2023

Asynchronous Online Telehealth Training: Occupational Therapist's Perceptions Of Knowledge and Confidence

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ASYNCHRONOUS ONLINE TELEHEALTH TRAINING: OCCUPATIONAL THERAPIST'S PERCEPTIONS OF KNOWLEDGE AND CONFIDENCE

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Occupational Therapy

Eastern Kentucky University
College of Health Sciences
Department of Occupational Science and Occupational Therapy

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2023

Executive Summary

Background: COVID-19 highlighted knowledge and skills gaps that existed between occupational therapy education and practice when using telehealth due to the abrupt and forced adoption of telehealth to provide services during the pandemic. This led to a lack of confidence for therapists providing telehealth services. Therefore, this gap in knowledge and confidence needs to be addressed by employers of clinicians providing telehealth services.

Purpose: The purpose of this study was to investigate the effectiveness of an asynchronous online training module in increasing self-reported knowledge and feelings of confidence in occupational therapy clinicians utilizing telehealth with the pediatric population.

Theoretical Framework: This study was guided by the Model of Human Occupation and Knowles' Theory of Adult Learning. The Model of Human Occupation guided the design of the overall project incorporating the concepts of volition, habituation, and performance capacity as being impacted by the training module leading to a change in occupational performance of clinicians engaging in telehealth. Knowles' Theory of Adult Learning guided the design of the online training module to create an educational experience most suited to adult learners.

Methods: This project was designed and implemented to provide continuing education and training on the use of telehealth with the pediatric population. A quantitative pre-experimental pre-posttest design was used in this research project. A survey designed by the researcher to reflect the content of the training module was used to evaluate the extent in which the module impacted therapist's perceived knowledge and feelings of confidence with the use of telehealth after completion of the training module. Reliability and validity of the survey tool and content module was established. Pre and posttest surveys were emailed to occupational therapists working for Associates in Pediatric Therapy who met the inclusion criteria for the study. Pre and posttest data was examined to determine the impact the training module had on therapist's perceived knowledge and confidence.

Results: This project was completed with 13 occupational therapists. Quantitative data revealed that the objectives of this study were met. The mean for scores related to perceived knowledge on the pre and posttest survey increased by 9.4 increasing from 37.8 to 47.2 and the mean for perceived confidence increased by 8.3 point increasing from 36.9 to 45.2 The paired T- test completed on the scores from the pre and posttest for perceived knowledge and confidence revealed a p value of <.001 indicating a statistically significant increase for both sets of data. Based on these findings, the online training module was found to be effective in increasing occupational therapy clinicians' perceived knowledge and confidence when implementing telehealth with the pediatric population.

Conclusions: Outcomes show that the online telehealth training module had a positive impact on therapist's perceived knowledge and confidence. This study provides a bridge to build upon to continue to address the knowledge and skills gaps that are evident in the literature in relation to clinicians' practice of telehealth. This study has implications for the field of occupational therapy and provides evidence to support the effectiveness of asynchronous online training modules for education and training of occupational therapy clinicians. The implications also support the need for employers to better prepare their clinicians to provide telehealth services through additional training.

Acknowledgements

First and foremost, thank you to my capstone committee. Dr. Susan Skees Hermes and Dr. Shirley O'Brien, your support, time, and knowledge made this project possible. I could not have done this without your invaluable input throughout this process. I would also like to thank my supervisor at Associates in Pediatric Therapy, Tori Hutchins, who supported me throughout this process and was my mentor during my ALE project. Thank you to the Noel Studio consultants for their assistance and style suggestions for this project. Thank you to my co-workers who participated in the training modules and completed the surveys. Lastly, this project would not have been possible without the endless support and encouragement from my family and friends, I am forever grateful to you.

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CERTIFICATION OF AUTHORSHIP

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Title of Submission: _Asynchronous Online Telehealth Training: Occupational Therapist's Perceptions of Knowledge and Confidence_____

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Date of Submission: ___05/09/2023_____

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Introduction

With the rapid increase in the use of telehealth due to the COVID-19 pandemic and the shift in the use of telehealth on a consistent basis, it has become evident that there is a lack of education and training for occupational therapists working in pediatrics on best practices for utilizing telehealth as a service delivery model. Prior to the COVID-19 pandemic, telehealth was rarely used by occupational therapists in early intervention and outpatient pediatrics (Allen-McHugh & Schleg, 2022; Wittmeier et al., 2022). During the pandemic, clinicians were obligated to provide telehealth services regardless of their acceptance or preference of telehealth and often with limited education, training, and infrastructure (Douglass et al., 2023). Soba et al. (2022) and Wittmeier et al. (2022) noted that when the rapid transition to telehealth occurred during the pandemic therapists were met with challenges of providing quality evidenced-based virtual intervention to their pediatric clients due to limited formal training and academic resources for telehealth related to anything other than rural population, adults, and medical appointments. Soba et al. (2022) noted that a major barrier to implementing effective telehealth sessions was the inability of the therapist to guide a session using video. Therapists mostly relied on trial and error and learning from colleagues about what worked when initially providing services via telehealth (Wittmeier et al., 2022). Wittmeier et al. (2022) identified the need for skill development and refinement as one of three major themes when interviewing pediatric occupational and physical therapists about the transition to telehealth during the pandemic. Allen-McHugh and Schleg (2022) found that occupational and physical therapists working in early intervention identified a need for continued education and training in the use of telehealth and felt they needed more support in the identified areas of webinars, IT support, mentoring, and in person training. The study findings indicate there are specific knowledge and skills gaps that

must be addressed for the use of telehealth in the pediatric population to be effective and efficient. The effectiveness of education and training on the use of telehealth with pediatric clients as well as the best structure to provide this training in a way that meets the needs of clinicians must be investigated.

This capstone project addressed the deficits in knowledge and confidence for pediatric occupational therapists providing telehealth by investigating the effectiveness of an online training module on occupational therapist's self-reported knowledge and confidence with implementing telehealth services with the pediatric population after the COVID-19 pandemic, and the forced change in the healthcare service delivery. This research project provided necessary information to promote the use of an online training module to increase knowledge and confidence of occupational therapists when providing services via telehealth. By impacting occupational therapists' perceptions of knowledge and confidence with delivering services via telehealth, the quality of occupational therapy services provided will be increased. Further through training in telehealth skills, gaps in knowledge that are current barriers to providing quality telehealth services are mediated. This will promote critical thinking and reasoning skills needed to better support the needs of diverse clients utilizing telehealth both synchronously and asynchronously (Mac Donald & Baist, 2022).

Problem Statement

The problems this capstone project addressed are the deficits in education and training related to the use of telehealth for occupational therapists and the need for increased knowledge and perceived confidence of therapists engaging in telehealth post COVID-19 pandemic.

Purpose

The purpose of this capstone project was to investigate the effectiveness of an asynchronous online training module to increase perceived knowledge and perceptions of confidence of occupational therapists related to providing services via telehealth. This capstone project provided necessary information on the effectiveness of the use of an online training module for professional development in developing skills of clinicians, which can be used in occupational therapy education and training. Positive outcomes of this capstone project support the use of increased education and training for occupational therapists in the use of telehealth.

Project Research Question

In licensed occupational therapy clinicians with 3 or more years of experience working with the pediatric population, what impact does an online telehealth training module have on knowledge as well as perceptions of confidence when utilizing telehealth with pediatric clients?

Theoretical Framework

This study was guided by the Model of Human Occupation (MOHO) and Knowles' Theory of Adult Learning. MOHO supports practice that is occupation focused, client-centered, holistic, and evidenced-based (Kielhofner, 2008). MOHO is based on four components: volition, habituation, performance capacity, and environment all of which interact dynamically leading to occupational participation (Cole & Tufano, 2020). The components of MOHO play an important role in the process of learning and were used to guide the implementation of the capstone project and analysis.

