TYING SCHOOL-BASED OCCUPATIONAL THERAPY TO COMMON CORE STANDARDS

A Thesis submitted to the faculty at Stanbridge University in partial fulfilment of the

requirements for the degree of Master of Science in Occupational Therapy

by

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Certification of Approval

I certify that I have read *Tying School-Based Occupational Therapy to Common Core Standards* by Anhthu Do, Madison Higger, Sarah Knapp, and Mia Laudato, and in my opinion this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Occupational Therapy at Stanbridge University.

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Abstract

Introduction: The implementation of Common Core State Standards (CCSS) has

presented difficulties for instructors by requiring them to strike a balance between

teaching core knowledge while adhering to curricular standards. This study examines the

essential role of school-based occupational therapist practitioners (OTP) in addressing

these issues and assisting students in succeeding within the CCSS framework.

Design/Purpose: A focus group consisting of a K-6 teacher and an OTP was formed to

determine how school-based occupational therapy and CCSS relate to one another. The

goal of the study was to explore whether gaps exist between teachers and OTPs

knowledge of how occupational therapy interventions help students achieve the CCSS

criteria as well as succeed academically.

Primary Findings: The primary findings highlight the difficulties, advantages, and

possibilities of teacher and occupational therapist collaboration in the context of assisting

students in reaching Common Core criteria.

Conclusion: Data analysis of the study was broken down into three main themes: the

collaboration and potential of teachers and OTPs working together, as well as the overall

difficulties faced in student achievement of CCSS.

Implications for Occupational Therapy: The implications of this study highlight the

importance for teachers and occupational therapists to work together, emphasize

communication, and understand each other's role to help students as they work to meet

Common Core criteria.

Suggestions for Further Research: Knowing these gaps, future studies might benefit

from examining the long-term effects of teacher-OTP cooperation on student outcomes,

including academic success and the development of essential skills.

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Tying School-Based Occupational Therapy to Common Core Standards

Over the past ten years, education has transformed in many ways leading to increased collaboration among educators and other professionals, integration of technology, and more opportunities for students to access education (Will, 2019). With these changes, there have also been shifts in education policy, which has influenced teachers to alter their ways of delivering the curriculum. There has been an increase in responsibility and accountability for teachers to meet the curriculum since implementing the Common Core State Standard (CCSS) which requires teachers to familiarize themselves with the framework and strategies needed to deliver instructions (Lopez & Wise, 2015). The high demands of CCSS makes it challenging for teachers to balance teaching fundamental skills while trying to address the curriculum requirements.

During the pre-school and primary years of a child's education, a student establishes fundamental abilities, such as motor skills, which are essential for their academic success (Lindsay et al., 2020). These early stages of education are typically the most significant time to practice and develop these foundational skills. The development of these skills is necessary to achieve later skills related to handwriting, visual motor comprehension, and other everyday tasks, both in and beyond the classroom. While the goal of CCSS is to provide students with equal standards of learning and emphasize readiness for college, there is a lack of time that provide students with these fundamental skills. With the adoption of this curriculum, school-based occupational therapy practitioners (OTPs) should be called upon to address these deficits. OTPs have the training and strategies to provide teachers and students with appropriate interventions and methods to help incorporate the necessary performance skills into classrooms and improve academic

performance. In this study, we examined the relationship between school-based occupational therapy and CCSS education by conducting a focus group discussion. The expected outcome of this study was to gain a better understanding of how CCSS has affected student learning, and what knowledge teachers and OTPs have in helping each other with student success. Ultimately, we aimed to raise awareness of school-based OTP services that help implement CCSS requirements.

Based on the American Occupational Therapy Foundation (AOTF) threads, the concept of translational research served as a bridge by connecting the efficacy of occupational therapy interventions with the overarching goal of fostering student success in academics (American Occupational Therapy Association & AOTF, 2018). The primary research goal of translational research revolved around evaluating the effectiveness of occupational therapy interventions and examining the processes of change they entail (American Occupational Therapy Association & AOTF, 2018). Referencing the AOTF's translational research category helped guide the study in discovering how occupational therapy interventions contribute to promoting student success in academia.

Statement of Problem

Since the implementation of CCSS, there has been a significant focus on establishing challenging academic expectations to promote students' academic success and readiness for college (Bazyk et al., 2009). Due to this emphasis, important fundamental learning abilities among students have received insufficient attention because of the CCSS significant concentration on English language arts and mathematics. Fundamental everyday skills depend on motor functioning, problem-solving skills, perception, and more to appropriately complete school tasks and activities. These abilities serve as the foundation

for more complex learning and problem-solving abilities. The capacity of a student to complete tasks necessary for everyday life and in the classroom can be negatively impacted by this lack of attention.

