5-2018

Collaborative Practices in Special Education: An Exploratory Study

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<https://doi.org/10.33015/dominican.edu/2018.OT.01>

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Pentek, Blanka; Sadoff, Katherine; and Tang, Evelyn, "Collaborative Practices in Special Education: An Exploratory Study" (2018). *Graduate Master's Theses, Capstones, and Culminating Projects*. 286.

<https://doi.org/10.33015/dominican.edu/2018.OT.01>

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Collaborative Practices in Special Education: An Exploratory Study

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A Culminating Project Submitted in Partial Fulfillment of the Requirements for the Degree

Master of Science Occupational Therapy School of Health and Natural Sciences

Dominican University of California

San Rafael, California

May 2018

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This project, written under the direction of the candidates' faculty advisor and approved by the chair of the Master's program, has been presented to and accepted by the Faculty of the Occupational Therapy department in partial fulfillment of the requirements for the degree of Master of Science in Occupational Therapy. The content, project, and research methodologies presented in this work represent the work of the candidates alone.

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Abstract

Objective: This exploratory survey study examined collaborative practices of professionals working in special education. The basis for the survey was the Conceptual Model of Collaboration (CMC), created by Hess and colleagues (2017).

Methods: 27 professionals who work in special education participated. Cross tabulation tests and Pearson's correlation tests were run to determine relationships between the variables.

Results: The findings indicated that the majority of participants value collaboration for student outcomes and professional development. Most participants agreed on common facilitators and barriers to collaboration. Collaboration primarily takes place in IEP meetings, through email and text messaging and is frequent in all classroom types and age ranges. Frequent collaboration has supported prioritization of sensory-motor programming for both the student and the classroom equally.

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Acknowledgements

We would like to acknowledge all the individuals who contributed to the success of this capstone project. First and foremost, we would like to thank Dr. Laura Greiss Hess, PhD OTR/L for her expertise, support and guidance through the entirety of our research project. None of this would have been possible without her encouragement and relentless positivity. We would also like to thank Joanne Figone, OTR/L for being our second reader and providing unique insight throughout the writing process. Thank you also to Dr. Julia Wilbarger, PhD OTR/L for providing guidance for the design of our survey and during the data analysis process. We are also grateful to all the professionals who took time out of their busy schedules to participate in our survey; and a special thank you to professionals who participated in our pilot survey and provided important feedback that contributed to the final survey we created. Finally, we would like to thank our family and friends for their unconditional love, guidance and support.

Literature Review

School based occupational therapists (OTs) provide skilled interventions for students with disabilities. Their goal is to facilitate students' participation in occupations, defined as the purposeful activities that they engage in on a daily basis (American Occupational Therapy Association [AOTA], 2014). School related occupations can include academic activities, social engagement, and daily living skills. OT programs in special education classrooms include, sensory-motor programs and sensory-based interventions. The OT will work with a team of other professionals in order to address the needs of the student and as part of the collaborative process. This literature review examines the collaborative process among professionals in the school setting, the use of sensory-motor and sensory-based interventions, and the strength of existing collaborative models.

Legislative Background of Special Education and Related Services

One of a child's most important occupations is being a student. In 1975, the Education for All Handicapped Children Act (EHA) became the first legislation in the United States to address the needs of students with disabilities (Case-Smith & O'Brien, 2015). EHA was followed by the Individuals with Disabilities Education Act (IDEA) in 1990, which "required states and public educational agencies to provide free appropriate public education to students with disabilities in the least restrictive environment" (Pub. L. 108-446). In that same year the American Disabilities Act (ADA) ensured that there could be no discrimination in schools based on disability status. These legislative acts established the foundation for the educational services for students with disabilities.