Volition involves a person's thoughts and feelings about values, personal causation, and interests (Taylor, 2017). Volition is defined as one's motivation for occupation (Kielfhofner, 2008). Motivation is a key factor for true learning to occur. If a person is not motivated to engage

in learning or educational tasks, then their ability to learn and utilize information will be impaired. Habituation is the process by which occupations are organized into patterns and routines (Kielhofner, 2008). Habituation is important as it allows a person to cooperate with their environment to accomplish the routine actions that make up everyday life (Taylor, 2017). The goal of this study was to have an impact on the habits of therapists engaging in telehealth that are sustained in the long term. Performance capacity describes the physical and mental capacities that comprise occupational performance (Cole & Tufano, 2020). Performance capacity is made up of both objective and subjective components (Taylor, 2017). The increased knowledge and skills gained from participation in this study will be implemented in telehealth practice leading to improved occupational performance (Taylor, 2017).

This capstone study was also guided by Knowles' Theory of Adult Learning. The Knowles approach to adult learning is experiential with a focus on problem solving while using topics that that are valuable to the learner (Gatti-Petito et al., 2013). According to Knowles, adult learners are self-directed, experienced, and motivated to learn (Gatti-Petito et al., 2013; Knowles, 1984). Knowles describes six areas in which adult learners differ from a child learner including the need to know, learner's self-concept, role of the learner's experience, readiness to learn, orientation to learning, and motivation (Knowles, 1984; Taylor & Hamdy, 2013). Learning occurs differently in adults and therefore Knowles' Theory of Adult Learning must be considered in the development of professional education to ensure that educational practice is evidence based (Mukhalalati & Taylor, 2019).

Consideration of Knowles' Theory of Adult Learning helps educators select the best instructional strategies, learning objectives, assessment and evaluation approaches based on the context and environment for learning (Mukhalalati & Taylor, 2019). Through the integration of

Knowles' Theory of Adult Learning, subject matter, and learners' understanding, educators can provide a solid theoretical base for the learning environment to improve student learning (Mukhalalati & Taylor, 2019). However, these important learning theories are not consistently incorporated into educational designs and practices of professional development for healthcare practitioners due to a lack of formal training in the teaching and learning process of most healthcare educators (Mukhalalati & Taylor, 2019). It is critical that theories of adult learning begin to be consistently incorporated into professional development and continuing education courses.

Significance of the Study

The significance of this study is to demonstrate the effectiveness of an online training module in the use of telehealth on perceived knowledge and confidence of therapists engaging in telehealth as a service delivery platform. Positive outcomes of this study provide evidence to support the need for additional training specifically related to the implementation of occupational therapy via telehealth in occupational therapy training and education. Positive outcomes support the use of online training modules as an effective means of professional development for clinicians and impacts the design and delivery of continuing education programs. This allows for more convenient and accessible means of attaining continuing education and professional development for clinicians.

Improved training in telehealth that is based on an occupation-based theory such as MOHO will lead to improved occupation-based practice delivered via telehealth which would positively impact the future of the profession and quality of occupational therapy telehealth services. Improved education and training will also lead to improved evidence-based practice promoting the critical thinking and reasoning skills needed to provide ethical occupational

therapy services. Better quality of telehealth occupational therapy services will help meet the needs of more diverse client populations that can be reached using this service delivery model.

Summary

With the continued increase in the use of telehealth within occupational therapy practice there is the need to ensure that clinicians are knowledgeable and prepared to provide services utilizing this service delivery platform. Determining the impact additional education and training related to telehealth, as well as the most effective format to present this information to therapists, helps to ensure the best quality of care being provided by clinicians using this service delivery platform. This capstone project investigated these concerns to positively impact the future of the field of occupational therapy.

Section II: Literature Review

Introduction

This literature review was completed to understand current findings related to occupational therapy and telehealth continuing education and professional development. Search databases included Academic Search Ultimate, CINAHL Complete, Google Scholar as well as hand searches in the American Journal of Occupational Therapy and The International Journal of Telerehabilitation. Key word searches were completed with each database or journal focusing on telehealth, occupational therapy, pediatrics, online learning, professional development, pandemic, and COVID- 19. Studies including related disciplines such as speech language pathology or physical therapy and telehealth use in the pediatric population were included in the literature review. This literature review explores telehealth definition, utilization patterns, barriers, and adult learning theory as it impacts online training modules.

Telehealth Defined and Historical Perspective

Telehealth has been around for many years and has been endorsed by professional associations as an effective service delivery model across disciplines (Douglass et al., 2023). Telehealth is a service delivery platform that has typically been used to address issues of access to services specifically to rural, low socioeconomic status, or underserved families due to the scarcity of in person services in these populations (Mid-Atlantic Telehealth Resource Center, 2022; Wallisch et al., 2019). Telehealth as defined by the American Occupational Therapy Association includes the "application of evaluative, consultative, preventative, and therapeutic services delivered through information communication technology" (2018). Benefits of telehealth include increased access to services for clients in remote or underserved areas, improved access to specific providers or specialists who might otherwise be unavailable to client, prevention of unnecessary delays to receiving care, flexibility in scheduling, convenience and comfort for families, improved family centered care, decreased cost, decreased travel time and expenses, less burden on family to take off work or school, and ability to overcome barriers in: practitioner shortages, transportation, weather, socioeconomic status, language, and social stigma (AOTA, 2018; Dahl-Popolizio et al., 2020; Wittmeier et al., 2022).

Prior to the COVID-19 pandemic, telehealth was gaining momentum as a service delivery model worldwide, but the uptake of telehealth had been slow and fragmented overall (Dahl-Popolizio et al. 2020; Douglass et al., 2023; Smith et al., 2020). Telehealth has been encouraged within the fields of occupational and physical therapy for years; however, the percentage of clinicians using telehealth was low with limited widespread adoption within pediatric telerehabilitation (Camden & Silva, 2021; Tanner et al., 2020). A survey by Camden and Silva (2021) of 1,133 therapists from across the globe revealed that only 4% were engaging

in telehealth prior to the COVID-19 pandemic. That number increased to 70% of therapists surveyed following the COVID-19 pandemic (Camden & Silva, 2021). Thus, telehealth as a practice in pediatric telerehabilitation was changed as a result of the pandemic.

The lack of widespread use of telehealth was related to barriers to uptake at the patient, clinician, organizational, and systems level such as limited payer reimbursement, perceived and actual technological difficulties, clinician willingness or acceptance, liability concerns, difficulty with licensure across states, and privacy concerns (Camden & Silva, 2021; Douglass et al., 2023; Smith et al., 2020, Tanner et al., 2020). The COVID-19 pandemic offered a unique opportunity in which these barriers were lessened due to the urgent need to provide safe and effective rehabilitation services to pediatric patients during such an unprecedented public health emergency (Tanner et al. 2020). The relaxed regulations related to insurance and reimbursement provided the perfect opportunity for the widespread implementation of telehealth with pediatric occupational therapy.

The Diffusion of Innovation Theory provides an explanation for this phenomenon. The Diffusion of Innovation refers to the process that occurs as people adopt a new idea, process, or product (Kaminski, 2011). As with most new ideas, only an initial few are open to the new idea and adopt its use (Kaminski, 2011). Once the innovators start to share and promote the idea, it begins to gain momentum with early adopters and the early majority finally becomes diffused across the population until saturation is achieved (Kaminski, 2011). Telehealth had been gaining momentum with the early adopters and eased into the early majority but had not yet hit the tipping point until the COVID-19 pandemic. The COVID-19 pandemic triggered a forced adoption that pushed telehealth onto the late majority and laggard group due to the pressures of quarantine and social distancing as well as economic necessity (Kaminski, 2011). This process

created the conditions necessary to accelerate the uptake of telehealth within the field of pediatric therapies.