For example, the development of handwriting is essential for the acquisition of writing, spelling and typing skills (Bazyk et al, 2009). However, the CCSS does not list handwriting as a fundamental ability. It is then up to teachers and institutions to provide handwriting education. Due to a lack of resources (training, materials, and time), teachers find it difficult to teach (Collete et al., 2017). Occupational therapy services assist in these fundamental needs by providing specific interventions and strategies to support student's development. Some of these interventions include fine motor development, improving sensory prepossessing skills, and developing self-regulation skills. In this study, we aimed to gain a more comprehensive understanding of the relationship between school-based OTPs and CCSS as well as teachers' perspectives on school-based OTPs in the classroom.

Literature Review

Argument About the Social Significance of the Topic

The lack of occupational therapy integration into CCSS impacts the education and well-being of students. School-based OTPs helped students develop the skills necessary to participate in classroom activities, engage with their peers, and essentially access the school's curriculum. Within the K-12 education system, CCSS are widely used and focused on academic standards covering mathematics and English language arts. The goal of CCSS is to prepare students to become successful in college and their future careers (California Department of Education, 2022). The role of school-based OTPs is to help students achieve those skill sets by the time they graduate. However, evidence suggested that some students

were falling behind academically as CCSS set greater expectations for them (Collete et al., 2017). This placed a significant burden on teachers, who were required to prioritize CCSS materials over fundamental skill sets. It was then up to OTPs to alleviate this burden and help students in the development of fundamental skills.

Common Theme #1: Tying Common Core to Education

Common Core was established to develop English language arts and mathematical standards to help students become college and career-ready upon graduating from high school (Bazyk et al., 2009). It focused on engaging students in critical thinking within their academic work to help them better problem-solve and become productive members of society. However, with CCSS starting as early as kindergarten, there was little emphasis on fine motor skills, especially when looking at handwriting. In the study conducted by Bazyk et al. (2009), data was collected on the views of teachers and educators on the effect that CCSS has on handwriting skills. It found that due to the rigor of CCSS, there was less emphasis placed by teachers to teach handwriting skills. Teachers reported needing to spend more time on handwritten assignments because handwritten work was harder to read and grade accurately. Letter formation, spatial organization, and recognition of upper- and lower-case letters are foundational skills that should be developed during or before kindergarten. However, with the lack of curriculum provided to teach the skills and the limited amount of time, these were not skills that are prioritized (Nye & Sood, 2018). This affected the written expression of children and the progression children made through the CCSS. Either implementing handwriting into CCSS or using additional support such as occupational therapy to integrate handwriting skills into the classroom would benefit children in progressing through the CCSS (Bazyk et al., 2009).

Several studies examined teacher readiness and difficulties faced when trying to teach CCSS standards to students. Swars and Chestnutt (2016) focus on the challenges of the CCSS for mathematics when teaching special education students. Responses related to students with disabilities revealed that teachers felt the least prepared to teach this group of students; however, teachers felt more prepared to teach low-income students (Swars & Chestnutt, 2016). Without any kind of curriculum, teachers reported having a harder time accessing tools and programs to promote handwriting instruction for their students. When given the opportunity and provided professional development, teachers had a better understanding of and learned techniques before taking these standards back to their classrooms. First-time teachers without any training did not have the experience and comfort level when considering the rigor of CCSS. Teachers with more experience and more professional development training felt as though they had the knowledge, leaving them with a better understanding of what CCSS required (Hall et al., 2015). Teachers also expressed concerns about the lack of time they have to teach handwriting instruction (Nye & Sood, 2018). CCSS starts at kindergarten, and many early childhood education programs use partial day schedules (California Department of Education, 2022). This limited the amount of instructional time teachers had to implement both CCSS and handwriting, or other fine motor instruction.

Common Theme #2: Tying Occupational Therapy to Education

OTPs play a crucial role in education by providing services that support students with diverse needs and abilities (Bazyk et al., 2009). One service that school-based occupational therapy offers is assistance and guidance in improving handwriting and other fundamental skills to improve students' roles in school. Lack of these skills has an impact

on a student's ability to accomplish activities resulting in diminished academic achievement. To assist students with this area of need, OTPs offer focused interventions involving a range of exercises and activities to foster the development of these skills.

Jasmin et al. (2018) focused on interventions provided by occupational therapists to enhance preschoolers' (age 3-6) fine motor and graphomotor skills and participation in classroom activities. Motor Magic was one intervention that focused on sensorimotor skills, and the *STEPS-K* focused on fine motor skills. These interventions improved preschool children's developmental and functional daily living skills by 78.3% (Jasmine et al., 2018). An additional intervention included collaboration and co-teaching between teachers and school-based OTPs. Randal (2018) facilitated a six-week program using the "Handwriting Without Tears" curriculum. The study heavily focused on mastering lower-case letters during the first five weeks, followed by reinforcing the skills learned from the program in the sixth week. The outcomes included students demonstrating significant improvement in recognizing and writing lowercase letters while teachers reported feeling more confident in effectively teaching the curriculum (Randal, 2018).

