to help students develop procedural reasoning abilities by stimulating students, directing them toward issues that must be discovered to understand the case, and generate solutions.

- Through the use of videotape cases, educators provide students with client information that helps them to develop a narrative or conditional reasoning in addition to procedural skills. Murphy and Stav (2018) found that video-based case studies allowed for a richer, more authentic experience to prepare students for the inductive components of clinical reasoning, which is a core competency of an OT practitioner. They suggested that the contextually embedded cases that are inherent in the videos cannot be provided by a written text that describes the conclusions that have already been drawn from observations and client performance. Video cases have been beneficial when used to conceptualize difficult topics, promote critical reflection, and foster deeper learning (Giles, Annan, Gober, & Greene, 2018; Hund & Getrich, 2015; Kay, 2012). Researchers also found that OT students reported increased confidence when using video of in-class demonstrations (Giles et al., 2018; McAlister, 2014).
- Through the use of simulated client cases, educators provide students with an opportunity to interact with a client, thereby providing opportunities for students to practice interactive reasoning as well as other clinical reasoning skills. Cahill (2015) used case studies involving simulated patients and found that students reported the experiences felt real and helped them to think deeper.
- Real clients who are willing to share themselves with students promote learning in all areas of clinical reasoning.

Case-based Learning—Impact on Learning in OT Curriculums

Case studies have proven beneficial in OT curriculums in the past. Neistadt, Wight, and Mulligan (1998) found that clinical reasoning case studies did increase the quality and complexity of treatment activities selected by the participants. They found that the cases (a) provided new understandings of the client; (b) resulted in more comprehensive intervention plans; (c) resulted in more specific, detailed, and individualized treatment activities in the participants' written intervention plan; (d) provided more client information which resulted in intervention plans that included more active treatment, more ‘doing’ than just ‘discussing’; (e) resulted in an intervention plan that placed the client into a social context; and (f) increased the quality of participants' intervention plans and rationales, participants' confidence in their completed intervention plans, and participants' understanding of clinical reasoning.

When used in a combined OT and PT anatomy course educators found case-based teaching was useful in imparting knowledge to the students (McLean, 2016; Parmar & Rathinam, 2011). Nicola-Richmond and Watchorn (2018) found paper-based case studies as learning tools were positively viewed by students, but web-based case studies provided participants with experiences that were more real, evoked greater empathy, and allowed participants to develop greater self-perceived information gathering and assessment skills.

Lysaght and Bent (2005) suggested the case method of instruction is one approach to teaching applied clinical reasoning. Hunt (1951, p.175), one of the pioneers of the case method, in his seminal piece introducing the method called it “the use of problems to

train the student to discover and then to fix in his mind ways of thinking that are productive in the chosen field." In health sciences, educators use this approach in attempts to simulate the experience of meeting a real client in the clinical setting by presenting a clinical case in a controlled learning venue. As opposed to PBL, where learners seek out information relative to the presenting problems of a case and receive tutorial support to determine the relevance and adequacy of the material gathered, CBL generally involves initial instruction. Learners are then responsible for the interpretation of the problems presented in the case and applying knowledge to the unique features of the situation at hand. Hunt recommended the use of authentic issues and problems from real-life scenarios and the use of a series of cases over time to progressively advance learning in terms of conceptual and intellectual challenge.

Summary and Conclusions

Declining student engagement and participation has prompted OT instructors to explore alternative teaching and learning strategies. Instructors in many medical programs use active learning strategies, including case-based learning, to promote learning and retention. The strategies have proven successful in many professional programs. The success of these strategies and OT instructors' perceptions and experiences when using these strategies in the classroom has not been adequately explored but recent studies show that instructors can successfully integrate the techniques into OT curriculums.

Currently, there is little literature regarding the use of active learning strategies, including case-based learning, to increase student engagement in OT programs and a

paucity of literature on OT instructors' perceptions and experiences when implementing active learning strategies in the classroom. The purpose of this qualitative, exploratory case study was to investigate OT instructors' perceptions and experiences when using active learning strategies in the classroom.

This chapter included a discussion of the learning traits of traditional OT students, whose age corresponds to Generation Y or Millennials. This generation learns differently from other generations and prefers more active learning techniques. As OT curriculums have evolved, they have begun to recognize the benefits of active learning strategies and how they can be used to promote student learning and engagement. OT instructors need to help develop critical thinkers who can learn concepts and apply them in clinical situations.

Because OT students are adult learners, theories of adult learning can help educators understand their needs. Theories used to support active learning strategies include Knowles' andragogy, experiential learning theory, situated learning, and transformative learning, and all include components that educators use to promote engagement and participation.

Student engagement has multiple components that include behavioral, emotional, cognitive, and study engagement. Both educators and students have responsibilities in promoting learning and engagement. Educators must provide learning opportunities and understand learning theories and strategies that can be used to promotes student learning and engagement and students must take advantage of these opportunities. Students should

have a willingness and motivation to learn and should actively participate in the learning process by asking questions and engaging in discussions.

The focus of the current study is the active learning strategy of case-based learning. There are many advantages of using the strategy but a few disadvantages. The strategy uses multiple means to present the cases. Educators who use case-based methods do so via paper, simulations, video, and real of standardized patients/clients. CBL has been used in various medical and professional programs to promote engagement and learning. The strategy also promotes clinical reasoning skills, deeper learning, retention of knowledge, problem-solving, collaboration, and critical thinking. This study explored the perceptions and experiences of OT instructors who use CBL strategies in the classroom to determine how the strategies are used to promote learning, engagement, and participation. The next chapter, Chapter 3, is a detailed review of the research methods that were used in the study.

Chapter 3: Research Method

Introduction

The problem that I addressed in this study was the need for OT graduates in the United States to be effective in clinical settings to support the future occupational needs of society. Decreased student engagement and participation are significant issues for OT students as students who are not engaged in coursework tend not to be successful in clinical rotations and entry-level work. Declining student engagement and participation resulting in limited consolidation of content knowledge has prompted the exploration of alternative teaching and learning strategies for OT students (Nott, 2015). To promote student engagement, instructors are beginning to use active learning strategies to enhance learning and retention of course content (Burgess & Medina-Smuck, 2018). The success of these strategies and OT instructors' perceptions and experiences when using these strategies in the classroom has not been adequately explored.

The purpose of this qualitative case study was to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning. To accomplish this purpose, I included a description of the perceptions of OT instructors who use CBL techniques to promote student engagement. I included a description of the assignments used by the instructors to support the use of case-based techniques in the classroom.

This chapter will include the research method that will be used for the present study. I included a description of the research design and rationale and an explanation of

the role of the researcher. I also included a description of the participant selection logic, instrumentation, procedures for recruitment and participation, data collection and data analysis plans, as well as issues of trustworthiness and ethical procedures that impacted the study.

Research Design and Rationale

The research question for the present study is based on the conceptual framework and the literature review and was as follows: What are the perceptions and experiences of OT instructors who use CBL strategies in their classrooms?

The research design I selected for this study was a qualitative case Yin (2009, p. 18) defined case study research as an "empirical inquiry that investigates a contemporary phenomenon (the 'case') in-depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident." Yin (2009, p. 18) also defined case study research as:

> A design that copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis.

Cresswell and Poth (2017) also suggested that case study research explores an issue within a bounded system and proposes use when the inquirer seeks to provide an in-depth understanding of the case. Stake (2013) stated that case study research requires

experiencing the phenomenon in the context or situation in which it occurs. In this study, I focused on the case or phenomenon of CBL and how these techniques are used to promote student engagement and participation in OT curriculums.

In this case study research, I collected data from several sources to clarify the case, its context, and the boundaries the case exists within. I selected a single case study research design to answer the research question related to the case. The case or phenomenon for this study was the active learning strategy of case-based learning. The real-world context was OT classrooms and curriculums. Data sources that I selected to explore the case or phenomenon included interviews of OT instructors who use CBL techniques to promote student engagement, a brainstorming activity, and a reflective journal entry to support the use of CBL techniques in the classroom.

I contemplated and rejected other research designs, including ethnography, grounded theory, and phenomenology. An ethnographic approach emphasizes in-person field study and participant observation via immersion in the setting to interpret cultural meaning (Ravitch & Carl, 2016). The researcher develops rapport and empathy with respondents, and rich data emerges because of the relationship. Merriam and Tisdell (2016, p.24) stated that an ethnography "strives to understand the interaction of individuals not just with others, but also with the culture of the society in which they live." Ethnography is employed in social sciences to identify the language, behaviors, beliefs, and values of a group and participants share experiences as well as cultural rules that have developed from the shared experience (Cresswell & Poth, 2017). I rejected this

design because the purpose of the research study was not to identify the language, behaviors, beliefs, and values of the group.

Grounded theory researchers work to develop a theory from the participants' data (Ravitch & Carl, 2016). Merriam and Tisdell (2016) stated that researchers who use grounded theory seek to understand and to build a substantive theory about the phenomenon of interest. I rejected this research design because the purpose of this research study was not to generate theory regarding case-based learning. Researchers engaging in phenomenological research look at the lived experiences of a phenomenon. Merriam and Tisdell (2016, p. 24) stated that a phenomenology "seeks understanding about the essence and the underlying structure of the phenomenon." Phenomenology also describes a shared phenomenon that participants of a study experience (Cresswell & Poth, 2017). I did not choose phenomenology as a research design for this study because the purpose of this study was not to describe the lived experiences of instructors who teach in OT curriculums.