Previous Telehealth Training and Education Prior to COVID- 19

Prior to the COVID- 19 pandemic, the previous opportunities for formalized continuing education in telehealth were limited and the trainings were more general and not directly geared toward occupational therapy practitioners (Douglass et al., 2023). A metasynthesis was completed on clinical perspectives of telehealth which revealed that the need for telehealth education and training was prominent across several studies and revealed that training and time for practice was critical to clinician's feelings of competence with telehealth. Education and training were identified in many studies as an essential aspect of successful uptake of telehealth. Therefore, a gap between education standards and clinical practice was identified (Douglass et al., 2023).

Starting in 2013 there was the development of education and training in the use of telehealth in general through graduate course work offered at the university level at the University of Kentucky (University of Kentucky, 2022).There are several continuing education options for telehealth through organizations such as the Telehealth Certification Institute, as well as a board certification from the International Board of Credentialing and Continuing Education Standards (IBCCES) to be a telepractice specialist (IBCCES, 2022; Telehealth Certification Institute, 2022). However, most of these options are expensive and time consuming with no published evidence to support the effectiveness of these platforms to increase knowledge or self-reported feelings of confidence Therefore, more research needs to be initiated into discovering the effectiveness of trainings and courses such as these, as well as how to best educate and prepare clinicians to utilize telehealth in practice.

Revised ACOTE standard B.4.15 states that a student must, "Demonstrate knowledge of the use of technology in practice, which must include virtual environments and telehealth technology (ACOTE, 2020)." The ACOTE standard for telehealth technology education is vague and does not provide adequate guidance for consistent educational standards in preparing students for the use of telehealth. This educational standard provides a general statement that allows for minimal education required on the practice of telehealth to satisfy this requirement. Therefore, most occupational therapy clinicians entered the workforce with little more than a basic understanding of the concept of telehealth and then were propelled into the world of telehealth without adequate knowledge or skills in utilizing this service delivery platform.

Accelerated Adoption of Telehealth

Telehealth has been gaining traction within pediatric occupational therapy over several years. It has been used across a variety of pediatric settings including early intervention, school-based, pediatric private practice, and pediatric hospitals (Cason & Jacobs, 2014). As the pandemic intensified throughout 2020, many clinicians were forced to abruptly transition to using telehealth to provide their services which were provided in person prior to the pandemic (Dahl-Popolizio et al., 2020).

With telehealth bridging the gap in services during COVID-19 closures, the use of this service delivery mode accelerated and expanded to include even more groups that were not engaging in telehealth prior to the pandemic. This practice is currently becoming increasingly utilized with the pediatric population. Tanner et al. (2020) investigated the feasibility and acceptability of telehealth as a delivery model of pediatric rehabilitation therapies. The researchers concluded that pediatric rehabilitation is feasible to provide through telerehabilitation and families report high levels of satisfaction for this model of care. The study also briefly

outlines the process the pediatric hospital used to transition to telerehabilitation. This information can be used to support the use of telerehabilitation within the pediatric population as well as to assist clinicians with the transition to utilizing telerehabilitation. Further research is needed to assess the impact of telerehabilitation on patient care and the applications for ongoing use of this delivery model (Tanner et al., 2020).

Camden and Silva (2021) investigated the telehealth opportunities for occupational and physical therapy with the pediatric population created by the COVID-19 pandemic. The authors found a large increase in the utilization of telehealth for rehabilitation services such as occupational therapy and physical therapy throughout the COVID-19 pandemic. The authors explored theoretical and practice perspectives to support the implementation of telehealth. They concluded that there is enough research to support the use of telehealth as a service delivery platform; however, more research is required to determine which telehealth strategies are best for which children and families as well as studies comparing face to face intervention and telehealth intervention (Camden & Silva, 2021).

Douglass et al., (2023) found that although there was an accelerated use of telehealth during the pandemic, there has been a gradual decline in usage as more in-person services became available again. Many therapists compare their experience with in-person services with telehealth services to form their opinion and therefore acceptance of telehealth. Therapists also had differing opinions on whether telehealth should be used as an acceptable alternative to in-person services. The implementation of telehealth in less-than-ideal situations during the pandemic may have impacted therapists' experiences and attitudes toward telehealth (Douglass et al., 2023). Thus, attitudes related to telehealth prior to the COVID-19 pandemic are an

important consideration as we look to continue to promote the use of telehealth by clinicians and create sustainable telehealth programs.

Lack of prior education and training as well as low value of telehealth due to chaotic experiences with telehealth during the pandemic have led to a decline in the use of telehealth since the onset of the COVID-19 pandemic (Douglass et al., 2023). More education and training are needed to allow therapists to form a more positive opinion related to telehealth. There has been a significant increase in the research on telehealth's efficacy in the past several years, but without adequate dissemination of this research there will continue to be avoidance and lack of uptake of this service delivery platform by clinicians who do not feel confident or competent in its use (Douglass, et al., 2023). Focusing on the dissemination of new and relevant research regarding telehealth is crucial for clinicians to feel confident with this service delivery platform. This will lead to improved acceptance and thus support continued use of telehealth in the future.

Telehealth and Pediatrics

Telehealth has been shown by numerous studies to be effective and have positive outcomes when utilized with the pediatric population. Wallisch et al. (2019) investigated parent's perspectives on the use of telehealth as a service delivery platform for their child. They concluded that the main experiences the parents described about occupational therapy provided via telehealth was the compatibility with daily life, how it was grounded in a collaborative parent-therapist relationship and supported parents to be empowered. Lingren et al. (2016) completed a study to determine whether challenging behaviors in young children with autism spectrum disorder and other developmental disabilities can be treated successfully at lower cost by using telehealth to train parents to implement applied behavior analysis (ABA). The study compared the behavioral outcomes, costs, and family acceptance of in-home telehealth with the

results obtained when consultants coached parents in person at home or via telehealth at regional clinics. Both telehealth models were significantly less costly than in-home therapy (Lingren et al., 2016). Criss (2013) completed a study investigating the effectiveness of providing occupational therapy using telerehabilitation technologies for students with special needs enrolled in virtual online charter schools. Occupational therapy intervention focused on fine motor skills and handwriting as measured by the Print Tool. There was greater than 6% increase in handwriting scores for students overall (Criss, 2013). The outcomes of Criss' program complement the existing literature that reveals that the use of telerehabilitation technologies can be therapeutically effective. Overall, the results of these three studies support the effectiveness of telehealth for occupational therapy interventions in the pediatric population. This research supports the continued use of telehealth as a service delivery platform in occupational therapy.

There is a variety of research providing support for the use of telehealth in the pediatric population, however, there is limited research regarding therapist's experience with telehealth and how best to prepare and support clinicians in the utilization of this service delivery model. A study by Allen-McHugh and Schleg (2022) found that telehealth was rarely used by occupational therapists in early intervention prior to the COVID-19 pandemic. Soba et al. (2022) noted that when the rapid transition to telehealth occurred during the pandemic that therapists were met with challenges of providing quality evidenced based virtual intervention to their pediatric clients due to limited academic resources for telehealth related to anything other than rural population, adults, and medical appointments. For the telehealth service delivery platform to continue, Allen-McHugh and Schleg (2022) recommend additional training, education, and support are needed. This study indicates there are specific knowledge and skills gaps that must be addressed for the use of telehealth in the pediatric population to be effective and efficient (Allen-McHugh &

Schleg, 2022). Thus, this evidence emphasizes that therapists were lacking in exposure to the practice of telehealth leading to a lack of knowledge and skills related to providing telehealth services. This highlights the need for ongoing education and training in the use of telehealth as a delivery model.