Though school-based occupational therapy places a large emphasis on fine and gross motor skills, practitioners are also able to work with students in all areas of academia and school readiness (Mohammadi et al., 2009). Students with perceptual and visual motor deficits could fall behind in school. Mathematics, especially in areas like geometry, relies on these skills. One study showed that when OTPs worked with students, either one-on-one or within a classroom context, students could improve in perceptual and visual motor, as well as sensory integration, memory, and attention all led to an overall improvement in mathematics.

Integrating school-based occupational therapy into classrooms had the potential to enhance fundamental skills, such as fine motor, and ultimately improve student performance (Bazyk et al., 2009). Indirect services included teachers collaborating with occupational therapists to acquire effective strategies. Studies suggest that curriculums embedded with occupational therapy services improved student literacy and fine motor skills (Bazyk et al., 2009). Despite the evident benefits, student access to occupational therapy and related services are limited due to the packed schedules of occupational therapists (Nye & Sood, 2018). School-based occupational therapists are responsible for testing potential students for qualification of services, creating individualized education programs outlining the services provided, and delivering the treatment services, all within the hours of a typical school day. These demands left teachers feeling like they lack adequate guidance from both therapists and lawmakers in terms of effectively teaching literacy and motor skills (Nye & Sood, 2018).

Remaining Gaps in Evidence

One important knowledge gap that requires additional research is how occupational therapy and CCSS are tied together, and whether they should be. Although handwriting and fine motor skills are integral parts of education, handwriting instruction is not outlined as a foundational skill by CCSS (Collette et al., 2017). In traditional school-based settings, OTPs utilize pull-out services where they remove students from the classroom and take them to a separate therapy room. OTPs then observe students during activities in which students might have difficulties identifying factors such as in-hand manipulation, visual motor integration, hand-eye coordination, and trunk positioning, which may interfere with participation in fine motor activities and written communication (Bazyk et al., 2009).

Several studies supported the inclusion of handwriting instruction as part of the foundation of CCSS and how OTPs can provide a solution (Bazyk et al., 2009; see also Caramia et al., 2020; Collete et al., 2017; Randal, 2018; Jasmin et al., 2018). However, more research needs to be conducted to assess the impact of CCSS on other occupational therapy services. Further research can be developed to answer questions such as "Do occupational therapists know the CCSS?" "How can OTPs incorporate CCSS in school-based practice?" and "How can occupational therapy be utilized in the classroom to align with CCSS?" To answer these questions and close the knowledge gap between occupational therapy and CCSS, further studies and research needs to be conducted.

Another knowledge gap that requires additional research is communication and the relationship between OTPs and parents as well as OTPs and teachers. Benson et al. (2015) emphasizes the importance of taking into account the communication dynamics in traditional educational systems. It is important to keep in mind the way OTPs communicate with teachers and parents, as well as ensure that there is a constant flow of open communication. Parents are often recognized as the experts regarding a child's strengths and weaknesses, involving parents in the communication process ensures that intervention strategies are extended to the home (Benson et al., 2015). This provides further support in the child achieving academic success. Essentially, the parents were the bridge between home and school, however, more research needed to be conducted to determine the effectiveness of communication between therapists and parents as well as how much time parents needed to spend implementing these strategies outside of school.

When looking at the OTP and teacher relationship, there might have been a disconnect in understanding the role of the OTP in a school setting (Fogel & Lamash,

2021). Typically, the priority of teachers was to focus on the academic performance of the child whereas the priority of OTP was on the educational participation through performance skills and activities of daily living and instrumental activities of daily living. According to Rens and Joosten (2013), collaboration between professionals could be achieved if teachers understood the role of OTPs while OTPs understood the educational system and school policies to ensure that the interventions were relevant and educationally focused. Although more research needed to be conducted on the effectiveness of collaboration between teachers and OTPs, OTPs who work collaboratively with teachers were more likely to develop goals that support the child's participation in school and increase academic success (Rens & Joosten, 2013).

Argument About the Clinical Significance of the Evidence

Based on our research we saw that CCSS is significantly changing the way that children are learning in the classroom. Since these standards are implemented in the classroom as early as kindergarten and without emphasis on motor skills, these areas of development and school success are starting to decrease. There was strong evidence indicating that children increasingly struggled to succeed in school since the implementation of CCSS (Collette et al., 2017). Teachers felt unprepared to teach CCSS to differing populations of students, such as those in special education (Swars & Chestnutt, 2016).