I did not choose a quantitative design for the current study. I sought to explore the perceptions and experiences of OT instructors who use CBL strategies in their classrooms to promote student engagement. Quantitative researchers use tools to collect numerical data and to test hypotheses, but they may miss contextual detail (McCusker & Gunaydin, 2015). A qualitative research study was more appropriate to elicit the rich information that details perceptions and experiences; therefore, I chose a qualitative case study design for this study.

Role of the Researcher

As an individual researcher, I had several responsibilities in conducting this research study. I selected the research design and study participants. I designed the interview questions to collect the data, recruited the participants, and performed the interviews to collect the data. I was also responsible for transcription and data analysis. As the person responsible for all components of the study, there was significant potential for bias. Procedures to address the potential bias were addressed.

I was an assistant professor in an OT program that has both an associate's level and a doctoral level curriculum at the time I conducted this study. I taught classes within both curriculums and utilized CBL techniques in the classroom. The OT curriculum was standards-based, but instructors could utilize instructional methods of their choice. I incorporated active learning strategies including peer teaching, flipped classroom, and CBL in all courses that I taught. I believed that these active learning strategies promoted student engagement. There were four other faculty who teach in the programs, and all used active learning strategies, including CBL techniques in their repertoire.

To research the change in classroom techniques I reached out to the OT education community. Through conferences, volunteer experiences, and professional organizations, I had met faculty from various OT programs that had begun to utilize active learning strategies including CBL in their curriculums. I had the contact information for this group of colleagues, including their email addresses. I recruited these potential participants by sending an informative email that described the study and asked them to contact the researcher if they were interested in participating in the study. I attempted to recruit other

participants by seeking permission to post a recruitment brochure in the study section of an OT professional organization. The brochure provided information about the study and provided the researcher's contact information for anyone interested in participating in the study.

I interviewed study participants to gather data on their perspectives. I also asked participants to complete a brainstorming activity and a reflective journal entry to capture their experiences in using the techniques. The fact that I utilized CBL in the classroom may have been a potential source of bias. To mitigate this potential bias, I used speech-to-text software to capture the interviews accurately, used memoing during the analysis process, and performed member checks to ensure that the information I collected was correct from the participants' viewpoints.

Methodology

For this study, I selected a qualitative method using a case study approach to answer the research question. I described this in the sections below concerning participation selection logic, instrumentation, procedures for recruitment and participation, data collection, data analysis, issues of trustworthiness, and ethical procedures.

Participant Selection Criteria

Recruitment and purposeful sampling techniques involved potential participants who utilized CBL techniques in OT classrooms and could knowledgeably address their perspectives and experiences in using the techniques. Initially, I recruited by contacting, via email, a group of colleagues who I had met through conferences, volunteer

experiences, and professional organizations. These individuals taught in various OT programs across the country. I had their contact information, including their email addresses. I used the technique of snowballing or having participants to refer others who they feel are knowledgeable about the topic to recruit participants. The participants from the initial group of colleagues recruited were asked to provide information on other OT faculty who utilized CBL techniques in the classroom. Patton (2014) described key informants as people who are especially knowledgeable about a topic and can inform inquiry when researchers tap into their knowledge, expertise, and experience. Snowball sampling occurs when researchers start with one or more knowledgeable interviewees and ask them for other appropriate contacts who can provide confirming or contrasting perspectives (Patton, 2014).

I also recruited participants via a recruitment brochure in the study section of an OT professional organization. I placed an informative recruitment brochure with study information in the study section, asking those who met the inclusion criteria to contact the researcher if they are willing to participate in the study. I did not use other sampling techniques to recruit participants as other techniques may have resulted in participants who did not meet the study criteria.

At the time of the study, there were 397 accredited OT programs including doctoral, master's, and associate's levels (AOTA, 2018). There was a program in each state within the United States. A total of 8–12 participants from OT programs in at least 10 states were recruited. The participants were selected from the full range of OT

programs including public, private, online, and hybrid. This sample represented approximately 20% of the states within the United States that have OT programs.

The sample size was based on Yin's (2014) suggestions for limiting the number of participants due to the collection of data from multiple sources and the in-depth data analysis required for case study research. Data saturation is considered in determining the sample size used in a study. This study included a sample size of 8–12 participants. If the information provided by participants became repetitive, or no new data were presented, participant selection would cease, and no further participants would be interviewed.

Potential participants recruited for the study met the following inclusion criteria: they (a) were a registered occupational therapist (OTR) working in the United States, b) were a faculty member or former faculty member in an OT or OT assistant program, (c) had at least 3 years or more experience teaching in an OT curriculum, (d) actively utilized CBL techniques/strategies in classes taught in the OT curriculum or actively used the techniques when teaching, (e) were over 18 years of age, and (f) were able to provide informed consent.

Potential participants were excluded from the study if they (a) were not a registered occupational therapist (OTR) working in the United States,(b) were not a faculty member or former faculty member in an OT or OT assistant program, (c) did not have three years or more experience teaching in an OT curriculum, (d) did not actively utilize CBL techniques/strategies in classes taught in the OT curriculum or did not actively use the techniques when teaching, (e) were under 18 years of age, and (f) were unable or unwilling to provide informed consent.

Instrumentation

For the study, I designed an interview guide and document data collection form that was based on Merriam and Tisdell's (2016) qualitative research guidelines for conducting effective interviews and content analysis of documents. I used a semistructured interview format with open-ended questions. I asked participants to complete a brainstorming activity that supported their use of CBL strategies in the classroom. I also asked participants to provide a reflective journal entry that reflected their use of CBL strategies.

The data form was used to catalog the documents provided. Interview questions included information on participant demographics, the rationale for use of case-based techniques, the rationale for types of case studies used, development and presentation of case studies, and the perceptions of the impact of the techniques on student engagement, and learning.

Procedures for Recruitment, Participation, and Data Collection

Ravitch and Carl (2016, p. 128) state that qualitative researchers "deliberately select individuals because of their unique ability to answer the study's research questions." Potential participants who utilized CBL techniques in OT classrooms and could knowledgeably address their experiences in using the techniques were recruited.

Procedures For Recruitment

The steps for participant recruitment were as follows:

1. Obtained permission from an OT professional organization to post an informative recruitment brochure in their study section
2. Posted the recruitment brochure

3. Send informative email to the list of colleagues whose emails I already had

Procedures For Sampling

1. After posting the informative brochure and emailing the colleagues who were potential participants, I waited to receive responses indicating interest in participating in the study.
2. Potential participants were polled via telephone or email (depending on how they contact the researcher) to determine if they met the inclusion criteria for participation.

Procedures For Informed Consent

1. If a potential participant met the inclusion criteria, the informative email that provided the details of the study including the informed consent form was sent to the participant. This form explained the study, requirements for participation, benefits to the participant and society, and any other data relevant to the study.
2. Participants were asked in the email to read and sign the informed consent form and send it back to the researcher.
3. Once informed consent had been given/provided, an interview was scheduled for a time that was convenient for the participant. Informed consent was received at least 24 hours before the scheduled interview.

Procedures For Data Collection

Data were collected as follows:

1. Participants were asked to participate in a 45 to 60-minute interview to share their perspectives on and experiences with CBL in their classrooms. Interviews were conducted either face-to-face or using electronic video conferencing means of Facetime. VoIP (Voice over Internet Protocol) technologies (such as Skype and FaceTime) provide us with the ability to interview research participants using voice and video across the internet via a synchronous (real-time) connection (Lo Iacono, Symonds, & Brown, 2016). To ensure privacy, participants were advised to perform the interview in a secure, private room at a time that they would not be disturbed. The interviews were scheduled to last approximately 45-60 minutes each, depending on how each participant chose to share. The interviews were audio or video recorded based on the method of participation.
2. Interviews were transcribed verbatim by the researcher using the speech-to-text software program, Windows Speech Recognition (Windows Help, 2016).
3. During the interviews, participants were asked to complete a brainstorming activity that supported their use of CBL techniques in the classroom. Procedures for sending the information were established during the interview.
4. Following the interview, participants were asked to complete a reflective journal entry that summarized and clarified their experiences and perception of the use of CBL techniques. Procedures for sending the information were established during the interview.

Data Analysis Plan

Analysis of interview data included open coding (Ravitch & Carl, 2016). The first major analytic phase of the research consists of coding the data or the process of defining what the data are all about (Charmaz, 2006). Codes were used to construct and develop themes that arose from the data. NVivo qualitative software was used to assist with data analysis.

Interview Analysis

Interviews were coded using first and second cycle coding to organize and categorize data (Saldaña, 2016). The researcher used analytic memos to reflect on and guide the coding process. Further analysis included reviewing the codes for emerging themes.

Curriculum Analysis

Content analysis was used to analyze the document artifacts collected from instructors to support the use of CBL techniques in the classroom. Content analysis allows researchers to analyze data for meaning, symbolic quality, and expressive content (Krippendorff, 2013; Merriam & Tisdell, 2016). A document data collection form was used to categorize and code data from the document artifacts and the reflective journal entry.

Data analysis also included an analysis of discrepant data, which is any data that challenges the theoretical basis of the current study (Yin, 2014). An example of discrepant data would be data that indicates CBL techniques may have an adverse impact on promoting student engagement and participation in OT students. The information from

the three data points was triangulated to provide a clear understanding of the instructor's perspectives and experiences of using CBL techniques in the classroom.