Online Learning and Professional Development

Zubala et al. (2019) discussed the need for professional development and continuing education to be flexible to fit the needs of modern lifestyles. Education must be responsive to the learner's personal needs and varying work patterns. They investigated the effects of online education on behavior and practice of healthcare professionals. The authors concluded that online learning plays a significant role in translating knowledge into practice and increasing confidence of healthcare professionals (Zubala et al., 2019). Similarly, Radville et al. (2021) investigated the efficacy of an online training module in teaching graduate student clinicians' assessment skills and found favorable results. This study found a statistically significant increase in knowledge because of the training. The study also found an increase in self-efficacy and confidence because of the online training module (Radville et al., 2021).

Albaker et al. (2022) investigated how medical education can be strengthened as we move forward in the post COVID- 19 pandemic era of education. The authors found that the continued use of online virtual learning in combination with traditional modes of education is highly sustainable in the long run (Albaker et al., 2022). Rood et al. (2020), in a study on speech language pathologists use of evidence-based practice, noted that one of the most cited barriers to evidence-based practice and completion of continuing education courses was time, especially related to in person or synchronous continuing education courses. This barrier in professional development can be addressed using asynchronous online training modules for continuing

education. Mac Donald and Baist (2022) found that an asynchronous web-based learning module with a collaborative component was effective in increasing teacher's knowledge and positive perceptions of occupational therapist role in the school setting. Krimm and Lund (2021) found that a short term asynchronous online training module used with speech language pathologists resulted in gains in knowledge and that they provide more opportunities for permanent learning as participants can return to the content as needed to refresh their skills. Krimm and Lund (2021) noted that asynchronous online learning modules can relieve the pressure regarding time that is often a barrier to continuing education courses and fits better with the principles of adult learning when compared to traditional one day in person courses. However, the authors point out that more research is needed to determine the most effective means of implementing online learning modules with clinicians (Krimm & Lund, 2021).

The above-mentioned studies indicate that online training modules can be used to teach clinical skills to clinicians; however, it is important to note that these studies were conducted with various medical professionals not including occupational therapists highlighting a gap in research on continuing education methods for occupational therapy practitioners. The results support the use of an asynchronous online training module as a promising alternative option for continuing education and training on the use of telehealth with occupational therapy practitioners; however, there is a lack of research regarding the effectiveness of this method for professional development with occupational therapists.

Adult Learning Theory and Online Module Development

Online learning is sometimes seen as having disadvantages to traditional in-person learning; however, research shows that students who participated in online learning outperformed their counterparts who participated in traditional in person learner in the areas of

problem solving and decision-making skills (Dwyer & Walsh, 2020). Online learning has been

shown to provide the opportunities needed to establish autonomy of thought and cognitive

control necessary for critical thinking skills to develop (Dwyer & Walsh, 2020). Research has

demonstrated that professional development courses based on Knowles' adult learning principles

have much greater potential to change the clinical practice of medical professionals rather than

traditional lectures (Holmgren et al., 2021). Online learning is an attractive format for

professional training and development as compared to in person learning due to the flexibility of

being able to complete at your own pace, which is a key element of adult learning (Kyzar et al.,

2014). Data shows that adult learners working in early intervention, or the special education

school setting prefer online learning because of the flexibility and autonomy which fits in well

with their busy schedules; therefore, online learning is well suited for use with occupational

therapists working with the pediatric population (Kyzar et al., 2014).

There are many components that can be incorporated into an online learning module to

incorporate Knowles' Theory of Adult Learning principles that will promote engagement with

the material as well as enhance learning outcomes. Adult learning theory as defined by Knowles

takes an andragogical approach to learning and focuses on meeting the specific learning and

situational needs of the learner (Gray et al. 2020). Applicability of educational material and

understanding the why of learning is of the utmost concern for the adult learner. According to

Knowles' Adult Learning Theory assumptions, problem-based learning and interaction with

training content will lead to an increase in the emotional involvement of the learner with the

material which supports learning (Gray et al., 2020; Kyzar et al., 2014). Clear expectations and

suggested timeline for completion are important to adult learners and allow them to attain

autonomy in the learning process (Kyzar et al., 2014). Holmgren et al. (2021) describes the

principles of adult learning that should be incorporated into an online training module for adult learners including preparation, application of knowledge, assessment of learning, and return to clinical practice. Mature adult learners often have a better understanding of knowing how to learn and have more developed metacognition as compared to their younger counterparts; therefore, online learning works well for the target population of adult occupational therapy practitioners (Dwyer & Walsh, 2020).

Summary

The use of telehealth consistently receives positive feedback and high rates of satisfaction from clients and occupational therapy practitioners identified the use of telehealth as a satisfactory and effective service delivery model (Dahl-Popolizio et al., 2020). Several studies have been published regarding feasibility, parent perspectives, benefits or barriers, or prospective uses of telehealth in the pediatric population; however, very few studies have explored the use of telehealth from the therapist perspective and how occupational therapy employers can best equip clinicians to be efficient and effective when utilizing telehealth as a service delivery platform. Most studies neglect implementation factors that are key for therapists to be educated and trained in to provide effective intervention via telehealth. Douglass et al. (2023) highlights the importance of providing quality education and training for clinicians as therapists need to be prepared to deliver services not only in person, but via telehealth as well.

Research into the barriers and facilitators of telehealth service delivery and identifying key implementation factors will assist in determining how to best support clinicians in integrating telehealth as a regular option in family-centered service models. This capstone project builds upon the current research by investigating the effectiveness of an online telehealth training module focused on pediatric practice has on the perceived knowledge and feelings of

confidence of occupational therapists utilizing this service delivery platform. More evidence is needed to determine the best educational and training support needed for therapists to improve the delivery of occupational therapy intervention via telehealth as well as to support the continued use of telehealth as an appropriate service delivery model option for children receiving occupational therapy intervention. This capstone project helps to fill the gaps in knowledge and skills identified by the literature.

Section III: Methods

Project Design

This study used a quantitative pre-experimental design with a one-group pretest-posttest design (Creswell & Creswell, 2018). This design allowed for a single group implementation and evaluation of the study outcomes. Institutional Review Board (IRB) approval was obtained prior to the collection of data (see appendix A).

Setting

The setting for this study was virtual to reflect the virtual nature of the practice of telehealth. Associates in Pediatric Therapy (APT) was the group involved in this study. APT provides services including occupational, physical, and speech therapy services in clinics and via telehealth throughout the states of Kentucky, Tennessee, and Indiana (Associates in Pediatric Therapy, 2022). The mission of APT is to "Advance patients to their next therapeutic level" (Associates in Pediatric Therapy, 2022). Participants were recruited from APT and completed the online training module in their office located at an APT location or at their home within the Commonwealth of Kentucky. The asynchronous online training module was a pre-recorded module that was stored online in a secure folder on a password protected drive that was available only to participants who were given access by the researcher. The participants accessed the

asynchronous training module online from home or their workplace at a time that is convenient for them.

Inclusion/Exclusion Criteria for Participants

Occupational therapists included in this project met the following criteria: 1) a licensed occupational therapist actively working for APT in the Commonwealth of Kentucky, 2) had at least 3 years of experience as an occupational therapist, and 3) had not previously completed a continuing education or professional development course related to telehealth.

A participant was excluded from this study if they 1) work for a company other than APT, 2) had less than 3 years of experience as an occupational therapist, or 3) had completed a continuing education or professional development course relate to telehealth.