Occupational therapy in schools is a service that provides help to children in various areas in which they might be struggling. Most commonly, occupational therapy in schools focuses on the motor development of children to enable them to complete handwritten work. OTPs and teachers work together to help students with classroom engagement and

interaction to enhance their learning process (Bazyk et al., 2009). With the introduction of CCSS, teachers found it difficult to implement lessons that would benefit students in areas such as handwriting. One study found that children spent only 3.4% to 18% of the school day focused on handwriting (Caramia et al., 2020). This study also mentioned that interventions for fine motor skills were integrated into classroom settings such as zipping and unzipping backpacks, gathering items such as pencils and markers, and using their fingers to complete a maze on the smartboard. However, due to curriculum demands and focus on cognitive skills, teachers were unable to extensively support motor skills in the classroom (Caramia et al., 2020). Despite these barriers, the significance of motor skills in a child's growth must be understood. Teachers can benefit from opportunities for professional development that concentrates on performing fine motor exercises in their classrooms and working with OTPs to assist students with these needs. Research showed that OTPs could effectively observe curriculums and provide feedback and ideas, as well as give suggestions on how to implement handwriting skills during informal learning time, helping alleviate the burden on teachers (Nye & Sood, 2018). With standards like CCSS not addressing these concerns, we see a rise in the need for occupational therapy and an in-school service that helps students bridge these motor functioning gaps. It is important to find a way to use the CCSS to create an occupational therapy curriculum for all areas of learning in school.

Statement of Purpose, Hypothesis, and Research Questions

The primary objective of this study was to gain an understanding of how CCSS may have affected school-based occupational therapy. Through this study, we helped to raise awareness of occupational therapy services in a school-based setting and learned how

to support OTPs in assisting students to achieve higher outcomes within the CCSS. Based on this information, the research question we addressed is: How can occupational therapy interventions help students meet the CCSS to achieve academic success?

To address this research question, we conducted a focus group that included teachers and OTPs to help understand the link between occupational therapy and CCSS education. While we wanted to include a school administrator in our study, we were unable to secure a participant that met our studies requirements. A focus group helped us gain a better understanding of the OTPs' role in CCSS education, including current interventions utilized to support students in meeting the standards. In addition, we learned about the barriers and challenges that our participants faced that potentially hindered their ability to effectively integrate occupational therapy services into CCSS education.

Currently, there is limited information between school-based occupational therapy and CCSS, as well as a lack of occupational therapy research integrated into education research. Prior to conducting the focus group, we hypothesized that participation would allow OTPs and teachers a better understanding of one another's scope of practice and how they could work together to help students achieve academic success within CCSS. As researchers, we hope to understand each participant's perspective and current knowledge of CCSS and promote the ability of OTPs to utilize their skills to help students and teachers meet CCSS requirements.

Theoretical Framework

In the field of occupational therapy, the Person-Environment-Occupation (PEO) model is a highly useful and widely utilized theoretical paradigm (Cole & Tufano, 2020). The PEO model offers a comprehensive and client-centered approach to improving

occupational performance by looking at the intricate connections between the individual, their environment, and their preferred employment. We examined the PEO model's essential elements and discussed how it significantly advanced a thorough knowledge of people and their participation in meaningful occupations.

The first component of the PEO model is the person (Cole & Tufano, 2020). This aspect includes the physical, cognitive, and affective aspects which influence how the person engages with their environment and occupations. The physical component includes factors such as strength and energy, flexibility, range of motion, endurance, and pain, which affect the person's ability to engage in occupation. The cognitive aspect includes thinking, reasoning, memory, perception, communication, and motor planning, while the affective aspect includes feelings and attitudes that could affect the individual's motivation, self-concept, and relationships with others.

The second component, environment, includes the physical, social, cultural, and institutional elements in which the person engages in occupations (Cole & Tufano, 2020). By influencing an individual's access to resources, social support, and opportunities, the environment may assist or impede their ability to succeed. Extrinsic variables, such as culture, social determinants, social capital, education, government policies, the physical and natural environment, and assistive technology, may improve or limit an individual's ability to execute their occupational performance.

Lastly, the occupation component is essential for community activities, recreation, and socialization (Cole & Tufano, 2020). This entails what individuals desire to accomplish or are required to do in their everyday lives, as shown by their roles, jobs, and activities. Participation in individual and community activities is greatly influenced by occupations.

These components of occupation help to promote the health and well-being of the individual.

Based on the PEO model, a child might be referred to school-based occupational therapy if they have difficulty performing typical school occupations. In a school setting, the PEO model provides a holistic approach to a child's occupational performance and occupational performance issues in school occupations within a school environment (Hasselbusch & Dancza, 2012). The PEO model also takes into consideration a child's physical, emotional, and cognitive characteristics, environmental factors inside and outside of the classroom, and occupations related to schoolwork as well as those that meet the child's intrinsic needs.