Issues of Trustworthiness

The trustworthiness of a study is reliant on the integrity of the investigator (Merriam & Tisdell, 2016). The credibility of the researcher is an essential component of ensuring the credibility of qualitative research and the trustworthiness of the data is tied to the trustworthiness of the people who collect the data (Merriam & Tisdell, 2016; Patton, 2014). Yin (2011) discussed three objectives that build trustworthiness and credibility in a qualitative study. The objectives include transparency (the research is done in a publicly accessible manner), methodicness (follows an orderly set of research procedures), and adherence to evidence (based on an explicit set of evidence). This section includes a discussion of the issues of credibility, transferability, dependability, and conformability relating to the strategies that were used to ensure the trustworthiness of this qualitative research.

Credibility

Credibility is defined as "the researcher's ability to take into account all of the complexities that present themselves in a study and to deal with patterns that are not easily explained" (Guba, 1981; Ravitch & Carl, 2016, p. 188). Merriam and Tisdell (2016) defined credibility as validity relative to the purposes and circumstances of the research. Several strategies can be used to improve the credibility of a study including member checking and triangulation.

I used member checking by having participants review the transcript of their interview for accuracy. I used triangulation by comparing the interviews with the document artifacts to compare the data sources.

Transferability

Transferability is defined as the way a study is" applicable to broader contexts" (Ravitch & Carl, 2016, p. 189). Researchers can ensure transferability by including detailed descriptions of the data and the contexts (thick description) giving audiences the necessary information to make comparisons to other contexts (Guba, 1981; Ravitch & Carl, 2016). For the current study, I utilized thick descriptions by providing detailed descriptions of the settings, participants, data collection, and data analysis procedures. I also used sampling strategies that allowed for variation in key informants so that private, public, hybrid, and online programs would potentially be represented.

Dependability (Reliability)

Dependability refers to the stability and consistency of the data (Ravitch & Carl, 2016). Strategies to ensure dependability include triangulation and audit trails. For the study, I used the strategy of data and perspectival triangulation by collecting data from a total of 8–12 participants from OT programs in at least ten states. This allowed me to compare and draw conclusions from multiple data sources. I also used audit trails by making detailed descriptions of data collection and data analysis procedures using NVivo, which is a Computer-Assisted Qualitative Data Analysis Software (CAQDAS), to aid data collection and analysis.

Confirmability

Confirmability in qualitative research refers to the researcher's ability to have confirmable data that is free from unacknowledged biases (Ravitch & Carl, 2016). Strategies that ensure confirmability include triangulation, reflexivity, and external audits (Guba, 1981; Ravitch & Carl, 2016). For this study, I used triangulation, as described above, external audits, and reflexivity. I actively reflected on assumptions and possible biases during data collection and analysis using personal memos.

Ethical Procedures

Research requires the observance of ethical procedures. Yin (2014) suggested that research integrity means the researcher and the data provided is reliable and represented honestly. Research should ensure the safety of the participants. This includes providing detailed information regarding the risks and benefits of the study and allowing participants to make an informed decision regarding participation.

I sought approval to conduct this study from Walden University's Institutional Review Board (IRB). Before participating in the interviews or completing the brainstorming activity and the reflective journal entry, participants were required to sign consent forms that detailed the study. Aliases or numerical designations were assigned to participants to protect their privacy. The data key with personal information was kept separately from the raw data. Raw data that was collected will be maintained in a locked office in a locked container for five years after the completion of the study then destroyed or permanently erased (video or audio recordings).

Summary

This chapter includes a description of the research methods for the proposed study. The research design I selected for this qualitative study was a single case study to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning. Participants who utilized CBL techniques in OT classrooms and could knowledgeably address their perspectives and experiences in using the techniques were recruited.

I used snowballing to recruit other participants as needed. A total of 8participants from OT programs in at least ten states were recruited. The participants were recruited from the full range of OT programs including public, private, online, and hybrid. Data were collected via semistructured interviews, a reflective journal, and a brainstorming activity that supported the use of CBL techniques. Interviews were transcribed verbatim, and data was analyzed through coding and content analysis to develop themes that informed study findings. The trustworthiness of the current study was improved through the use of strategies that enhanced the credibility, transferability, dependability, and confirmability of the research. Chapter 4 is a description of the study's results.

Chapter 4: Results

Introduction

The purpose of this qualitative case study was to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning. To accomplish this purpose, I included a description of the perceptions of OT instructors who use CBL techniques to promote student engagement. I described the brainstorming activities and reflective journals that supported the use of case-based techniques in the classroom. The research question for the study was based on the conceptual framework and the literature review. It was as follows: What are the perceptions and experiences of OT instructors who use CBL strategies in their classrooms? The research design I selected and used for this study was a qualitative case study. The chapter is organized into the following sections: Setting, Demographics, Data Collection, Data Analysis, Evidence of Trustworthiness, Results, Discrepant Data, and a Summary of the Data.

Setting

I recruited participants from various universities across the United States. Interviews were conducted in person at a hotel, in person in the interviewer's office, or via FaceTime. I interviewed participants 1 and 6 in the interviewer's office. I interviewed participants 2, 3, 4, and 5 in a hotel conference room. I interviewed participants 7 and 8 via Facetime. Each interview was audio-recorded while being simultaneously transcribed using Windows Speech Recognition technology with the participants' consent.

Demographics

I used a snowballing technique to recruit participants. Participants were recruited from a group of colleagues who I have met through conferences, volunteer experiences, and professional organizations. These individuals teach in various OT programs across the country. I recruited participants via email. Eight participants responded and agreed to participate in the study. Each participant was asked during the interview to refer other colleagues who might be interested in participating in the study. I also posted a recruitment flyer in the study recruitment section of an OT professional organization. No participants responded to the recruitment flyer, and no other participants responded to snowballing attempts.

All participants were occupational therapists and assistant or associate professors in OT programs. Participant 1 was a Caucasian woman who taught at a small Southern university. Participant 2 was a Caucasian woman who taught in a small midwestern university. Participant 3 was a Caucasian woman who taught in a mid-sized eastern university. Participant 4 was a Caucasian man who taught in a large southern university. Participant 5 was a Caucasian woman who taught in a mid-size southern university. Participant 6 was a Caucasian woman who taught in a small Southern university. Participant 7 was a Caucasian man who taught in a small eastern university, and Participant 8 was a Caucasian woman who taught in a small midwestern university. The universities represented were a mix of public and private universities. The participants were professors, many of whom also had other responsibilities with the programs in

which they taught, such as program director and academic fieldwork coordinator (See Table 1).

Table 1

Participant Demographics

	Position	Teaching Experience (Years)	University	Program Type
Participant 1	Assistant Professor	4	Small/Southern	OT
Participant 2	Associate Professor	9	Small/Midwestern	OT
Participant 3	Assistant Professor	5	Mid-size/Eastern	OT
Participant 4	Assistant Professor	4.5	Large/Southern	OT
Participant 5	Assistant Professor	10	Mid-size/Southern	OTA
Participant 6	Assistant Professor	4	Small/Southern	OTA
Participant 7	Associate Professor	11	Small/Eastern	OT
Participant 8	Assistant Professor	9	Small/Midwestern	OT

Data Collection

Data collection included participant interviews, a brainstorming activity, and completion of a reflective journal entry. A total of eight participants met the inclusion criteria and agreed to participate in the study. Each participant participated in one interview that was scheduled for a 45 to 60-minute period to share their perspectives on and experiences with CBL in their classrooms. I conducted interviews either face-to-face or via Facetime. Interviews were scheduled at times that were convenient to the

participant, and to ensure privacy, participants were advised to perform the interview in a secure, private area at a time that they would not be disturbed.

I conducted the interviews from January 21, 2020 to February 17, 2020 and lasted approximately 15–53 minutes each. The average length of the interviews was 25.27 minutes (See Table 2). I audio-recorded the interviews and simultaneously transcribed them using Windows Speech Recognition technology with the participants' consent I transcribed the interviews verbatim by comparing the audio recording to the Windows Speech Recognition transcript, and then I made necessary changes to ensure accuracy.

Table 2

Summary of Participant Interview Collection

	Date	Location	Length (minutes)
Participant 1	1/21/2020	Office	27.52
Participant 2	1/24/2020	Hotel	20.54
Participant 3	1/25/2020	Hotel	18.40
Participant 4	1/25/2020	Hotel	23.07
Participant 5	1/24/2020	Hotel	15.00
Participant 6	2/5/2020	Office	21.56
Participant 7	2/8/2020	FaceTime	53.00
Participant 8	2/17/2020	FaceTime	23.09

At the end of each interview, arrangements were made for the participant to complete the Brainstorming Activity and the Reflective Journal Entry. The participants who were interviewed face-to-face opted to receive a paper copy of both to complete and return to me the next day. Each completed the materials and returned them in handwritten form the next day. The participants who were interviewed in my office were given a paper copy of the Brainstorming Activity and the Reflective Journal Entry prompt and asked to complete it and return it to my office. One mailed it back, and one

returned it in person. The two participants who were interviewed via FaceTime opted to have the materials emailed to them. They completed both and returned them via email.

Data Analysis

I compared the audio recording of each interview to the Windows Speech Recognition transcript and made changes to ensure accuracy. After I made the changes, I listened to the audio recording again and compared it to the changed document to ensure the accuracy of the transcription. In Chapter 3, I proposed that data analysis would include interview analysis where the interviews would be coded using first and second cycle coding to organize and categorize the data. I used analytic memos to reflect on and guide the coding process, and then further analysis included reviewing the codes for emerging themes. I manually coded each interview per the research question and corresponding prompts. I used Nvivo data analysis to help generate codes, then I compared the manual and Nvivo codes and used both sets of codes to generate themes.