Recruitment

Occupational therapists working in Kentucky were used as participants in this study. Participants were recruited through convenience sampling. An email was sent to occupational therapists working for locations of APT within Kentucky. The email invited them to participate in a continuing education opportunity related to telehealth with the pediatric population. The invitation specified that participation required the completion of a pre and posttest survey and a one-hour asynchronous online training module. The email also stated that participation was voluntary.

Project Methods

Participants were invited to participate in the asynchronous online training module via email. The recruitment email stated an assigned number for the participant to enter for pre and posttests to ensure confidentiality. The pretest was completed prior to the start of the training module to gauge current level of knowledge and perceptions of confidence with telehealth with

the pediatric population. A reminder email to complete the pretest was sent five days after the initial recruitment email. Once the pretest was complete, a secure link to the online training module was sent to each participant. The training module was only accessible to participants for seven days. Email reminders were sent on days three and five of the seven-day predetermined window to encourage timely completion of the online training module. Participants were able to complete the online training module at a time and place convenient to them within the predetermined seven-day period. The module was one hour in length. The module content included an overview of telehealth in occupational therapy, overview of technology with Zoom as an example, strategies for getting started, and treatment ideas and strategies. Once they completed the online training module, a six-week waiting period occurred. After six weeks, participants were sent an email link to complete the posttest. The posttest consisted of the same Likert style questions as the pre-test to measure the change in scores because of the training module. The posttest also included four open ended questions that were analyzed for trends. The six-week waiting period provided more realistic results of knowledge gains and implementation of knowledge into practice as well as allow for time to see the impact on confidence with engaging in telehealth.

Instrumentation

Data was collected prior to, and following, participation in the online training module through a pre and posttest survey. The survey was created in an online survey program, Qualtrics for easy online distribution. The survey questions were developed by the researcher, based upon the literature, to reflect the content of the online training module to measure the impact on knowledge and self-reported perceptions of confidence with the content covered in the training module. Questions were on a five-point Likert scale. Ten questions on the survey were

knowledge based and ten questions were based on self-reported perceptions of confidence with

the content of the module. The pre and the posttest included the same twenty Likert scale

questions. The posttest also contained four open ended questions to evaluate the extent to which

the information of the module was incorporated into practice. To establish content validity, the

survey was pilot tested with a focus group of two occupational therapists currently working in

the telehealth therapy department at APT to determine if the survey questions accurately measure

the targeted information. Modifications to the survey were made as a result of the input from the

focus group. A copy of the survey is located in Appendix B.

      The asynchronous online training module was developed by the researcher for

occupational therapists working with the pediatric population to provide education and training

in the implementation of telehealth with this population. Content of the module was based on the

researcher's knowledge gained from clinical experience of working in telehealth in pediatrics,

personal research and literature review, and collaboration with the telehealth director at APT.

Content included telehealth use in occupational therapy, benefits, challenges, technology

requirements, basic use of video conferencing software, common technology challenges,

planning and preparing for telehealth sessions, treatment strategies and ideas, behavior

management, and documentation considerations. To establish content validity, the module was

reviewed by the telehealth department director at APT. Revisions and modifications were made

based on the feedback received. The outline of the content is in Appendix C.

Outcome Measures Used and Data Analysis

      The results from the pre and posttest test were the outcome measure used to gather data

which was then analyzed. Descriptive analysis as well as a paired t-test of the numerical data

from pre and posttests were completed (Creswell & Creswell, 2018). The mean, standard

deviations, and range of scores were calculated based on results of pre and posttests. Open-ended answers were examined for trends.

Ethical Considerations

An ethical consideration for this study is that participation is voluntary. The recruitment email specified that participation is voluntary and there were no risks associated with participation. Survey results were kept confidential to maintain privacy of the participants. The primary investigator's ties to the organization in which participants were recruited due to investigator's vested interest in the outcome of the study is an ethical consideration for this project (Creswell & Creswell, 2018). However, the site for this study is virtual; therefore, there were no anticipated power issues during the completion of the study. Another ethical consideration was the storing of data due to the virtual nature of this study. Extra precautions included assigned numbers for surveys to ensure privacy as well as a private link that only allowed access to training module when granted by primary investigator were put in place to ensure the confidentiality and security of the data online.

Timeline of Project Procedures

The timeline presented in Table 1 provides an outline of the project procedures starting with submission of the IRB and ending with the final presentation of the Capstone Project.

Table 1: Capstone Project Timeline

Step of Capstone Project	Start Date	End Date
IRB Submission	November 2022	November 2022
Recruitment of Participants	January 2023	February 2023
Data Collection	January 2023	March 2023
Data Analysis	March 2023	April 2023
Presentation of Capstone	January 2023	April/May 2023
Complete and submit final Capstone report	October 2022	May 2023

Section IV: Results and Discussion

Introduction

The purpose of this quantitative pre-experimental design was to determine the effectiveness of an online training module on occupational therapist's self-reported knowledge and perceptions of confidence with implementing telehealth services with the pediatric population. As telehealth continues to expand as a service delivery model, therapists must be knowledgeable and confident to provide quality occupational therapy intervention via telehealth.

Results

A total of 68 occupational therapists who met the inclusion criteria for the study were sent the pretest survey. A total of 19 participants completed the pretest and received the link to the training module. However, 13 participants completed the training module and the posttest in its entirety. This is a 19% response rate (n=13).

Participants answered pre and posttest survey questions to assess the impact the training module had on their knowledge of content and their confidence with implementing the knowledge from the module. The results from the survey were divided between questions

relating to knowledge and questions relating to confidence for data analysis to ascertain the

impact that the training module had on each individual variable that was measured. The survey

included 10 questions related to knowledge and 10 questions related to confidence with each

question ranked on a Likert scale on the extent to which the participant agreed or disagreed with

the statement. The answers ranged from strongly disagree to strongly agree with each answer

corresponding to a value of 1 to 5. Table 2 depicts the comparison of scores for each question for

the pre and posttest and includes the mean and standard deviation for each question indicating an

increase in scores on all questions measured by the survey for both knowledge and confidence.

Table 2: Mean Scores for Knowledge and Confidence

Knowledge Questions		Mean	Standard Deviation	Confidence Questions		Mean	Standard Deviation
1: Benefits and limitations	Pre	4.08	0.494	11: Tech use	Pre	4.38	0.650
	Post	4.77	0.439		Post	4.69	0.480
2: Challenges	Pre	4.15	0.801	12: Family use of tech	Pre	3.69	0.947
	Post	4.92	0.277		Post	4.46	0.660
3:Technological difficulties	Pre	3.38	1.26	13: Troubleshooting	Pre	3.77	1.17
	Post	4.46	0.519		Post	4.54	0.660
4: Scheduling	Pre	4.15	1.46	14: E-helper guidance	Pre	3.85	0.987
	Post	4.85	0.376		Post	4.46	0.519
5: Setting up space	Pre	4.08	0.0862	15: Providing materials	Pre	3.92	0.862
	Post	5	0.00		Post	4.62	0.506
6: Materials	Pre	3.54	0.877	16: Adhere to safety regulations	Pre	4.23	0.927
	Post	4.69	0.630		Post	5	0.00
7: Etiquette	Pre	4.23	0.725	17: Explain benefits and barriers	Pre	4.15	0.801
	Post	4.92	0.277		Post	4.85	0.376
8: Addressing occupations	Pre	3.38	0.961	18: Implement intervention strategies	Pre	3.38	1.26
	Post	4.62	0.506		Post	4.46	0.519

9: Behavior Management	Pre	2.92	0.954	19: Adapt interventions	Pre	3.08	0.954
	Post	4.23	0.832		Post	4.38	0.506
10:Documentation	Pre	3.92	1.19	20: Equivalent care	Pre	2.46	0.877
	Post	4.77	0.439		Post	3.77	1.09

Note: Scale: Strongly Disagree =1, Somewhat Disagree=2, Neither Agree nor Disagree=3, Somewhat Agree=4, Strongly Agree=5

Figures 1 through 4 represent the information gathered for overall scores for questions related to knowledge and questions related to confidence on the pre and posttest surveys. The answers to the questions relating to each variable were combined to get an overall knowledge score and an overall confidence score. The highest value for the 10 questions related to knowledge was 50 and the highest value for the 10 questions related to confidence was 50. The combined results for the 10 knowledge questions and the 10 confidence questions are depicted in figures 1 and 2. The mean for answers related to knowledge increased by 9.4 on the posttest increasing from 37.8 to 47.2 indicating an overall increase in knowledge on the areas measured (Figure 1). The mean for answers related to confidence on the pretest increased by 8.3 on the posttest increasing from 36.9 to 45.2, which also indicates an overall increase in confidence in the areas measured (Figure 2).