Classroom routines, expectations, and physical environmental surroundings either supported or hindered a child's learning experiences (Hasselbusch & Dancza, 2012). Although schools have adopted CCSS to promote equity and access to high-quality education for all students, students may have struggled to perform school occupations and meet CCSS. With CCSS placing more rigor on classroom expectations, the classroom may or may not have promoted the best learning environments for children (Hasselbusch & Dancza, 2012).

OTPs may utilize the PEO model to address these difficulties. For example, OTPs develop an intervention that focuses on the student acquiring skills or enhancing their ability to meet the demands of school occupations (Hasselbusch & Dancza, 2012). The environment plays a crucial role in shaping and influencing the behavior and overall development of a child, and either supports or hinders occupational performance in school tasks. OTPs may address environmental barriers by modifying the environment and

promoting access to resources that support occupational performance. Lastly, OTPs support school-based occupations by modifying the occupation or task to better fit the skills and capabilities of the child.

Understanding that each child has a unique temperament that contributes to their physical, emotional, and cognitive abilities could help OTPs assist children in meeting their individual needs (Hasselbusch & Dancza, 2012). Using the PEO model and creating an occupational profile, OTPs help educators understand how and why students struggle with CCSS. OTPs may be able to collaborate with teachers and provide them with tools and advice to help these individual students and classrooms as a whole in achieving standards.

The PEO model is a valuable framework for school-based OTPs to utilize for students to meet CCSS and promote enhanced occupational performance. By considering the students' unique abilities, environmental factors, and occupational demands, the PEO model provides a comprehensive approach that helps OTPs identify and address potential barriers to academic success and ultimately leads to improved outcomes for students academically and in their daily lives.

Methodology

Design

In this study, we completed a one-hour focus group that consisted of one teacher and one OTP. There were multiple reasons why a focus group was beneficial for our study. One reason was to gain an in-depth exploration of the opinions of school-based OTPs and schoolteachers on how or if occupational therapy services may enhance student performance within the CCSS. Additionally, we believe that focus groups allowed us researchers the chance to engage with a variety of participants. This provided diverse

opinions and experiences that assisted us in establishing a deeper understanding of the topic in question.

The initial phase of this research involved collecting enough qualitative data to develop a comprehensive understanding of the relationship between school-based OTPs and CCSS. The project was conducted virtually via Zoom tele-conferencing platform (zoom.us), which included participants from two different school districts with the implementation of CCSS. After selecting all our participants and confirming that they met our inclusion requirements, a semi-structured interview was performed during our Zoom focus group and transcribed subsequently using Otter AI (otter.ai). With the assistance of Otter AI, the research team identified emergent themes and codes that were prevalent during the focus group once it had been recorded. By completing this study, we sought to learn how to support occupational therapy services in a school setting and how to support occupational therapy professionals in assisting students in achieving higher achievements within the CCSS.

Recruitment

To carry out this study, we enlisted participants to join a one-hour focus group conducted via Zoom. Recruitment of participants included methods such as social media outreach via Facebook groups, snowball emailing, and word of mouth. After recruiting participants, they signed an informed consent form, which allowed the research team to include them in our focus group.

Focus Group

Using a focus group for our study provided numerous advantages in collecting valuable and efficient data (Leung & Savithiri, 2009). Focus groups stand apart from

different methodologies in information assortment by promoting spontaneous interaction among members, which separates them from additional organized or individual strategies such as a survey or questionnaire. In contrast to studies or surveys where members answer exclusively and in a more controlled way, focus groups support open conversation.

Due to their adaptability, depth, and range of advantages, focus groups have become a crucial method for acquiring valuable qualitative data compared to those gained from individual interviews (Gundumogula, 2020). An effective pre-session preparation aids in gathering pertinent and in-depth information about the session's planned topic. This approach also has a strong potential for broad subject exploration to produce more data relevant to specific aims and hypotheses (Gundumogula, 2020). The purpose of this focus group was to encourage collaboration and shared learning among participants. Teachers could educate OTPs about the specific standards and goals of CCSS, and OTPs could inform teachers about how occupational therapy practices may enhance student progress and adhere to CCSS.

Proper technology and internet connection was required for all participants and researchers. To create a data analysis, we recorded the hour-long session, and used Otter AI to help transcribe the conversations that took place. This focus group consisted of a semi-structured interview utilizing a set of questions prepared by the research team. However, if follow-up questions or expansion on topics arose, the team and any participant were able to ask or respond. This questionnaire is provided in the appendix section of the study.

Participants

The process used in selecting participants was based on our study's inclusion and exclusion criteria. The inclusion criteria consisted of participants working as a general or special education teacher, school-based OTPs, and administrators with a minimum of 5 years of experience. The exclusion criteria included participants at an entry level, which we defined as less than five years of experience. As well as currently working in a state that does not adopt CCSS.