In addition to laying the framework for the special education system, IDEA contains a list of the following conditions that qualify a student for specialized services: autism, deaf-blindness,

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deafness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairments, other health impairment, specific learning disability, and language or speech disorders (Pub. L. 108–446). IDEA mandates that all students who qualify have individualized education plans (IEPs) and that parents be involved in the decision making processes. These students may also receive related services such as occupational therapy to address educationally related goals (Pub. L. 108–446). With the addition of related services, each student has a number of professionals on their IEP team, which may include parents / guardians, special-education teachers, occupational therapists (OTs), behavioral therapists, speech therapists, and others. The IEP team should work together when making decisions and implementing programs, since collaboration results in the best educational outcomes for students (Martin, 2005). However, many members of the teams often have large student caseloads and travel requirements to several schools, making effective and meaningful collaboration difficult to achieve. Many professionals only meet at the annual IEP meeting because that is required by IDEA. Despite the fact that successful collaboration between IEP team members is an essential component of special-education, there has been no existing practice model of how such collaboration should take place.

While IDEA and ADA are federal laws that are implemented throughout the United States, some states have additional criteria. Specifically, in 1983 California had placed additional mandates in place to establish a comprehensive system that ensures students who qualify for services receive the most out of their education (California Education Code, 1983). Across the state of California, all school districts form consortiums known as Special Education Local Plan Areas (SELPA) (California Education Code, 1983). Each SELPA has its own plan for providing high quality programs and services. SELPAs also work in partnership with local agencies to

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additionally support students and their families (California Education Code, 1983). Although California has additional plans in place for the implementation of special education services, the SELPA system still does not provide a framework for how interdisciplinary collaboration should occur within that system.

Occupational Therapy in the School Setting

Occupational therapy intervention in the school setting is focused on improving performance in school related occupations, such as education, social participation, and play (AOTA, 2011; California Department of Education, 2012). According to IDEA, occupational therapy is a related service that can be provided for students who are receiving special education (AOTA, 2011; California Department of Education, 2012). Occupational therapy intervention involves promoting fine and gross motor skills, self-help skills, sensory-motor processing, and psychosocial well-being (AOTA, 2011; California Department of Education, 2012). The role of the OT is to help students increase participation in education and social activities in the context of the classroom or playground (AOTA, 2015). After evaluating the student, in collaboration with the IEP team, the OT will propose educationally relevant goals and support the student to promote successful participation in school (AOTA, 2015). Sensory processing as a specific area of expertise for school-based OTs is one of the performance areas which greatly impacts their engagement in education. This is because underlying impairments in sensory processing can inhibit a student's opportunity to engage academically and socially in the school context (AOTA, 2015).

Sensory Processing and Modulation Disorders

An estimated 5%-16% of the pediatric population demonstrates difficulty processing and integrating sensory information (Bar-Shalita & Cermak, 2016). A student's difficulty in

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processing sensory information can lead to an inability in organizing behavior and developing skills necessary for successful participation in school (Weaver, 2015). In addition, sensory modulation disorders occur when a student has difficulty modulating responses to sensory stimuli (Bar-Shalita & Cermak, 2016). These sensory issues can be a condition on their own, or can be comorbid with other conditions such as autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), fragile X syndrome and emotional disturbances. Research has found that individuals with ASD experience atypical sensory responses compared to their typically developing peers (Schilling & Schwartz, 2004). Individuals with ASD may demonstrate inappropriate responses to stimuli in the environment, leading to behavioral challenges such as stereotyped interests and repetitive behaviors (O'Donnell, Deitz, Kartin, Nalty & Dawson, 2012). Studies have found that the sensory deficits in students with ASD have been correlated with poor attention, limited play participation, and decreased social interaction, and off-task behavior in the school setting (Schilling & Schwartz, 2004).

Sensory-Motor Programs and Sensory-Based Interventions

OTs practicing in schools often use a sensory integration framework to address sensory processing difficulties (Pries, 2014). Sensory integration interventions include providing the “just right challenge” to engage the child and elicit adaptive responses and maintaining an optimal state of alertness (Pries, 2014; Schilling & Schwartz, 2004). In the school setting, OTs examine the effect of how sensory input can affect participation in the educational curriculum (Pries, 2014). Sensory-based interventions (SBI) include provision of therapeutic touch such as a deep pressure to decrease maladaptive behaviors, reduce hyperactivity, prevent self-stimulatory behaviors and improve overall attention (Case-Smith & Arbesman, 2008). Strategies for therapy can also include mobile seating options, tactile methods, fidget toys, climbing equipment, and

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swings (Pries, 2014, AOTA 2015, Case-Smith & Arbesman, 2008).