The constant comparative method that Merriam and Tisdell (2016) suggested for use in constructing categories from coded transcripts was used to construct the analysis. I organized the coded transcript responses on a Microsoft Excel 2013 (Microsoft Office 365 ProPlus) spreadsheet. I organized the document by interview questions. I grouped the coded sections utilizing the constant comparative method by comparing similarities and differences between the data segments (Merriam & Tisdell, 2016).

I used content analysis to analyze the Brainstorming Activity and the Reflective Journal Entry collected from instructors to support the use of CBL techniques in the classroom. I also used a document data collection form to categorize and code data from

the Brainstorming Activity and the Reflective Journal Entry. I added the coded responses to the Microsoft Excel spreadsheet. The codes that I generated from the content analysis were compared to the codes that I generated from the interview process. The following six themes emerged from the analysis:

1. Younger students with little to no life experience are more difficult to engage and need more mentoring than older students with more life experience.
2. CBL resembles OT practice by giving students a real-life context
3. CBL was considered a natural way to learn and teach clinical skills
4. CBL is effective in engaging students no matter how it is presented or when in the curriculum it is presented.
5. Students appreciate CBL strategies, as evidenced by their response to its use.
6. Although professors used other active learning techniques, CBL was used more often and felt to be more effective.

Discrepant Data

Discrepant data is any data that challenges the theoretical basis of the current study (Yin, 2014). An example of discrepant data would be data that indicated CBL techniques had an adverse impact on promoting student engagement and participation in OT students. I anticipated that the brainstorming activity and the reflective journal entry would not support instructor reports of the use of CBL techniques in all cases. Although none of the participants reported using CBL strategies exclusively, none reported experiences or perceptions of an adverse nature.

Evidence of Trustworthiness

The trustworthiness of a study is reliant on the integrity of the investigator (Merriam & Tisdell, 2016). The credibility of the researcher is an essential component of ensuring the reliability of qualitative research, and the trustworthiness of the data is tied to the trustworthiness of the people who collect the data (Merriam & Tisdell, 2016; Patton, 2014). Yin (2011) discussed three objectives that build trustworthiness and credibility in a qualitative study. The objectives include transparency (the research is done in a publicly accessible manner), methodicness (follows an orderly set of research procedures), and adherence to evidence (based on an explicit set of evidence). This section includes a discussion of the issues of credibility, transferability, dependability, and conformability relating to the strategies that were used to ensure the trustworthiness of this qualitative research study.

Credibility

Credibility is "the researcher's ability to take into account all of the complexities that present themselves in a study and to deal with patterns that are not easily explained" (Guba, 1981; Ravitch & Carl, 2016, p. 188). Merriam and Tisdell (2016) defined credibility as validity relative to the purposes and circumstances of the research. The methods used to improve the credibility of this study included member checking and triangulation.

I sent the interview transcripts to the participants to review for accuracy. I asked participants to return the transcripts with any errors highlighted and corrected. None of the transcripts were returned with corrections. I used triangulation by comparing the

interview responses with the responses from the brainstorming activity and the reflective journal entry.

Transferability

Transferability describes the way a study is" applicable to broader contexts" (Ravitch & Carl, 2016, p. 189). Researchers can ensure transferability by including detailed descriptions of the data and the contexts (thick description), giving audiences the necessary information to make comparisons to other contexts (Guba, 1981; Ravitch & Carl, 2016). In this study, I used thick description to provide detailed descriptions of the settings, participants, data collection, and data analysis procedures. I used sampling strategies that allowed for variation in participant selection by recruiting from all programs, so that private, public, hybrid, and online programs had the potential to be represented.

Dependability (Reliability)

Dependability refers to the stability and consistency of the data (Ravitch & Carl, 2016). Strategies to ensure dependability include triangulation and audit trails. In the discussion portion of Chapter 3, I proposed that data would be collected from 8–12 participants from at least ten states. Only eight participants responded to my recruitment attempts and met the criteria for participation in the study. I used the strategy of data and perspectival triangulation by collecting data from eight participants representing OT programs in six states. This allowed me to compare and draw conclusions from multiple data sources. I also used audit trails by making detailed descriptions of data collection

and data analysis procedures using NVivo, which is a Computer-Assisted Qualitative Data Analysis Software (CAQDAS), to aid the data collection and analysis processes.

Confirmability

Confirmability in qualitative research refers to the researcher's ability to have confirmable data that is free from unacknowledged biases (Ravitch & Carl, 2016). Strategies that ensure confirmability include triangulation, reflexivity, and external audits (Guba, 1981; Ravitch & Carl, 2016). For this study, I provided an audit trail. I sent the transcripts of the interviews to the participants with a request for them to read and correct any mistakes I identified participants by number, universities by size and region instead of by name, and changed any identifying information to protect confidentiality. I used one uniform interview guide with prompts for all participants. I performed coding manually with an Excel spreadsheet and with Nvivo software. Exact quotes were incorporated to confirm the alignment between the text, the codes, and the themes.

Results

The purpose of this qualitative case study was to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. The study specifically focused on instructors' perspectives and experiences with CBL to promote student engagement and participation. The study proposed to answer the question: What are the perceptions and experiences of OT instructors who use CBL strategies in their classrooms? The results of the study were analyzed by the interview

question, responses to the brainstorming activity, and responses to the reflective journal prompt. See Table 3 for a comparison of data points.

Table 3

Comparison of Data Points

Interview Question	Brainstorming Activity	Reflective Journal Entry
#5	#2 & #3	#3
#6		#2
#7	#2 & #4	#1 & #5
#9	#5	#3
#10		#4
#12	#1	

Interview Questions

Interview Questions 1 and 2: Generational Breakdown.

In Questions 1 and 2, I asked the participants to describe the generational break-down of the students in their programs/classrooms and characterize the level of student engagement and participation based on differences in the generations. The students in most programs represented were generation Y or millennials and generation Z. Several students in the programs age-wise were generation X, and one reported a student from the baby boomer generation. Instructors discussed the fact that life experience played a role in the level of engagement and suggested that younger students had more distractions that kept them from fully engaging in content. The theme that emerged from these questions was the younger students with little to no life experience are more difficult to engage and

need more mentoring than older students with more life experience. Participant 1 stated,

> The younger they are the harder it is to get them to participate and engage. The older they are and the more life experiences they have, and the more responsibilities such as being a mother, they have actually been more likely to engage.

Participant 2 suggested:

> I don't know if it's a generational difference, but our younger students seem to need more mentoring. Some of our learners that are coming back have experience with OT, so they have things to talk about, they know why they're there, they have that professional confidence that they've had some life experience. I don't know if I can attribute it to being a gen-Xer or millennial, but I think just kind of life experience. But those with less life experience have less confidence and need more mentoring to get engaged in the process from the beginning.

Participant 3, when referring to the younger students stated, "I would say they're engaged, and I think they're self-aware of when they're not being engaged because they have a lot of distractions in the classroom. Whether it's their phones or their computers..." and Participant 5 stated that "I do think the older students motivate the young… the older students are the ones that get them fully engaged… like spearhead projects and that kind of stuff."

Interview Question 3: Why They Used Case-based Learning

In Question 3, I asked participants to provide information on why they use CBL techniques. Participants' responses centered on student engagement, making meaning of

experiences, increasing clinical reasoning, and introducing students to a real-life context. All participants referred to real-world experiences, working with real-life situations without actually working with a real client, and practicing mechanisms that go into treatment. The theme that emerged from this question was that CBL resembles OT practice by giving students a real-life context. Participant 1 stated, "it provides a real-world experience or real-world simulation for what they're going to encounter and also starts them to (sic) getting that application mindset and not just purely memorizing." Participant 2 stated that CBL allows students to "see what this kind of abstract information looks like in real life and what would I do with it."

Participant 3 stated that it "gives them an opportunity to practice clinical reasoning of how they might handle a situation or diagnosis without actually working with a client." Participant 4 states that it allows them to make the "connection between course content and application" while Participant 8 felt that with CBL "they [students] can get a greater understanding of the OT process" and further stated it "gives them pictures, like clinical pictures, in their minds so that they could start to use that as a basis for their clinical reasoning."

Interview Question 4: Training

In Question 4, I asked participants to describe any training they had in using CBL techniques. Only one of the participants reported any formal training in the use of CBL techniques. Many reported that they had experienced the techniques during their schooling or when seeing other professors utilize

the techniques. The theme that emerged from this question was that CBL was considered a natural way to learn and teach clinical skills. Participant 3 stated:

> When I first started teaching other faculty members or the Program Chair, where I was working at the time…used them and it just seemed like the best, one of the best ways to have students practice their clinical reasoning, making decisions, justifying rationale for why they would do certain things with certain clients… there's not a lot of other ways that you can address that.

Participant 6 agreed, stating:

> For me, it was just natural to do it that way, because I was a clinician before I came into education. We're training clinicians, we're training practitioners, and so they're going to be treating cases. I think that was just a natural way to teach because it was easy to bring in clients or experiences that I had had in the clinic and transition it into a learning experience.

Interview Questions 5–8: Implementation

In Questions 5 through 8, I asked participants to discuss the implementation of CBL relating to consideration when implementing cases, when in the learning process they implement case-based learning, and how they typically present the cases. In Question 9, I examined the impact of CBL techniques on students' participation and engagement, course grades, knowledge, retention of information, consolidation of information, and application of information. The theme that emerged from these questions was that CBL is effective in engaging students no matter how it is presented or when in the curriculum it is presented.