The sample for this focus group consisted of two participants which included a teacher and an OTP representing those of the same profession working in the school setting. This stakeholder group, who are directly involved in or impacted by occupational services in school settings, was to be consulted to understand their viewpoints on the matter. The participants were chosen based on their knowledge, experience, and openness to dialogue on school-based occupational therapy procedures. The individuals responsible for conducting this focus group were Stanbridge University MSOT students. To find potential participants who met the requirements of OTPs, administrators, and teachers, we posted a flier across various social media platforms with a link to a survey. This survey helped filter potential participants to ensure they met the inclusion criteria. After participants were selected, these individuals received a formal invitation outlining the significance of their participation in the focus group as well as its aim. We worked with the teachers and OTPs to choose an appropriate day and time for the focus group. Participants received sufficient notice to ensure their availability. Prior to taking part in the focus group, participants were required to give their informed consent. We then issued a consent form outlining the study's

objectives, methods, and possible risks or advantages. The form also stressed that participation was voluntary, and that anonymity and secrecy are guaranteed.

Data Analysis

To ensure trustworthiness and accuracy, multiple approaches were used to analyze the data and identify repeated themes brought up in conversation during the focus group study. Following the focus group, we reviewed the transcription and corrected any noticeable changes between the Zoom recording and the transcription from Otter AI. Two researchers took personal notes during and after the conversation. Then, we all individually broke down these notes and created a list of frequently discussed topics and supporting evidence for each topic. A feature of Otter AI using text analysis was then utilized to find emerging themes, parent codes, and child codes from the interview. Main codes and key themes were labeled "parent codes" while "child codes" was the label given subcategories of the parent codes. Child codes were often descriptive and obtained directly from the transcribed data. Once all codes were organized, data was analyzed to gain an understanding of the OTP's and the teacher's current knowledge about one another's field and CCSS. Analysis led to our understanding of how teachers could educate OTPs about CCSS as well as how OTPs could inform teachers about their practice and how they can help students adhere to CCSS.

Legal and Ethical Considerations

Personal identifiers were removed from all data and replaced with pseudonyms to ensure the participants' confidentiality throughout the duration of the study. In addition, the recorded audio file obtained from the Zoom meeting was promptly deleted after verifying transcription of the manuscript. We did not share raw data beyond our research

team, except for the information included in our thesis paper. Before participating in the

study, all participants received an informed consent document that clearly outlined the

study's purpose, procedures, potential risks and benefits, as well as their rights as

participants. A digitally signed consent form was required prior to participation.

Furthermore, participants were provided with a video/photo release form to address the

potential use of the audio file.

Results

Overall, participants expressed an understanding of CCSS, the challenges it

brought to students, and the relationship between teachers and OTPs. Analysis of

researcher notes and transcripts were used to classify findings and create parent and child

codes of the major themes discussed in the conversation. We compiled three parent codes

discussing collaboration, difficulties, support, and education based on the hour-long

discussion.

The three parent codes were:

1. Collaboration between teachers and OTPs.

2. Difficulties students face in achieving Common Core standards.

3. Potential for occupational therapy to support students in meeting Common
    Core standards.

Collaboration between teachers and occupational therapists

Part of the focus group discussion centered around how much knowledge teachers

and OTPs had on what the other field was doing to help children. One child code that

arose was the amount of time school-based OTPs had to interact with each other.

Participants noted that school-based OTPs often have large caseloads with multiple

school sites to attend throughout the week, implying they did not always have time to talk to teachers about implementing occupational therapy into their classrooms. The teacher mentioned, "I've only met our occupational therapist once out of the six years that I've been teaching." Participants also expressed that teachers may never encounter the OTP for their school or district throughout their career. To combat these issues, participants touched on the ideas of OTPs and teachers working together regularly. Both participants shared the belief that there was significant potential in establishing a collaboration effort between teachers and OTPs. They saw this collaboration as an opportunity to gain a better understanding of where all students might be exhibiting signs of struggle. Furthermore, this collaboration could use the knowledge and expertise of each professional to identify potential classroom implementation that could offer support and assistance to these students.

Difficulties students face in achieving Common Core standards.

To better understand how CCSS affects academic achievement, we wanted to understand what students may be struggling with since the adoption of CCSS in 2010. Participants discussed the need for students to be able to achieve a higher level of thinking to meet the rigor and demand of CCSS. The teacher stated, "...it's more rigorous than probably what all of us went through with No Child Left Behind. Because it's really pushing students for a higher level of thinking." This increase in rigor is a possible explanation for why students are struggling to meet the demands of CCSS. The teacher then went on to explain, "For the general student, the struggle is to think beyond what's on paper in front of them. The struggle is abstract thinking and applying the knowledge

that they just learned to the real world." In other words, students are struggling with

making what they are learning applicable to the world outside the classroom.