Critics of sensory integration therapy claim there is not enough evidence to support this treatment (Pries, 2014). However, there is a substantial amount of evidence supporting the efficacy of physical exercise as part of sensory-motor programs (SMP) in reducing stereotypical behavior and promoting function in activities. There are theories that exercise releases specific neurotransmitters that can modulate stereotypic behaviors of children with autism (Petrus et al., 2008). Others suggest that resulting fatigue from physical exertion can lead to decreases in stereotypic behavior (Petrus et al., 2008). Physical exercise is well documented in literature as an effective intervention for a variety of developmental and psychiatric conditions thus SMPs have been used by occupational and physical therapists to create a more holistic intervention plan that involves physical exercise (Petrus et al., 2008). In Gigazoglou's study on use of trampoline intervention for individuals with intellectual disability for example, results found that use of the trampoline increased participants balance ability and maintenance of good posture for increasing participation in functional tasks. This improvement was due to increased proprioceptive stimulation received during the trampoline intervention. (Gigazoglou et al. 2013) Specifically designed sensory-motor activities are precisely what provides the sensory input that can facilitate "greater modulation, organization and integration of sensory information" thus allowing the students to use sensory information in more adaptive ways (Pries, 2014, p. 477). In order to safely accomplish a majority of activities, students, such as those in Gigazoglou et al's (2013) study, would be relying on proprioceptive and tactile sensory input to become aware of one's position in space contributing to one's balance (Gaerlan et al., 2010). Many students, such as those in Gigaziglou et al's (2013) study, would benefit from proprioceptive input to improve balance, which in turn leads to increased participation in different activities. In the school setting,

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physical activities should include exercise that support the development of skills needed for participation in education (Weaver, 2015). For example, proactive running or jogging before a classroom task has been shown to be related to increased engagement in classroom assignments (Weaver, 2015). Similarly, a school based yoga program can result in improvement of behavior for students with ASD (Koenig, Buckley-Reen & Garg, 2012; Weaver, 2015). Although they are often not identified as such, we assert that physical exercises are SMPS and SBIs.

OTs typically implement SMPs and SBIs independent of the IEP team, as sensory issues are widely accepted as the OT area of expertise. However, it is imperative for the entire interdisciplinary team to collaborate on how to implement SMPs and SBIs whenever working with a student. This is important because sensory issues are often the underlying problem affecting a student's ability to participate in class. In order for a student to truly benefit from SMPs and SBIs, the interventions need to be implemented throughout the school day (Hess, Czuleger, Garnica, Phung, & Rzepka, 2017; VandenBerg, 2001). Furthermore, SMPs and SBIs are most impactful when seamlessly integrated with team members working to implement them collaboratively (Hess et al., 2017; Vandenberg, 2001).

Interdisciplinary Team Collaboration

Collaboration among OTs and other professionals is essential for successful student outcomes (Barnes & Turner, 2000). Each member of the team brings their own set of expertise to help the student perform to the best of their ability. Team members are commonly comprised of parents or caregivers, the teacher, an OT, a speech language pathologist, a behaviorist, a school psychologist, teacher's aides, and administrators. In schools, collaboration can be described as "an interactive process that focuses teams and agencies on enhancing the functional performance, educational achievements and participation of infants/ toddlers, children and youth

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with disabilities in school, community and home environments with their families and typical peers” (Hanft & Swinth, 2011, p. 2). Any subsequent use of “team collaboration” will refer to this definition (Hanft & Swinth, 2011). Research has shown that in addition to supporting student learning, collaboration increases team member communication, understanding of team member roles, and implementation of sensory-motor intervention (Hess et al., 2017; Hanft & Swinth, 2011). Overall, collaboration of the interdisciplinary team in the school setting allows for a collective focus on a student’s goals (Bose & Hinojosa, 2008).