Figure 1: Changes in Mean Scores for Self-Reported Knowledge

Descriptives

	N	Mean	Median	SD	SE
Pre	13	37.8	39	6.93	1.921
Post	13	47.2	47	2.68	0.744

Figure 2: Range of Change in Mean Scores for Self-Reported Knowledge

Pre - Post
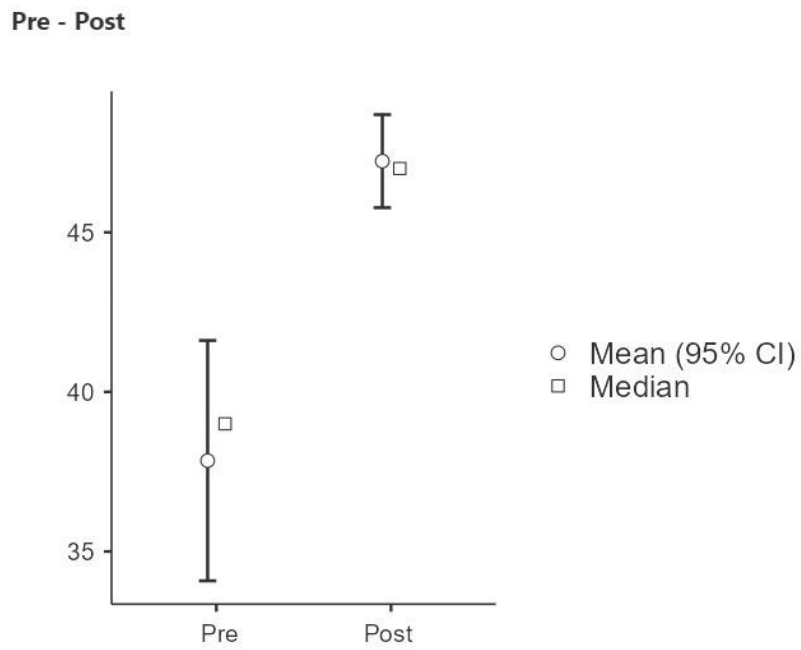
Figure 3: Changes in Mean Scores for Self-Reported Confidence

Descriptives

	N	Mean	Median	SD	SE
Pre	13	36.9	38	6.80	1.886
Post	13	45.2	44	3.59	0.995

Figure 4: Range of Change in Mean Scores for Self-Reported Confidence
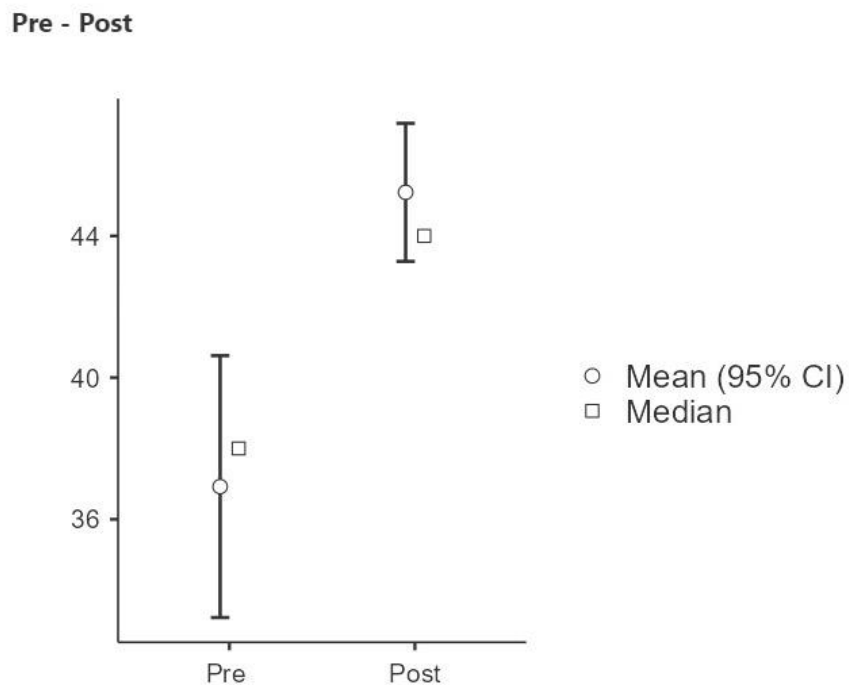
Figures 5 and 6 represent the information gathered from the paired t-tests about changes in participant knowledge and confidence. The probability value for Likert scale questions related to knowledge and confidence were both found to be < .001 indicating that the difference between the pre and posttest scores were statistically significant and not likely due to chance. All changes were statistically significant.

Figure 5: Paired T-test for Self-Reported Knowledge Scores

Knowledge

Paired Samples T-Test

			statistic	df	p
Pre	Post	Student's t	−4.67	12.0	< .001

Note. H_a μ Measure 1 - Measure 2 < 0

Figure 6: Paired T-test for Self-Reported Confidence Scores

Confidence

Paired Samples T-Test

			statistic	df	p
Pre	Post	Student's t	−4.14	12.0	< .001

Note. H_a μ Measure 1 - Measure 2 < 0

Four open-ended questions were included in the posttest to gain a better understanding of how the knowledge and confidence gained from the training module was incorporated into daily practice. Only 10 of the 13 participants completed the open-ended questions on the posttest survey. The responses were analyzed for common or repeated responses. Table 3 summarizes the trends found from analyzing responses to open ended questions on posttest survey.

Table 3: Posttest Open Ended Responses

Open Ended Question	Trends
21. Describe any difference in your telehealth experiences since completion of this training module.	• Increased confidence • Better understanding of how to use virtual tools and resources during sessions
22. Describe how you have incorporated knowledge gained from this training module into your practice.	• Use of resources from module • Preparing family with technology and troubleshooting technology issues

23. Describe how the content of the module has been beneficial to your practice.	• Increased confidence • Ease of implementing strategies learned into sessions
24. Describe any areas you feel like you need more information about regarding telehealth.	• None. Training module was sufficient • In depth information on technology use • More resources

Discussion

The purpose of this study was to investigate the effectiveness of an asynchronous online training module to increase self-reported knowledge and perceptions of confidence of occupational therapists related to providing services via telehealth. Descriptive analysis of the data shows that the online training module contributed to an increase in participant's self-reported perception of knowledge and feelings of confidence related to the use of telehealth with the pediatric population. Completion of the online training module led to a statistically significant increase in scores between the pre and posttests. This provides strong evidence that the increases in scores for both knowledge and confidence were a result of participation in the online training module. Based upon participants report and the statistical analysis of the pre and posttest scores, the use of an online learning module is effective in increasing self-reported knowledge and feelings of confidence in participants, providing evidence to support its use by employers to better prepare clinicians to provide telehealth services.