The conversation also discussed the physical difficulties that students are facing

within CCSS. Both the OTP and teacher mention the struggles they have with

handwriting skills and the importance those simple skills have on learning. The teacher

shared how student writing skills have declined within the past years. "I have sixth

graders that can't even write in a straight line, even when there are lines on the paper. So,

I think it makes it more difficult for the students to do those basic tasks." The OTP went

on to explain that she also sees these difficulties and how they may affect students in

other areas of learning, stating "I have seen students struggle. If they…haven't received

formal handwriting instruction, they've had difficulty keeping up with the speed of the

lessons or the class."

Potential for occupational therapy to support students in meeting Common Core

standards.

The participants in the focus group also touched on the way teachers and OTPs

might come together to help educate each other. The teacher shared how beneficial it

would be to have direct access to an OTP who could provide guidance on addressing

specific challenges that students face in writing, reading comprehension, and following

directions. The teacher mentioned, "It would be great if I could reach out to an

occupational therapist and [explain] there was a student [having difficulties], or how

could I make a standard more accessible to more students who might struggle with

reading directions or remembering the directions, just to focus on one small thing at a

time". The OTP also believed that occupational therapy's scope of practice and

specialties have great potential to support students in meeting CCSS. The OTP stated, "I find that [myself and others] as occupational therapists, have the knowledge and the understanding of how the brain works and certain impairments like memory or executive function and different areas of the brain, and how that can impact a student's ability to maintain attention in the classroom."

Discussion

The purpose of this study was to gather qualitative data to gain a better understanding of the knowledge OTPs and teachers have on the effect CCSS has on student achievement. Expertise and personal experiences were shared by all participants who took part in the focus group. Analysis of this conversation provided three major themes that have future implications for further studies that aim to understand the tie between school-based occupational therapy and CCSS.

Collaboration between teachers and occupational therapists.

A collaboration between OTPs and teachers would allow these professionals to create lesson plans that utilize both professional scopes. Currently, there is a disconnect between teachers working with OTPs especially if they do not have students that are currently receiving occupational therapy services. OTPs have more interaction with teachers; however, this collaboration is mostly focused on single students. Collaboration on a regular basis would be beneficial for both teachers and OTPs, allowing for communication about the needs of all students in the classroom and the goals for meeting CCSS. Future research would benefit from taking a deeper look into the most beneficial ways teachers and OTPs can collaborate.

Due to the lack of communication and collaboration, there is a disconnect in how teachers and OTPs understand the roles of the other profession. It is even possible, and reflected in the focus group, for teachers to not know who the OTP is for their school-cite. Without this interaction teachers do not understand how occupational therapy can benefit students. OTPs also lose the understanding of how students may be struggling with meeting the standards, or how standards are approached in classrooms. This understanding affects the way teachers and OTPs can utilize their differing expertise to benefit the learning and achievement of CCSS.

Difficulties students face in achieving Common Core standards.

Future implications for school-based OTPs are substantial due to the obstacles students encounter in achieving CCSS criteria. OTPs may become increasingly important in providing students with individualized support as education continues to place a strong emphasis on higher-order thinking abilities and the practical application of knowledge (Lopez & Wise, 2015). To make sure that students are adequately equipped to achieve CCSS requirements, OTPs will need to concentrate on interventions that support students' capacity for abstract thought and manage fine motor skills. As school-based OTPs seek to close the gap between students' individual needs and academic requirements, collaboration with educators and the incorporation of occupational therapy into the curriculum will become even more crucial. This could potentially help students succeed in a dynamic educational environment.

Potential for occupational therapy to support students in meeting Common Core standards.

The collaboration between teachers and OTPs highlights the potential for occupational therapy to help students succeed in attaining Common Core criteria, which suggests an encouraging future for OTPs working in schools. The collaborative approach reflects an increasing awareness of the specific knowledge that OTPs contribute to the educational setting. Future school-based OTPs may become increasingly integrated into the educational system and play a significant part in providing specialized help for students who struggle with reading, writing, comprehension, and following directions. OTPs could also be a resource for teachers by providing advice on how to make standards more approachable for students who have difficulty, through modifications, accommodations, or focused interventions. To make the CCSS more approachable and attainable for a wider variety of students, school-based OTPs must further develop their ability to collaborate closely with teachers to design interventions and strategies to target the unique needs of individual students.