Collaborating for student success. Evidence in the literature demonstrates that collaboration among professionals in the school setting leads to improved student outcomes. King et al. (1998) found that 98% of students progressed on their IEP goals when there was regular collaborative consultation among OTs, physical therapists, speech language pathologists, teacher and parents. Additionally, many students showed improvements on standardized tests (King et al., 1998). A number of other studies examined student improvement in fine motor skills when OTs collaborated with other professionals on the implementation of handwriting interventions. For example, when OTs and teachers co-led a handwriting program, students demonstrated improvements in writing legibility, speed, and fluency compared to a control group of students who did not receive the same intervention (Case-Smith, Holland, Lane, & White, 2012; Case-Smith, Weaver, & Holland, 2014). Another study found similar student improvements in fine and visual-motor skills when OTs co-taught with the teacher to embed a fine motor intervention into the daily class schedule (Ohl et al., 2013). As previously mentioned, collaborative practices are also important for SMPs and SBIs. VandenBerg examined OT collaboration with a teacher regarding the use of weighted vests during classroom activity (2001). Students who wore the weighted vest throughout the school day showed increased on

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task behavior (VandenBerg, 2001). This evidence supports not only the importance of SMPs and SBIs that can be integrated into the school day, but also the importance of using collaborative practices in order to implement those programs. Overall, the literature demonstrates improved student outcomes in IEP goal attainment, fine motor skills, and on task behaviors as a result of collaboration among professionals (Case-Smith et al., 2012; Case-Smith et al., 2014; King et al., 1998; Ohl et al., 2013; VandenBerg, 2001).

Types of teams. There are several different types of collaborative partnerships that exist among the team members in the school setting. One example is the *transdisciplinary* team, which involves sharing roles across different disciplines and is thought to be best practice for working with children with disabilities (King et al., 2009). Each professional learns about the other disciplines extensively, leading to role release, wherein team members become well versed in the perspectives of other clinicians and are able to utilize strategies from other disciplines (King et al., 2009). Transdisciplinary teams maximize cooperation, communication, and interaction among the different team members (King et al., 2009). Another type of collaborative partnership is the *interdisciplinary* team. In interdisciplinary teams, members communicate and meet regularly to discuss their student's' treatment goals; however, they do not have role release nor have as much role overlap as a transdisciplinary team. (Korner, 2010). The final type of partnership is the *multidisciplinary* team, wherein member roles are well defined with no overlap (Korner, 2010). Multidisciplinary team members provide specialized services without integration of information from other disciplines and may only come together formally for IEP meetings (Korner, 2010).

Facilitators of collaboration. It is well documented in the literature that collaboration is essential for better student outcomes such as improved IEP goal attainment, fine motor skills,

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and on task behaviors (Case-Smith et al., 2012; Case-Smith et al., 2014; King et al., 1998; Ohl et al., 2013; VandenBerg, 2001). A number of factors have been documented as facilitators to collaborative practices. Building rapport among professionals is an important part of a collaborative relationship (Rens & Joosten, 2014). For example, teachers reported feeling more comfortable discussing students when familiar with the OT (Rens & Joosten, 2014). This indicates that having good rapport among team members helps facilitate collaboration and may also lead to better outcomes for the student. Another facilitator to collaboration is informal meetings. Many team members reported having frequent conversations with each other in informal settings such as in hallways or classrooms. They remarked that during these meetings, they were able to come up with successful strategies for their students (Barnes & Turner, 2001). Even though these meetings are not formal IEP meetings, they still allow a time for team members to discuss the student, and share important student information. Hess and colleagues (2017) also found several additional factors that contribute to good collaboration among team members. These factors include understanding the roles of various team members, taking action to prioritize collaboration, communicating among team members, addressing existing barriers, and reinforcing the team's values (Hess et al., 2017). Understanding the roles of other professions can help each professional connect more with his or her team. If a professional does not understand another's professional role, he or she may place less value on what that person brings to the team or to the students. Taking action is another important facilitator of collaboration. For example, teams that take initiative to make time in their schedules report better collaboration (Hess et al., 2017). Finally, addressing barriers is another important component that promotes collaboration. Teams that can identify and confront factors that are actively hindering good collaboration such as role confusion and lack of administrative support can find solutions to

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these problems (Hess et al., 2017).