An increase in self-reported knowledge occurred for all questions that measured this variable on the survey. This provides evidence that participants felt that their knowledge on the topic of telehealth increased because of completing the online training module. The findings confirm Krimm and Lund's (2021) assertion that asynchronous online training modules resulted

in gains in knowledge and that they provide more opportunities for permanent learning as participants can return to the content as needed to refresh their skills. This study builds on Krimm and Lund's (2021) research by achieving similar results with occupational therapists as participants rather than speech language pathologists. This points to the ability of asynchronous online training modules to be used successfully to provide effective education and training with a variety of allied health professionals.

An increase in self-reported perceptions of confidence occurred for all questions measuring this variable on the survey as well. Participants attributed their increased feelings of confidence when implementing telehealth because of completion of the training module. A major concern identified in the literature as described by Allen -McHugh and Schleg (2022), Douglass et al. (2023), Soba et al. (2022) and Wittmeier et al. (2022) was a lack of knowledge and clinical skills for occupational therapists when transitioning to telehealth leading to a deficiency in confidence with this service delivery platform. The results from this study highlight the positive effects an asynchronous online training module has on perceptions of confidence. The use of online training modules provides a convenient and practical solution to address the lack of confidence in occupational therapists identified in the literature.

The results of this study indicate the effectiveness of the online training module which supports the use of asynchronous online training modules designed using the principles of Knowles' Theory of Adult Learning for education and training of occupational therapy clinicians. According to Knowles, adult learners are self-directed, experienced, and motivated to learn (Gatti-Petito et al., 2013; Knowles, 1984). These concepts were used to guide the design of the asynchronous online training module utilized in this study. The module was designed to offer clear expectations, autonomy, and flexibility as design components. The study results support

these elements of adult learning being well suited for adult learners working with the pediatric population as described by Kyzar et al. (2014). The results also support Holmgren et al.'s (2021) findings that professional development courses based on Knowles' adult learning principles have much greater potential to change the clinical practice of medical professionals rather than traditional lectures. Overall, participants reported more positive and successful use of telehealth following completion of the study supporting the use of online training modules utilizing Knowles' Theory of Adult Learning like the one used in this study for education and training of occupational therapists in the practice of telehealth.

The study findings support the idea that education and training are an essential aspect of successful uptake of telehealth (Douglass et al., 2023). Response trends from participants for the open-ended questions revealed the differences that completion of the training module had on their practice of telehealth. The main trend that emerged was that completion of the module led to increased feelings of confidence that carried over into therapist's use of telehealth. Another trend included being better able to utilize the technology successfully and troubleshoot technological issues during sessions. Therapists also reported that they were implementing the resources from the module into their interventions when providing telehealth services. Lastly, therapists described the module as beneficial and that the strategies were practical and easy to implement during sessions. These results support the literature as described by Zubala et al.'s (2019) findings that online learning plays a significant role in translating knowledge into practice and increasing confidence for healthcare professionals.

The Model of Human Occupation guided the design and was evident throughout the implementation of this study. The deficits in knowledge and confidence in the practice of telehealth were the key factors impacting participant's volition. Volition, or the motivation for

occupation, was impacted by participant's desire to learn about telehealth interventions and strategies to improve their skills and confidence with utilizing telehealth as a service delivery platform. Results of the pre and posttest survey and the open-ended questions revealed how the study impacted habituation. Therapists incorporated the knowledge and strategies into their patterns and routines in their role as an occupational therapist. The six-week waiting period between pre and posttest allowed the researcher to gain a better understanding of how the knowledge and skills gained through participation in this study were incorporated into the clinician's habits. This study has an impact on the objective as well as the subjective performance capacity of the participants by impacting mental capacities through the increase in knowledge as well as confidence with how to provide quality occupational therapy intervention to pediatric clients via telehealth. The increased knowledge and skills lead to improved occupational performance of therapists when providing interventions via telehealth.

In summary, statistical analysis revealed that the increase in scores on the pre and posttests was significant; therefore, indicating the training module contributed to the increase in knowledge and confidence that was reported on the posttest surveys and that the increase was not caused by chance. This confirms the answer to the research question posed by this project. Results indicate an online asynchronous training module does lead to an increase in perceived knowledge and confidence in therapists. The effectiveness of the online training module is evident by the increase in knowledge and feelings of confidence reported by the participants. This information sheds light on solutions to several of the barriers to implementation of telehealth that were identified in the literature including the gap between education and practice, lack of time to complete in-person continuing education, and lack of confidence with implementing telehealth (Douglass et al., 2023; Krimm & Lund, 2021). The findings provide a

solution to the lack of formalized continuing education opportunities in telehealth geared toward occupational therapists as identified by Douglass et al. (2023). This study pushes to alleviate this barrier by providing guidance for other bodies to build upon this study to create more specific telehealth training for occupational therapists across a variety of settings and populations. Additionally, employers can utilize the results of this study to support the use of training modules such as the one used in this study to provide adequate education and training to their employees that will be implementing telehealth in their practice to decrease the gap between education and the practice of telehealth.

Strengths and Limitations

A strength of this study was the impact on one therapy company and the change in practice for the occupational therapists that participated in the study. The therapists involved in this study expressed that their perceptions of knowledge and confidence had increased as a result of completion of the online training module. The therapists reported utilizing the knowledge and strategies in their telehealth intervention sessions and as a result felt more confident in the services they were providing. This study had a positive impact on the practice of telehealth of the participants which is evident by the increase in scores from the pretest to the posttest and the answers to the open-ended questions. This study is relevant to all occupational therapists who have any involvement in telehealth. The results indicate that a simple and convenient asynchronous online training module can have a significant impact on a therapist's implementation of telehealth by impacting their perceptions of knowledge and confidence with telehealth.

Another strength of this study is that the results demonstrate the value of an asynchronous online training module in continuing education and professional development. The results

indicate that the online training module contributed to the increase in scores for self-reported knowledge and confidence. It is evident that an asynchronous online training module can positively impact therapists' feelings of knowledge and confidence with the content of the module. The increase in scores from the pre and posttest and the trends from the open-ended questions point to the value of using this type of training with employees as it is a convenient and less expensive platform to provide quality education and training to employees.

A limitation of this study was the inability to confirm if participants completed the training module in its entirety within the seven-day time frame it was available. The lead investigator could only confirm that the training module was accessed, but there was no confirmation that the training module was completed in full. Lack of completion of the training module would have impacted the accuracy of the responses on posttest. This could have impacted the overall results of the study.

Another limitation of this study is the small sample size. A total of 68 therapists within APT met the inclusion criteria and were emailed the survey and only 13 participants completed both the pre and posttests. This sample size represents only a small portion of practicing occupational therapists. The sample also represented a specific population of therapists working for the same company withing the Commonwealth of Kentucky which could limit the generalizability of the findings.

Another limitation is that the primary investigator was an employee of APT. There may have been some respondent bias knowing that the survey was an in-house project, assisting one employee in completing advanced education. This could have impacted the responses of participants, which could have impacted the overall accuracy and generalizability of the findings.

Implications

      Positive results from this study support the use and effectiveness of asynchronous online training for occupational therapists for professional development. Promoting the use of asynchronous online training modules for occupational therapists would allow for more convenient options for therapists to be able to engage in continuing education. This would alleviate the barriers related to time and schedule that therapists noted in the literature as impacting their ability to complete continuing education.