Limitations

This study was limited because of a small number of participants, only consisting of two individuals: one elementary teacher and one school-based OTPs. Due to the size of participants in the study, we are unable to generalize our findings to larger populations. Our aim was to include school administrators in the study to provide a more comprehensive understanding of CCSS and its impact on academic success. A larger focus group would have enhanced the diversity of the study and further addressed this limitation. In addition, because this was a semi-structured interview with guiding

questions generated by our research, participants and researchers had the freedom to ask

follow-up questions and add to the discussion if they thought something was not covered.

While this approach allowed for flexibility, we could have risked omitting important

questions that participants might find relevant to share their experiences and

knowledge. Further studies should address these limitations to provide a more

comprehensive understanding of CCSS and its impact on students' success and determine

the feasibility of school-based occupational therapy being integrated into the curriculum.

Conclusion

Students develop foundational skills, such as fine motor skills, during their early

years of education that are crucial to their academic achievement (Caramia et al., 2020).

As a result, the critical period for practicing and developing these fundamental abilities is

in the primary years of education. To attain later abilities linked to handwriting, visual

motor comprehension, and other everyday tasks inside and outside of the school setting,

these skills need to be developed. Due to the CCSS heavy emphasis on English language

arts and mathematics, crucial fundamental learning abilities among primary school

students have not received enough attention.

Occupational therapy aims to enhance functional abilities including self-

regulation, sensory processing, and fine motor skills. The development of the underlying

abilities required for academic achievement can be assisted by aligning occupational

therapy interventions with the CCSS. Additionally, OTPs and educators can work

together more effectively by linking occupational therapy to the CCSS. Together, OTPs

and educators can develop a thorough support strategy that considers the student's

academic and functional requirements. The integration of treatment interventions with

classroom instruction is ensured by this partnership, which strengthens learning across

contexts. Our purpose was to comprehend how CCSS impacted occupational therapy

provided in schools. By conducting this study, we discovered how to support

occupational therapy services in a school context and how to support OTPs in helping

students achieve greater results within the CCSS.

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Appendix A

Institutional Review Board Approval

Dear Dr. Jayson Davies and Students,

The Stanbridge University Institutional Review Board has completed the review of your application entitled, "Tying School-Based Occupational Therapy to Common Core." Your application (#09MSOT012) is approved and categorized as Expedited.

IRB Application Number	#09MSOT012
Date	08/28/2023
Level of Review	**Expedited**
Application Approved	X
Conditional Approval	
Disapproved	
Comments	The requested Minor changes have been reviewed and confirmed as completed by the IRB. (08/28/2023)
Signature of IRB Chair	

Please note that any anticipated changes to this approved protocol requires submission of an IRB Modification application with IRB approval confirmed prior to their implementation.

Sincerely,

Julie Grace, M.S., M.A.
IRB Chair

Appendix B

Guiding Questions

Focus group: Questions to ask OTPs

1. How do the Common Core standards impact defining goals for specific kids receiving occupational therapy in the school system?

2. How might occupational therapy be used in a school-based environment to evaluate and track the development of Common Core-related skills?

3. What do you know about Common Core?

4. To what extent do you collaborate with teachers?

Focus group: Questions to ask teachers

1. How familiar are you in occupational therapy and its potential contribution to supporting kids in their academic success?

2. What difficulties do kids have in achieving Common Core criteria, in your experience?

3. Do you have any worries or difficulties in mind when you utilize occupational therapy to help students reach Common Core standards?

4. What are your thoughts on the potential collaboration between teachers and occupational therapists to address students' individual needs and support Common Core standards?

5. What are your thoughts on if OT would be a beneficial member to helping students meet common core standards?

6. How do you see occupational therapy's contribution to implementing Common Core standards in your classroom?

7. What methods or procedures do you think are most successful in encouraging cooperation between teachers and occupational therapists to advance Common fundamental abilities in the classroom?

8. How have you worked collaboratively with occupational therapists to address Common Core requirements and assist kids' academic needs in the classroom?

9. From a teacher's perspective, how would you explain to an occupational therapist what Common Core is?

10. What are your thoughts on integrating OT into the Common Core curriculum?

11. What do you know about OT?

12. What do you know about an occupational therapist's role in a school setting?

Focus group: Questions to ask administrators

1. How do you view the connection between the Common Core standards and occupational therapy's role in your school or district?

2. How can occupational therapy treatments for developing Common Core skills be evaluated for their impact?

3. Which measures or programs are in place to ensure teachers and occupational therapists work together to address Common Core skills?

4. Since Common Core State Standards have been implemented, have you seen any kind of needs for students in the classroom?

5. How might teachers and OTPs work together to target these needs?

Questions for everyone

1. How do you offer assistance and support to students in meeting the requirements of the Common Core standard?

2. What do you believe are some barriers or challenges that prevent students from meeting Common Core standard? How would you address these challenges?

3. What support or resources would you find beneficial in supporting students to develop fine motor skills to meet Common Core standards?