Barriers to collaboration. Barriers to productive and meaningful collaboration are also well documented in literature. One example is when collaborators attempt to take on the “expert” role. Rens and Joosten (2014) found some teachers believed that when OTs take on an “expert” role and assumed to know what was best for the student, they would not listen to the teacher’s perspective. This caused the resentment of the OTs, and led to an imbalance of power between the team members. Similar problems have been found among other professional couplings, such as between teachers and speech language pathologists (SLPs) (Baxter, Brookes, Bianchi, Khadeeja, & Hay, 2009). Teachers often felt dependent when asking the SLPs for support, and SLPs were hesitant to pass on knowledge to the teachers for fear that they would no longer be needed (Baxter et al., 2009). Similarly, lack of communication among team members can also inhibit collaboration. Some professionals would privately collaborate with others, after meetings have concluded, instead of discussing issues when all team members were present (Bose & Hinojosa, 2008). Some OTs even reported of not being included in IEP meetings, unless they were specifically asked to by a parent (Bose & Hinojosa, 2008).

Insufficient support and lack of training also serve as barriers to collaboration. Some professionals expect teachers to implement complicated interventions for students in their class without detailed directions. Professionals writing these plans may fail to realize that the instructions have been either too complicated or vague for the teacher to understand and implement (Baxter et al., 2009). Conversely, other professionals may argue that some teachers lack the appropriate knowledge and training that it takes to help certain students on their caseload. These beliefs can hinder collaboration between the teacher and the OT (Baxter et al., 2009).

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Another potential barrier is unrealistic OT intervention. It is not uncommon that OT ideas appear sufficient on paper, but end up being difficult to implement in an actual classroom. This is particularly true if the OT has not fully collaborated with the teacher to design a feasible plan (Rens & Joosten, 2014). Without collaboration with the teacher, OT interventions may be too time consuming, disruptive to other students, expensive or simply not fit into the classroom structure. As a result, teachers abandon these interventions. In addition, many teachers do not have an adequate understanding of what an OT's role is in the school setting. This role confusion can be a barrier to successful collaboration and implementation of interventions. Rens and Joosten (2014, p. 153) interviewed teachers about their understanding of OT. Teacher comments included, "I had no idea they did anything with school kids" and "I thought, children don't have an occupation... they don't work... why do they need an occupational therapist?" If a teacher does not know what an OT contributes to the school setting, they are unlikely to collaborate with the OT, or implement any therapeutic interventions. In general, lack of knowledge of other professions hinder collaboration among all members of interdisciplinary teams (Rens & Joosten, 2014).

Finally, time constraints are also a significant barrier to collaboration. Many OTs, especially those that work for multiple schools, do not make the time to have scheduled meetings with the teachers of students on their caseload (Bose & Hinojosa, 2008). OTs may only have time to communicate briefly and informally, if at all, such as during lunch breaks, in the parking lot, or when dropping a student off in the classroom. Bose and Hinojosa (2008) found that many OTs wished that they had more time to interact with teachers. They also believed that school administrators were not supportive of collaboration, further hindering their ability to find time to meet. Without scheduled time to collaborate, team members will not have time to discuss

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concerns, goals and strategies for the students on their caseload. All facilitators and barriers to collaboration that were found in the literature have been summarized in Table 1.

Table 1.
Summary of Facilitators & Barriers to Collaboration

Facilitators	Barriers
Positive rapport between professionals	Lack of communication
Informal meetings (at lunch, outside of school hours)	Feelings of superiority
Formal meetings	Unrealistic OT intervention
Having extra time during the work day	Role confusion
Administrator support	Time constraints

Note. Informal meetings refer to meeting outside of scheduled meetings, formal meetings refer to scheduled meetings (i.e. IEP meetings); this information was adapted from Baxter et al., 2009; Bose & Hinojosa, 2008; Rens & Joosten, 2014.

While this research provides a foundation to the facilitators and barriers of collaboration, there are limitations to these studies. Most of the aforementioned research only covered general education, so the results cannot be applied to special education programs. For effective collaboration to take place facilitators need to be promoted and the barriers need to be addressed and eventually overcome. A model for interdisciplinary collaboration could lead professionals to systematically promote facilitators and address barriers; however, current literature includes little research on such a model.