      Findings of this study impact the discrepancies in knowledge and confidence related to telehealth described by occupational therapists in the literature. This study supports the use of asynchronous online training and the impact on occupational therapy clinicians' volition, habits, and routines to be more confident in their skills when using telehealth. The increased use of training modules such as the one utilized in this study will lead to more knowledgeable and confident therapists utilizing telehealth leading to improved outcomes of occupational therapy delivered via telehealth. Employers who offer telehealth services could utilize a training module to provide the needed education and training to their therapists that will be engaging in telehealth as a service delivery platform. Training modules similar to the module used in this study could be utilized during the onboarding process to prepare employees for the use of telehealth from the start of their employment. With the ever-changing world of technology and the rapidly evolving practice of telehealth employers must be on top of updating telehealth training modules on a regular basis due to the constant changes in the world of telehealth. This would overall lead to more competent occupational therapists who are providing evidenced based practice telehealth services thus increasing the overall quality of care provided via telehealth. This will positively impact the field of occupational therapy.

Future Research

This study laid the groundwork for future research with a larger sample size. The future research should focus on a larger sample of occupational therapists and should also look at a more general telehealth training module that could be used across various practice settings. A larger sample size would give a more accurate depiction of the attitudes and perspectives of occupational therapists from across the country. This would provide more accurate data as compared to the small geographically specific sample that was used in this study.

Future research could investigate the best format and techniques for presenting material via online training module. Results of such a study would have an impact on the most effective way to deliver the content to occupational therapists. A study comparing an asynchronous versus synchronous online learning would be beneficial to determine best practice for preparing occupational therapists to deliver services via telehealth. Future research building upon this study would lead to more generalizable and reliable findings to promote increased quality of evidence based telehealth practice of occupational therapy.

Summary

This study demonstrated the effectiveness of an online training module in the use of telehealth on knowledge and the perceptions of confidence of therapists engaging in telehealth as a service delivery platform. It is evident that the use of an asynchronous online training module is effective in increasing knowledge on a topic as well as the feeling of confidence when implementing the knowledge gained. This supports the use of this platform as tool that can be used for the education of professionals. Positive outcomes support the use of online training modules as effective means of professional development for clinicians. This allows for more convenient and accessible means of attaining continuing education and professional development

for clinicians. Utilizing asynchronous online training modules can alleviate the barriers to completing continuing education that was identified in the literature.

Results provide evidence to support the need for additional employer provided training specifically related to the implementation of occupational therapy via telehealth in occupational therapy training and education of employees. Findings from the literature review and survey results of this research indicate therapists feel that there is a gap in knowledge and practice in relation to telehealth. Companies that offer telehealth and that expect their employees to deliver services via telehealth must be responsible for training the employees to be knowledgeable and confident in the use of this service delivery platform. This study has made it evident that using a simple online training module for employees made a significant difference in their level of knowledge and confidence when using telehealth.

Lastly, the results of this study are a step toward promoting the best quality of care being provided by clinicians using telehealth. Therapists need to feel knowledgeable and confident to provide quality intervention via telehealth. Therapists should be provided with adequate training and education from their employers on how to utilize telehealth in their practice to promote the highest quality of care being provided via telehealth. This will ultimately have an overarching positive impact on the future of the field of occupational therapy.

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Appendices

Appendix A

Application Summary

Competition Details

Competition Title:	IRB Limited Review Application for Exemption Determination
Category:	
Cycle:	
Submission Deadline:	06/30/2023 11:59 PM

Application Information

Submitted By:	Breanna Crawley
Application ID:	5057
Application Title:	The Effectiveness of an Asynchronous Online Telehealth Training Module on Occupational Therapist's Knowledge and Perceptions of Confidence
Date Submitted:	11/29/2022 12:22 PM

Personal Details

Applicant First Name:	Breanna
Applicant Last Name:	Campbell
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Applicant Type:	EKU Student

Application Details

Proposal Title
The Effectiveness of an Asynchronous Online Telehealth Training Module on Occupational Therapist's Knowledge and Perceptions of Confidence

Name of Faculty Research Advisor (required for student submissions)
Dr. Susan Skees Hermes

Name of Department Chair/Unit Director
Dr. Dana Howell

Notes/Comments

Status (IRB Use Only)

Approval Date (IRB Use Only)

Appendix B

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I am knowledgeable about the benefits and limitations of telehealth	1	2	3	4	5
2	I am knowledgeable about the challenges of telehealth	1	2	3	4	5
3	I know what to do if the technology is not working	1	2	3	4	5
4	I understand the process of setting up and scheduling a telehealth session with a client	1	2	3	4	5
5	I am knowledgeable about how to effectively set up my space to provide telehealth services	1	2	3	4	5
6	I am familiar with the various types of materials that can be used during a telehealth session	1	2	3	4	5
7	I understand appropriate session etiquette of telehealth sessions	1	2	3	4	5
8	I am knowledgeable about how to address various occupations with pediatric clients via telehealth	1	2	3	4	5
9	I understand behaviors management strategies that can be implemented via telehealth sessions	1	2	3	4	5
10	I understand what needs to be included in the documentation for a telehealth session	1	2	3	4	5
11	I am confident that I can operate the required video conferencing technology (i.e. Zoom)	1	2	3	4	5
12	I am confident that I can instruct the family in the use of technology and video conferencing software	1	2	3	4	5
13	I am confident in troubleshooting basic technological difficulties effectively	1	2	3	4	5
14	I am confident that I can effectively instruct/guide child and/or parent during treatment session to meet goals of therapy	1	2	3	4	5
15	I am confident that I can locate and provide the required materials for each session to clients and their family	1	2	3	4	5
16	I am confident that I can adhere to safety and privacy regulations in a virtual setting	1	2	3	4	5
17	I am confident in my ability to explain benefits and limitations of telehealth to clients	1	2	3	4	5
18	I am confident that I can implement intervention strategies effectively via telehealth with pediatric clients	1	2	3	4	5
19	I am confident that I can adapt intervention strategies to a virtual setting	1	2	3	4	5
20	I am confident that I can provide care that is equivalent to an in-person session via telehealth	1	2	3	4	5

Posttest only open ended questions

21. Describe any difference in your telehealth experiences since completion of this training module

22. Describe how you have incorporated knowledge gained from this training module into your practice.

23. Describe how the content of the module has been beneficial to your practice.

24. Describe any areas you fee like you need more information about regarding telehealth.

Appendix C

The Effectiveness of an Asynchronous Online Telehealth Training Module on Occupational Therapist's Knowledge and Perceptions of Confidence

Content for Asynchronous Online Training Module for the Use of Telehealth in Occupational Therapy with Pediatric Clients and supporting references

- What is telehealth?
    - Definition (AOTA 2018; Camden & Silva, 2021)
    - Uses in Occupational Therapy (AOTA, 2018; Cason, 2019)
    - Benefits of telehealth (Cason, 2019)
    - Challenges of telehealth (AOTA 2018; Camden & Silva, 2021)
- Technology overview
    - Basic requirements
    - Overview of video conferencing software
    - Basic use of Zoom
    - Common challenges of technology (Bacchus, 2022, Camden & Silva, 2021)
- Getting started
    - Planning for telehealth session (Cason, 2019)
    - Preparing for session (Camden &Silva, 2021; Campbell et al., 2020; Cason, 2019; Heimerl & Rasch, 2009).
    - Setting up your space (Elia, n.d.)
    - Types of materials (mylemarks, 2021)
    - Delivery Models (Kingsley & Mailloux, 2013)
- Treatment ideas and strategies
    - ADLs (Wallisch & Little, 2019)
    - Sensory
    - Play
    - Education
    - IADLs (Tanner et al., 2020).
- Behavior management strategies
- Documentation considerations

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