The way cases were presented was based on various considerations. The course and content that was being taught, the knowledge level of the students, and previous learning. Participant 6reported that when deciding which case to present, she considered the student's "current knowledge level regarding the background and foundational knowledge and whether the case was going to be appropriate for them." Participant 5 stated that she considers the topic then "finds a case to illustrate what is being studied." Participant 8 considers the students' "ability to engage in clinical reasoning and to apply their understanding of concepts to a case."

Participants reported using a wide variety of methods to present case studies to their students. Case studies were reportedly presented as written cases, paper-based instructor-led cases, computer or video cases, simulations or role-play, standardized patient cases, and real cases with real clients. Participant 7 stated, "I think I've done them all. Over time I've tried a bunch of different things. But what I find is most effective for me is paper-based instructor-led cases where I'm feeding them information." Participant 4 agreed, stating:

> So, it's a combination of all those. . . within the regular structure of the course content, and then also in remediation for students that have trouble. I often will look at, for example, YouTube videos that describe components or situations, and I'll use video demonstrations, or have patients that come in. Initially, I will do lecture content, and then CBL is basically implemented.

Participants also reported implementing CBL techniques at various points in the curriculum and/or class depending on what they were teaching. Several of the

participants start at midpoint or midterms "after they have the foundations from the content knowledge under their belts." Others start from the beginning and "sprinkle it throughout the entire course" or assign "a semester-long CBL project …. It's broken down into weeks or steps and they complete portions of it each week to turn in as a final project." All stated that they use it in most of their courses throughout their curriculum. Participant 4 stated, "it [case-based learning] goes from the beginning… then as we progress in the curriculum, we bring in multiple scenarios."

Participant 5 stated, “but it is every semester, so in their first semester they are doing some aspect of it. All participants were clear about their reasons for using cases and the methods they used to present the cases. Participant 4 reported using case-based methods to help students sustain focus and make clinical decisions. Participant 5 uses it to engage students and present information in a "way that sort of has a real-life context" while Participant 8 reported using a case to increase students' understanding of the OT process.

Interview Question 9: Impact on Student Engagement

In Question 9, I asked instructors to describe the impact of using CBL techniques on student engagement and participation, course grades, knowledge, retention of information, consolidation, and application of information, and when learning specialized techniques. All participants reported that CBL had a positive impact on student engagement and participation. Participant 2stated, "it makes it more meaningful for students, and so they become engaged, and they also understand why they're learning this."

Participant 7 reported, "the more clinical examples and cases that I can bring to the students, the more likely it is to spark that aha moment" and "the students obviously are going to be engaged if it's making sense to them or is it helps to clarify prior learning. So, it definitely drives engagement from my perspective." Participants 3, 5, and 6 discussed how CBL could increase engagement, especially when students work together on a case study. Participant 3 stated:

> I think if students are working in small groups or teams, when they're working on a case, then it allows an opportunity for them to be more engaged with each other, learning from each other, processing through the case together. So, I think that does allow them to be more engaged.

Participant 5stated, "I think it hooks them in. Especially if you're using a video or something where they're actually doing something." Participant 6 added, "I think that you get increased engagement because they have to take ownership of their learning because they're having to apply information."

None of the participants could definitively say that CBL had a significant impact on course grades, but several did feel that grades were affected. Participant 1stated:

> They always seem to do better, and I think that's because it facilitates hands-on interactions and we're starting to think through the whole process, not just "what if" type situations and so their grades are usually better, especially when it is a real client because I think they need to put a face to the client which makes them truly care and be empathetic in wanting to improve those clients' needs.

Participants 2 through 8 stated that they had not really analyzed whether the use

of CBL improved students' grades or looked for a correlation between improved grades and case-based learning. However, Participant 7 reported reaching more students when using the techniques, and Participant 2 felt that the use of the techniques was a more realistic evaluation of the students' abilities. Participant 6 reported, "I see a lot more critical thinking when I use a case, which in turn, is going to show better grades."

All participants felt that using CBL techniques significantly impacted students' knowledge, retention of information, consolidation of information, and application of information. Participant 1 stated:

> With case-based, you're putting it in context, and that helps them think about what to do for this person. This person likes to cook, but they have hemiparesis…since you're putting it in a context that guides them and really enhances their knowledge because then it is no longer just a topic of hemiparesis. Its hemiparesis in a mother who has a newborn baby. And so, that really facilitates their knowledge and fuels their curiosity …they're going home on their own and doing additional research because it's a person now. It's those hands-on experiences or those real-life scenarios that they're going to remember. I can lecture all day, and the next week they don't have a clue what I said, but when we go over case-based situations, they will recall it next week.

Participant 8 agreed, stating, "It gives them a trigger to remember information." Participant 7 added, "…then they are able to draw upon it, carry it forward in another context. So, when those things happen, I think that the case provides a nice concrete anchor point for the students." Participant 2 agreed, adding:

> When the students really apply it that's when I see them remember it the most... we see them not just kind of like taking the test and then putting it away and forgetting it, we see them applying it across contexts and situations and retaining it more.

Participant 4 concurred, stating:

> I do what's called case-based competencies. I've found that there's more depth of understanding… it's breaking it down, not at just that superficial level. I feel like that's where the CBL provides multiple experiences for them to draw on, and see things aren't done in a cookie-cutter way.

Participant 1 agreed, stating, "you're not going to do the same things for every person." This participant added:

> It does depend on their occupations, their ADLs, what's meaningful to them. So, if they see a person with hemiparesis who is a mom with a newborn versus a 60-year old with hemiparesis who's retired, they're starting to see that those scenarios, those occupations are going to be completely different. Before I did case-based learning, I would just explain things like vestibular rehab or kinesiotaping, and there wasn't any context for them to understand it, so they struggled to apply it and knowing when to use it. But once we put it in this scenario, whether a real-life scenario or a video, they had their light bulb or aha moments.

Participant 6 felt that case-based learning, including serial cases, was critical in assessing knowledge.

> I think it's important to have cases that build on each other. They can take a little bit of information and apply it, then once there's been retention of that information, you make another case that has a different component, and change it up a little bit, but still have an underlying base foundation. Overall, I do think it helps them to retain that information because they're building on it. Then, when you have special techniques or special skills that you want them to use, you can slowly implement those into cases. With the case study, they're able to show what they know and how they know it.

Interview Questions 10: Student Reactions

In Question 10 the researcher asked participants to discuss student reactions to the use of CBL in the classroom. All participants agreed that students enjoyed and appreciated the use of case-based learning. The theme that emerged from this question was that students appreciate CBL strategies, as evidenced by their response to its use. Participant 1 reported, "they all seem to enjoy it and…I have more overall participation." Participant 6 agreed, stating, "At first they're overwhelmed, but by the end they prefer it." Participant 4 stated, "students have asked for it in the past... they've said we want to be able to understand, we don't want to go out into fieldwork, and not feel like we can problem solve."

Participant 7 stated, "I think that they really enjoy it because again it just makes the content more real for them. I always have a very positive response to it." This participant added, "I wrote a textbook recently and, in each chapter, I put cases…and the reason I wrote it that way is because I know how much the student s value it." Participant

5 concluded, "I think they tend to like it. They see it more as hands-on, more real, applicable to what they're going to be doing."

Interview Question 11: Comparison

In Question 11, I asked participants to compare CBL to other active learning techniques/strategies they implement in the classroom. The theme that emerged from this question was although professors used other active learning techniques, CBL was used more often and felt to be more effective.

Participant 2 also does "a lot of problem-based learning (PBL)" and stated:

> I really enjoy case-based because it, again it comes back to context. Once they understand the context, they start to see the application, whereas other strategies that I use don't really help them with the application process. But to be able to understand the application for a specific context is what makes them a good therapist.

Participant 7 preferred using CBL over other active learning strategies. This participant stated:

> I think that I prefer case-based techniques as opposed to other kinds of learning activities. I have colleagues that do many different kinds of things you know in order to help deliver their content, but using cases is just my preference. I'm a clinician in my heart. I came into academia second, so I find it’s really easy and natural for me to just talk about cases as opposed to using other kinds of pedagogical approaches and activities… this matches up with who I am as a clinician.

Participant 3 stated, "I feel like case-based is probably one of the most closely related to real practice…. it's more directly preparing the student to be a clinician versus some of the other active learning strategies. Participant 4 felt that:

> CBL puts more onus on the student to produce, to be able to determine what's clinically relevant, and most appropriate. I feel like that while the other methods are beneficial, CBL is streamlined for them to make clinical decisions. Whereas I feel like other active learning strategies are often used to maintain student engagement and attention, CBL has a two-fold effect, to do that active learning component, focus clinical reasoning.

Other participants reported that CBL techniques were "comparable" to other active learning techniques and "has its place when you're applying knowledge for client-centered care (Participant 8). Participant 8 also stated, "at those higher Bloom's taxonomy levels, where they're having to do some clinical reasoning and, on your feet, thinking, that's when CBL works the best." Participant 6felt that CBL was:

> A tool in your toolbox that you can use to present real-life situations and help them improve critical thinking skills, but I think there are other things that you could do to improve critical thinking skills too. But it has the pro of better preparing them for what practice is truly like.