Current Models for Interdisciplinary Team Collaboration

There is a dearth of practice models for team collaboration in the current literature. Practice models have been examined from outside the special education setting such as the

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Developmental Work Research (DWR) model which was implemented by Villeneuve and Shulha (2012). DWR is a multidisciplinary model that is based on group-learning theory. The model poses that if knowledge and learning is shared among group members than that group's overall practice will improve. Previously, the DWR model has been used to study general educational settings as well as social service and health care settings. In this study, an ethnographic approach was employed to observe a special education school-based team for six months in order to examine their collaborative approaches (Villeneuve & Shulha, 2012). The team included administrators, a special education teacher, case managers, an occupational therapist, and a parent. The researchers used the DWR model in order to encourage shared learning and collaboration during researcher-led workshops. The participants reported that workshops increased their understanding of each team members' roles and helped facilitate the decision making process (Villeneuve & Shulha, 2012). The work by Villeneuve and Shulha (2012) is a good starting point for assessing collaborative teams; however, the DWR methodology is better suited for studying collaborative teams rather than providing a framework for how they should function.

The Collaborative Model for Promoting Success (COMPASS) was studied by Ruble, Dalrymple, and McGrew (2010) to determine if the application of this model resulted in higher IEP goal attainment. COMPASS was originally developed as a consultation and training model specifically for teachers. The aim of COMPASS was to encourage consultation between teachers and parents in order to better address students' individual needs. Through the implementation of the COMPASS model, more IEP goals were met and the goals themselves were of higher quality (Ruble et al., 2010). However, while COMPASS provides a quality framework for collaboration between teachers and parents, it does not include other essential members of an interdisciplinary

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team such as OTs.

Other research has focused primarily on the relationship between two professionals (e.g. only the OT and the teacher) but not among an entire team (Barnes & Turner, 2000; Bose & Hinojosa, 2008; Glover, McMormackz, & Smith-Tamaray, 2015; Silverman & Millspaugh, 2006). Therefore the results can only be applied to these specific relationships, and cannot be generalized to include the entire interdisciplinary team. While these studies provide important research on the interactions between team members, they do not look at the team as a whole. Specifically, Silverman and Millspaugh (2006) examined how physical proximity between two team members can positively affect collaboration. The results indicated that when the OT and the learning support teacher worked in the same classroom, more collaboration occurred on a day-to-day basis and their interventions became more integrated into student's school day (Silverman & Millspaugh, 2006). This is aligned with the findings from Hess et al. (2017), stating that sensory-motor interventions were integrated in the classroom more frequently when more collaboration occurred between team members. This suggests that working together in the same space helps to foster more frequent and thusly improved collaboration which suggests that collaborative spaces may be an important component for a comprehensive model of collaboration. However, as is consistent with most of the literature, Silverman and Millspaugh (2006) only focused on two members of the interdisciplinary team, rather than the team as a whole.

Unlike the aforementioned studies, Hess et al. (2017) examined the interdisciplinary team as a whole unit. Hess et al. (2017) explored the collaborative processes within a group of professionals who, despite the lack of a formal model to follow, worked together effectively and acted as an exemplar of transdisciplinary collaboration. The researchers used interview methods and qualitative analysis to empirically examine how the professionals on this team at this

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particular school were able to effectively utilize collaborative practices to achieve better outcomes for their students. The results informed The Conceptual Model for Collaboration (CMC) (See Figure 1). According to this model, effective collaboration is intentional and includes professional engagement in taking action, communication, addressing barriers, reinforcing team values, and understanding team roles. Finally, this model highlights the importance of interdisciplinary collaboration for creating and implementing a SMPs and SBIs for students (Hess et al., 2017). The CMC suggests that “classroom sensory-motor programs reflect the collective expertise of the interdisciplinary team” (Hess et al., 2017). When SMPs and SBIs are implemented for the whole class and by the whole team, the program becomes integrated into the school day and all students can benefit from the program.

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*Figure 1. Conceptual Model for Collaboration (CMC). This model was created based on the results of a qualitative study. The researchers conducted interviews with members of a single interdisciplinary team at a special education center. Team members included an occupational therapist, speech language pathologist, three special education teachers and a behavior specialist. From: Hess, L., Czuleger, B., Garnica, E., Phung, J., & Rzepka, M. (2017, March) *A collaborative approach to school-based sensorimotor programs*. Poster presented at American Occupational Therapy Association Conference, Philadelphia, PA.*

Current limitations of this model are that it was created based on a single group of professionals working at a transdisciplinary team at a special education center campus. Further research is required to examine if this model can be applied in a broader context, to other schools and other groups of professionals.