Brainstorming Activity

The Brainstorming Activity was used to support the participants' use of CBL techniques. I asked participants to complete a paper/pencil brainstorming activity that provided an example of how the participant incorporates CBL into their classroom. In

Question 1, I asked participants to list a topic they were currently teaching in their classrooms provide an example of a case study that could be used to enhance student learning on the subject. In Question2, I asked participants how they would incorporate the case study into the class. Four of the participants stated they would introduce the case study utilizing a real client, two would use simulation, and two would use a paper-based case. Two participants indicated that they would also incorporate the case using a combination of methods. The original approach would be enhanced with paper-based reflection and class/group discussion. The methods reported matched the methods participants reported they use in the classroom setting.

In Question 3, I asked participants to discuss the factors they would need to consider when deciding how to implement the case. Considerations included the knowledge level of students. The case study presentation method would depend on how much material had been presented to students in prior sessions. Another factor was timing and the flexibility of the client, which would include the time of day/class, location, and the number of students in the class. One participant stated that "class size is a primary factor that makes CBL challenging." The ability of students to connect with clients is also a consideration and includes the time needed to provide viable, valuable feedback. A final consideration was the availability of clients and space. If using real clients, how many are required, and if using video, does it apply to the content previously learned?

In Question 4, I asked participants if students would need additional preparation and what the preparation would involve. Five of the participants stated that additional

student preparation would be required before implementing the case, whereas three felt that previous knowledge would be sufficient. One participant said that "cases would also be scheduled and timed to encourage the ability of the student to utilize all possible resources."

In the last question of the brainstorming activity, I asked participants to discuss the educational benefits that students would gain from completing the case study. Participants' answers to this question supported the participants' reports of reasons why they use CBL techniques in the classroom. Answers included:

- increased understanding of the topic
- increased competence in planning, executing, and reflection on the topic
- increased clinical reasoning and professional competence
- engagement, retention, participation, hands-on experience, increased insight
- real-life experience
- clinical reasoning, problem-solving, anticipation of real-life challenges in the field, preparation for becoming an EBP
- improved observation and clinical reasoning skills, ability to apply concepts of activity analysis, across the lifespan and within the context of varied occupations
- the actual practice of skills to be used as an OT
- application, understanding that the OT process can't be reduced to simplistic or formulaic intervention planning and responses.
- having an instructor-driven delivery format that provides more dynamic detail than the instructor can provide during the learning process, which helps students

learn the vital process of clinical reasoning and 'uncovering' pertinent case details in a theory-driven approach.

- improvement in the ability to gather and organize an intervention program promptly.
- reflective of the conditions most likely to be seen in a clinical environment

Reflective Journal

Participants were also asked to complete a reflective journal entry that summarized and clarified their experiences and perceptions on the use of CBL techniques. The journal entry reflected the last time that they used CBL in the classroom. The answers, like the Brainstorming Activity, supported the participant's reasoning for and use of CBL techniques (See Table 3 for a comparison of data points).

In Question 1, I asked participants how they presented the case-study. Participants' answers matched the methods participants reported they use in the classroom setting. Responses included paper format, a written case from a textbook, electronic in-class discussion, role-play or video simulation, and real clients. In Question 2, I asked participants to discuss at which point in the learning process presented the case study and why. Participants reported presenting case studies at the end as culminating activities that incorporated all aspects of content learned throughout the course. Participants presented case studies at the midterm or midpoint as an application of didactic content presented earlier in the course and to maintain student engagement. Participants also reported presenting different cases throughout the course.

I asked participants to discuss whether they achieved the goals they wanted to accomplish during the learning episode in Question 3. All participants reported meeting the goals of the learning episode. Participant 3e documented that the purpose of the learning episode was to provide an opportunity for students to demonstrate clinical reasoning related to different settings and diagnoses. This participant reported that the goal was met, as evidenced by all students receiving a passing grade on the assignment. Participant 6 documented that the goal was to evaluate the students' ability to apply the OT process to an adult patient, and this goal was met as evidenced by student demonstration of knowledge of learned material. This participant also stated that the use of a case-study "revealed areas to emphasize in future classes."

In Question 4 I asked participants to discuss students' reactions to the learning episode. The answers to this question supported the participants' reports that students enjoy and appreciate the use of case-based learning. Participant 1 reported that "feedback from the students was very positive, and students enjoyed client interaction, saying that it helped them put the occupational profile in context." Participant 5 documented that "students were initially anxious but once started they really enjoyed it, assumed their assigned roles enthusiastically, and had well thought out progression through their assigned case." Participants 7, 2, 4, and 8 all documented that the students enjoyed the learning episode and commented (students) "were proud of their ability to apply knowledge", "there were even some aha moments", (students) "demonstrated more depth of understanding", and "they responded positively to the case example as it reflected 'real world' type of learning."

In the final question, I focused on whether the learning episode shared in the reflective journal entry was typical of the way participants normally utilize CBL techniques. Five of the participants reported that the learning episode represented the way they usually use CBL techniques. One participant stated it was similar, but included more content than normal, another stated they normally present in paper format but presented this learning episode via role-play/simulation, and one participant normally presents video or live client cases but used a paper case for this learning episode.

Summary

This chapter included a description of the study's setting, demographics, data collection methods, data analysis methods, a discussion of the evidence of trustworthiness, study results, and discrepant data. The research design I selected for this qualitative study was a single case study that explored OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning.

I recruited participants from various universities across the United States, and conducted interviews in person at a hotel, in person in my office, or via FaceTime. I used a snowballing technique to recruit participants via email who taught in various OT programs across the country. I posted a recruitment flyer in the study recruitment section of an OT professional organization. Eight potential participants responded to the emails and participated in the study, but no potential participants responded to the recruitment flyer or to further snowballing attempts.

I collected data via semistructured interviews, a brainstorming activity, and a reflective journal entry. I transcribed interviews verbatim and analyzed data through coding and content analysis to develop six themes that informed study findings. I ensured the trustworthiness of the current study through strategies including de-identification of information, one uniform interview guide, member checking, triangulation, audit trails, thick description to provide detailed reports of the settings, participants, data collection, and data analysis procedures, and sampling strategies that allowed for variation in participant selection.

I analyzed the results by interview questions, brainstorming activity questions, and reflective journal entry prompt. There were six themes identified from this analysis:

Theme 1: Role of Life Experience in Student Engagement. In this study, I found that younger students with little to no life experience were more difficult to engage and needed more mentoring than older students with more life experience. This theme is linked to Interview Questions 1 and 2.

Theme 2: Real-life Context. In this study, I found that CBL resembles OT practice by giving students a real-life context. This theme is linked to Interview Questions 3 and4, brainstorming activity Question 2, and reflective journal entry Question 1.

Theme 3: Natural Way to Learn and Teach. In this study, I found that CBL was considered a natural way to learn and teach clinical skills. This theme is linked to interview Questions 5through 8, brainstorming activity Questions 2and 3, and reflective journal entry Questions 2 and 3.

Theme 4: Student Engagement. In this study, participants described CBL as effective in engaging students no matter how it was presented or when in the curriculum it was presented. This theme is linked to interview Question 9, brainstorming activity Questions 3 and 5, and reflective journal entry Question 3.

Theme 5: Student Motivation. These instructors identified that students appreciate CBL strategies as evidenced by their response to its use. This theme is linked to interview Question 10 and reflective journal entry Question 4.

Theme 6: Active Learning Instructional Strategies. In this study, I found that although professors used other active learning techniques, CBL was used more often and felt to be more effective. This theme is linked to interview Question 11and reflective journal entry Questions 3 and 5.

In Chapter 5, I will the results of this study with the literature. I will discuss the limitations of the study and make recommendations for further study. I will also discuss the implications of the results and data.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this qualitative case study was to explore OT instructors' perceptions and experiences when using active learning strategies in the classroom. In this study, I focused specifically on instructors' perspectives and experiences with case-based learning. I designed this study to fill a gap in understanding by focusing specifically on the active learning strategies of CBL that could be used to increase student engagement in OT curriculums. In this qualitative case study, I explored OT instructors' perspectives and experiences with using CBL via interviews, a brainstorming activity, and a reflective journal entry. Six common themes emerged from the interviews and were supported and reinforced by the brainstorming activity and reflective journal.

The first theme was that younger students with little to no life experience were more difficult to engage and needed more mentoring than older students with more life experience. The second theme was that instructors felt CBL resembled OT practice by giving students a real-life context. The third theme was that CBL was considered a natural way to learn and teach clinical skills in the classroom. The fourth theme was that instructors perceived CBL as effective in engaging students no matter how it was presented or when in the curriculum it was presented. The fifth theme was that the instructors' viewed that students appreciate CBL strategies, as evidenced by their response to its use. The sixth and final theme was that although professors used other active learning techniques, CBL was used more often and felt to be more effective. These

themes supported the use of CBL to increase student engagement and participation in OT classrooms.

Interpretation of Findings

In recent years, declining student engagement and participation have resulted in limited comprehension of content knowledge and has driven the search for alternative teaching and learning strategies for OT students (Nott, 2015). While CBL is not a new concept for OT instructors, it has not been explicitly linked to increasing clinical reasoning in OT (Boyt Schell & Schell, 2008; Falk-Kessler & Ciaravino, 2006; Lederer, 2007; Mattingly, 1991; Murphy & Stav, 2018; Rogers, 1983; Unsworth & Baker, 2016; Vogel, Geelhoed, Grice, & Murphy, 2009) nor has it been proven to increase student engagement and participation.

Previous studies found that learners retain very little and are often unable to apply what they heard in lectures. Wolff, Wagner, Poznanski, Schiller, and Santen (2015) suggested active learning strategies, including case-based learning, could be used to increase retention and facilitate knowledge transfer to improve patient care, result in more meaningful learning, and can be used to increase learner engagement. Grenier (2015) found that educators who encouraged active student participation were viewed as facilitating the learning process as students felt regular, constructive feedback was a key learning tool. The findings from the current study agreed with this suggestion as instructors perceived that CBL had a positive impact on retention and application of knowledge as well as student engagement.

Theme 1: Role of Life Experience in Student Engagement

Previous studies suggest that current traditional students learn differently from previous generations. Hills, Boshoff, Gilbert-Hunt, Ryan, and Smith (2015) found that Generation Y students are goal-oriented, prefer a hands-on approach to learning, and like tasks that can be completed quickly. They found that these students also were easily bored, self-focused, had difficulty with time management, difficulty engaging in more in-depth learning, tended to take a skimming approach to information gathering, lacked effective clinical reasoning, lacked attention to detail, displayed poor ability to reflect and had difficulty accepting criticism and feedback. In the current study, I found parallels to previous findings. In Theme 1, younger students with little to no life experience were found to be more difficult to engage and needed more mentoring than older students with more life experience.

Themes 2 and 3: Real-life Context

Schaber (2014) stated that active learning incorporates the key tenets of professional practice by applying the OT process. Knecht-Sabres et al. (2013) required students to consider the entire OT process for each clinical case scenario, including conducting an OT evaluation, implementing OT intervention, or training the family before discharge. The authors found that these methods enhanced students' self-perception of their level of comfort and skill on essential OT-related competencies. They suggested that the use of a series of complex and progressively challenging client cases, opportunities that foster sound clinical reasoning skills, and the application of the OT

process improved students' perception of their clinical reasoning and their level of comfort and skill required for current practice**.**

Shaber et al. (2012) and Goldbach and Stella (2017) respectively, suggested that in OT education, the OT process can be replicated by applying it to students by allowing them to learn by doing and engaging students in the OT process with volunteer clients allowed students to apply concepts learned in didactic coursework through simulated clinical practice experiences and increased their perceptions of preparedness for Level II fieldwork. Themes 2 and 3 of this study support the previous studies' findings as instructors perceived that CBL resembled OT practice by giving students a real-life context and that CBL was considered a natural way to learn and teach clinical skills in the classroom.

Theme 4: Student Engagement

The fourth theme suggested that instructors perceived CB Las effective in engaging students no matter how it was presented or when in the curriculum it was presented. This supports Kulak et al.'s (2017) suggestion that the types of CBL vary in terms of the nature of material provided, the method of presentation of case material, the amount of direction provided, and the level of need for expert facilitation. The fourth theme also supports Lysaght and Bent's (2005) finding. The authors suggested that the modality used to present case studies appeared to be less influential than the strengths of the overall instructional format, along with the amount and type of information provided as authentic cases expose students to experiences they may face in fieldwork and professional practice. Practitioners and researchers found benefits in using various types

of case-based methods. Cahill (2015) used case studies involving simulated patients and found that students reported the experiences felt real and helped them to think deeper. Video cases were found to be beneficial when used to conceptualize difficult topics, promote critical reflection, and foster more in-depth learning in studies by Giles, Annan, Gober, and Greene (2018), Hund and Getrich (2015), and Kay (2012).

Giles et al. (2018) and McAlister (2014) found that OT students reported increased confidence when using video cases. Nicola-Richmond and Watchorn (2018) found paper-based case studies as learning tools were positively viewed by students. Still, web-based case studies provided participants with experiences that were more real, evoked greater empathy, and allowed participants to develop greater self-perceived information gathering and assessment skills. These studies are supported by Theme 4 as instructors perceived CBL as effective in engaging students no matter how it was presented or when in the curriculum it was presented.

Theme 5: Positive Student Response

In previous studies, authors have suggested that students have a role in engagement. Fry et al. (2015, p.22) stated that "students in higher education must engage with and take considerable responsibility for their learning." Dismore, Turner, and Huang (2019) found that most educators feel that engagement requires commitment from the student as well as the teacher. Lekwa, Reddy, and Shernoff (2019) agreed, finding that one of the factors impacting student learning outcomes is the degree of student attention and participation in learning activities. CBL was found to support student learning, engagement, and participation. Kulak et al. (2017) suggested that CBL encourages

students to be accountable for their learning to develop critical thinking and transferable skills required outside of the classroom. Grimes (2019) stated that case studies push students to think about problems with unclear answers, devise their process for learning content, and guide themselves rather than rely on instructor guidance.

Mangram, Haddix, Ochanji, and Masingila (2015) also found that active learning strategies allow students to develop a more in-depth, clearer meaning and understanding of what they are taught. Grenier (2015) found that students preferred educational opportunities where educators encouraged discussion, allowed independence while providing guidance, took advantage of teachable moments, and modeled intervention. Grenier also found that students felt assignments aimed at developing OT skills were considered positive learning experiences. The fifth theme supported the instructors' views that students appreciate CBL strategies as evidenced by their response to its use

Theme 6: Active Learning Instructional Strategies

Active learning instructional strategies can include simulations, peer teaching, project-based learning, flipped classroom, class discussion, problem-based learning, collaborative testing, case studies, and many other strategies. According to Mangram et al. (2015), the method of active learning a teacher chooses will depend upon the situation. Many instructors in this study voiced a preference for using CBL strategies. Many reported that they and their colleagues also used other strategies such as problem-based learning, flipped classroom, think-pair-share, discussions, journal clubs, test wrappers, reflections, and team-based learning. Several of the instructors perceived that CBL was

either “one of the tools used in their toolbox” or that it was “comparable” to other active learning methods. Overall, instructors reported using case-based methods more than other methods to increase engagement and participation. Theme 6 illuminated the fact that although professors used other active learning techniques, CBL was used more often and was felt to be more effective.

Conceptual Framework

This study was based on several theories, including the theory of adult learning or andragogy, experiential learning theory, the transformative learning theory, and situated learning. Theorists who created these theories focused specifically on adult learners and detailed how and why adults learn in classroom and life situations. Each theorist suggested that experience and active learning strategies are essential to the learning process and should promote student engagement in educational curriculums including OT curriculums. Themes from the study supported the use of the theories as a conceptual framework for the study.

Several themes supported the previous literature and the use of the adult learning theory. Knowles et al., (1998) and Ozuah (2016) suggested that in the adult learning theory, adults need to know the value of what they are learning, they bring experience into the learning situation. Their orientation to learning is problem-centered, task-centered, or life-centered. Themes 1, 2 and t3 support the adult learning theory as life experience was found to be a factor in engagement (Theme 1), CBL resembled OT practice by giving students a real-life context (Theme 2), and instructors perceived CBL as a natural way to learn and teach clinical skills (Theme 3).

Three themes that emerged from the data supported previous literature and the use of the experiential learning theory. Fry, Ketteridge, and Marshall (2015), Hill (2017), and Kolb (1984) suggested that experiential learning enabled students to learn through doing, 'hands-on practice,' and 'reflection.' Battaglia (2016) also suggested that active learning and teacher-student relationships are emphasized in OT curriculums through the modeling and feedback that shapes behaviors and promotes skill development. Themes 2,3, and5 support the use of experiential learning in OT classrooms.

Two themes that emerged from the data supported previous literature and the use of the transformational learning theory. Caffarella (1999) suggested that learning takes place in stages as transformation occurs. Stansberry and Kymes (2007) and Bouchard (2018) concurred, suggesting that transformative learning takes place through experience, reflection, and discourse when learners make choices or act based on the new understandings. Transformational learning is supported by Themes 1 and 5.

All six themes that emerged from the data supported previous literature and the use of the situated learning theory. Nicolini, Scarbrough, and Gracheva (2016) suggested that participation is necessary for learning and that situated learning is related to engagement, belonging, inclusiveness, and developing identities. Clarke, de Visser, and Sadlo (2019) found that the planning of and carrying out OT interventions increased student awareness of self and moved them from peripheral to central participation as they took responsibility for developing within their role. Situated learning aligns with OT curriculums, as fieldwork experiences can be considered legitimate peripheral participation.

Limitations of the Study

I addressed n limitations, challenges, and barriers that could potentially impact this study in Chapter 1. The first limitation was related to the number of participants. Ravitch and Carl (2016, p. 128) stated that qualitative researchers "deliberately select individuals because of their unique ability to answer the study's research questions." The recruitment methods yielded eight participants. This small sample size may not reflect the perceptions and experiences of most OT instructors. I addressed this limitation using thick description to provide detailed descriptions of the settings, participants, data collection, and data analysis procedures. I used sampling strategies that allowed for variation in participant selection by recruiting from all programs, so that private, public, hybrid, and online programs had the potential to be represented. Richer findings may have resulted in a larger sample size.

The second limitation was related to data collection and analysis. I was a professor in an OT program and actively used CBL strategies in the classroom. This presented a potential bias. I addressed this limitation by using member checking, triangulation, audit trails, use of a uniform interview guide with prompts for all participants, and incorporation of exact quotes to confirm the alignment between the text, codes, and themes.

Recommendations

Recommendations for future research are based on study-related results and the literature reviewed in chapter two. The first recommendation is to conduct additional

studies on how CBL compares to other learning strategies in increasing student engagement and/or critical thinking skills. OT instructors would benefit from the study as it would help them to determine which teaching strategies increase engagement and critical thinking. This information could help guide instructors' decisions regarding which teaching strategies will be more beneficial to implement to engage students based on their learning needs.

The second recommendation would be a longitudinal study of how CBL techniques impact grades and/or critical thinking skills. There was a paucity of literature on the actual impact on grades and critical thinking skills, but the literature suggests that there is an impact on both. Instructors would benefit from this study as it would inform decisions on when to use CBL strategies. Whether the instructors' focus is to increase student knowledge, critical thinking, or to determine the amount of learning through improved grades, further knowledge in this area would be beneficial.

The third recommendation would be to do a study with a larger sample size that is representative of more regions or states. The current study had a small sample size of 8 participants who represented six states within the U.S. Because there are OT programs throughout the U.S., a larger sample size that represents more OT programs could yield richer information. This information may yield variations on the use of CBL that were not explored in the current study.

Implications

This study may contribute to positive social change on various levels. OT instructors, students, future OT clients, and society may potentially benefit from study

results. OT instructors deal with the problem of declining student engagement and participation in the classroom. When students are not engaged, learning is impacted. The results of this study may promote positive social change by helping instructors better prepare students by using teaching and learning strategies that engage them in the learning process. The results indicated that CBL strategies used by instructors can impact students' critical thinking skills, knowledge retention, and application of knowledge. When OT students are engaged in the learning process, they will be prepared to employ evidence-based practice to provide effective interventions during fieldwork and professional practice.

Future OT clients will benefit when students are prepared educationally and clinically to provide effective interventions. Effective OT interventions ultimately lead to better client care that will positively impact clients' health, function, and well-being. OT graduates need to be effective in clinical settings to support the future occupational needs of society. Students who are well prepared can deliver services that benefit clients by ensuring that they can successfully participate in the daily activities and occupations they need to do, want to do, or have to do (AOTA, n.d.). This benefits society by promoting increased health and wellbeing of people of all ages, regardless of disease or disability, which is the goal of OT intervention.

Conclusion

OT instructors who participated in this study shared their experiences and perceptions of using CBL techniques in the classroom. Preparing future OT graduates to become effective in professional practice is vital to supporting the future occupational

needs of society. When declining student engagement and participation in the learning process impact learning, instructors are not able to adequately prepare students for clinical rotations or practice. Participants in this study illuminated how CBL techniques can impact student engagement and participation.

The participants also shared how CBL can impact other areas of student learning, including increasing knowledge, application of knowledge, student confidence, and preparedness for future practice. The themes that emerged during this study indicate that case-based teaching and learning strategies are beneficial to increasing student engagement and participation in OT curriculums. Results indicated that participants felt that the use of these strategies resembled OT practice by providing a real-world or real-life context to the learning process. Because of this real-life context and resemblance to actual practice, instructors perceived CBL as a natural way to teach and for students to learn clinical skills in the classroom. The participants found in their experiences that students appreciate the use of CBL strategies. Although presentation methods varied, as participants used paper cases, simulations, role-play, video cases, or real clients, students were found to be engaged in and participated in class when these methods were used.

Although participants admitted to using other teaching strategies in the classroom, most participants perceived that CBL strategies were more effective in increasing engagement and participation. It should be noted that several of the methods that participants used were incorporated or could be incorporated into the CBL strategies. All themes that emerged supported the use of CBL to increase student engagement and participation in OT classrooms. Overall, participants perceived that, in their experiences,

CBL was an effective learning strategy for increasing student engagement and participation in OT curriculums and classrooms.

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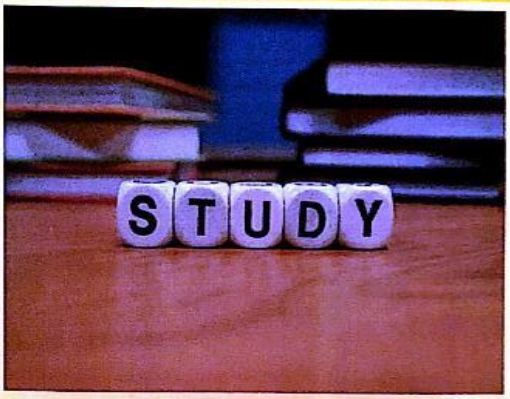
Appendix A: Recruitment Flyer

Invitation to Participate in a Research Study

Study Title:
Instructor Perspectives on Case-based Learning Strategies and Student Engagement in Occupational Therapy Curriculums

Purpose of the Study

The purpose of this study is to explore occupational therapy instructors' perceptions and experiences when using active learning strategies in the classroom. The study will focus specifically on instructors' perspectives and experiences with case-based learn-



Are you eligible?

Do you meet the following criteria?

- Are you a registered occupational therapist (OTR) working in the United States?
- Are you a faculty member or former faculty member in an occupational therapy or occupational therapy assistant program?
- Do you have at least three years of experience teaching in an occupational therapy curriculum?
- Do you actively utilize case-based learning techniques/strategies in classes taught in the OT curriculum or did you use the techniques when teaching?

Procedures

If you agree to be in this study, you will be asked to do the following:

- Participate in a 45 to 60-minute interview to share your perspectives on and experiences with case-based learning in your classroom.
- Complete a 5-10 minute brainstorming activity that supports your use of case-cased learning techniques
- Complete a reflective journal entry that summarizes your last case based learning episode

If you are interested in participating and you meet the requirements, call or email the researcher:

Pamela Lewis-Kipkulei
PhD Student
Walden University
pamela.lewis-kipkulei@waldenu.edu
(901) 355-1117

Benefits

There are no financial incentives for participation in this study. Participation is voluntary.

Appendix B: Interview Guide

Good morning/afternoon _____. Thank you for agreeing to participate in the research study titled: Instructor Perspectives on CBL Strategies and Student Engagement in OT Curriculums. You were selected to participate because you meet the inclusion criteria for the study that includes:

1. You are a registered occupational therapist (OTR) working in the United States
2. You are a faculty member or former faculty member in an OT or OT assistant program
3. You have at least three years or more experience teaching in an OT curriculum
4. You actively utilize CBL techniques/strategies in classes taught in the OT curriculum or actively used the techniques when teaching
5. You over 18 years of age
6. You can provide informed consent.

The study proposes to answer the research question: What are the perceptions and experiences of OT instructors who use CBL strategies in their classrooms? Just a reminder, I will be audiotaping the interview today. When you are ready, we will get started.

Interview Questions

Demographics

1. What is your full name?

2. How do you classify your sex/gender?

3. What is your professional designation?

4. What is your age?

5. What is your current place of employment?

6. What is your current position?

7. How many years have you been an OT educator?

Questions

1. Please describe the generational break-down of the students in your

program/classroom:

   a. Baby boomers: Born 1946-1964
   b. Generation X: 1965-1980
   c. Generation Y or Millennials: 1981-1996

2. How would you characterize the level of student engagement and participation in your program/classroom? Prompt: Could you tell me a little about the differences in student engagement between the generations?
3. Why do you use CBL techniques?
4. How did you become interested in using CBL strategies?

   Prompt: Can you describe any training you have had in using CBL?
5. How are you implementing CBL?

   Prompt: What are the most important things you consider when implementing CBL in your classroom?
6. At what point in the learning process do you implement case studies/case base-learning techniques?

   Prompt: Can you clarify whether you implement the techniques at the beginning, throughout, end, or other times during the course?
7. How do you typically present the cases?

   Prompt: Can you tell me whether you present paper cases, computer or video cases, simulation, real cases, or standardized patient cases?
8. Why do you use this method to present cases?

   Prompt: Can you describe any other methods of presentation that you use?

9. What has been the impact of the use of CBL techniques on the following:
    a. Student engagement and participation
    b. Course grades
    c. Knowledge
    d. Retention of information
    e. Consolidation and application of information
    f. Learning special techniques
10. How do your students react to the use of this technique?
11. How does the use of CBL techniques compare to other active learning techniques/strategies you implement in the classroom?
12. Please give one or two examples of how you have utilized CBL in the classroom and your results with the experience.
13. Is there anything else you would like to share regarding your experiences in using CBL?

Thank you for sharing your experiences and perceptions. You have provided some great information and examples regarding your use of CBL techniques. If you think of anything else you would like to add, please contact me at (901) 355-1117.

Appendix C: Brainstorming Activity

Instructions: Now that you have discussed your use of CBL techniques, please take 5-10 minutes to complete this brainstorming activity.

1. Think about what you are currently teaching in one of your classes. List the topic and provide an example of a case study that could be used to enhance student learning on this subject.

2. How will you incorporate this case study into the class? Will it be computerized, simulation, paper-based, or a real client?

3. What factors will you need to consider when deciding how to implement this case?

4. Would your students need additional preparation to complete the case study or would previously gained knowledge be sufficient? If additional preparation is needed, what would it involve?

5. What educational benefits will your students gain from completing this case study?

Appendix D: Reflective Journal Entry Prompt

Prompt: Please reflect on the last time you used CBL techniques in the classroom. Answer the following 5 questions:

1. **How did you present the case-study? Paper, video, simulation, other?**

2. **At which point in the learning process did you present the case study? Beginning, mid-point, end, or throughout the course? Why?**

3. **Did you achieve the goals you wanted to achieve? (please state your goal for using the case-study and whether this goal was achieved during the learning episode)**

4. **How did your students react to the learning episode?**

5. **Was this learning episode typical of the way you normally utilize CBL techniques? If not, how was it different?**