Conclusion

It is imperative for students with disabilities to have a collaborative team working together to help them achieve their educational goals. Many students have difficulty reaching

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their goals due to sensory modulation or sensory processing issues. Despite strong evidence supporting the efficacy of SMPs and SBIs, there is limited evidence demonstrating the effects of a collaborative team approach in implementing such programs. However, current literature has indicated that collaboration is related to positive outcomes in the school setting, including positive perceptions of OT, team building between group members and the family, and greater outcomes for students (Case-Smith et al., 2012; Case-Smith et al., 2014; King et al., 1998; Mu & Royeen, 2004; Ohl et al., 2013; VandenBerg, 2001). The relationships between select professionals on the interdisciplinary team were examined in these studies, but none address the team as a whole. Furthermore, most of the studies conducted on interdisciplinary teams were unable to produce or identify an adequate model for collaboration that could be applied a team of professionals as a whole. The study conducted by Hess et al. (2017) produced a model that may fill this gap in the literature. However, the model needs further testing to determine if it can be expanded and applied to different settings and other interdisciplinary teams.

Proposal

Statement of Purpose

Given that research has shown collaboration leads to positive outcomes for students, there should be a model for how this collaboration should take place. Such a model could also allow professionals to systematically address barriers and promote facilitators. However, as previously mentioned, current existing models fall short of addressing the full team and cannot be applied to a variety of settings. The previous Dominican University occupational therapy graduate capstone's study created a collaborative model, the CMC, specific to a special education center in northern, CA (Hess et al., 2017). This group created their model based on a school in which the team used a transdisciplinary approach. Professionals at this school

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collaborate on a day to day basis and work together to incorporate SMPs and SBIs into the school day. The theoretical and practice model created by this capstone group is ideal because it was based on a team that has been effectively utilizing collaboration and navigating barriers of productive collaboration (Hess et al., 2017). However, it is unknown how this model will apply to other schools and student populations. The purpose of this survey study was to examine this model in a broader context, and how it could be applied to other interdisciplinary teams, student populations and school sites.

Research Question

The primary research question posed by this study was as follows: Can the CMC, created by Hess and colleagues (2017) be applied to all interdisciplinary teams that work in special education? Additionally, this exploratory survey study asked the following questions regarding collaborative practices:

1. What are common facilitators and barriers to collaboration and how does it take place?
2. What is the frequency of collaboration in different classroom types and age ranges?
3. How often do professionals collaborate with one another and is there a relationship between respecting and valuing each role?
4. How much are sensory-motor programs prioritized in different classroom types and age ranges, and what types are most frequently used?
5. Is there is relationship between prioritization of sensory-motor programming and frequency of collaboration?

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6. Is there a relationship between understanding the OT role and prioritization of sensory-motor programming?
7. Is there a relationship between frequency of collaboration and experience, student outcomes or personal professional development?

Theoretical Framework

The theoretical framework used for this study was distributed cognition theory. This branch of cognitive science suggests that human cognition is not confined to an individual or to the brain, but rather it is distributed across the environment, encompassing tools, artifacts, and other individuals (Hutchins, 2006). “This means that a group of people working together is a distributed cognition system. In such a case, cognition is distributed across brains, bodies, and a culturally constituted world” (Hutchins, 2006, p. 376). Hutchins asserts a group of individuals can have different cognitive properties than the individuals that compose the group. This suggests that a group of individuals collaborating together can generate new knowledge and unique outcomes that would not have resulted from a single individual. “The social distribution of intelligence comes from its construction in activities such as the guided participation in joint action common through people’s collaborative efforts to achieve shared aims” (Pea, 1993, p. 50). This theory also poses that cognition is distributed not just across individuals but also across objects and environments (Pea, 1993). The people, places, and objects we engage with will affect our cognitive processes and have unique outcomes.

The aim of this study was to examine collaborative practices within the special education system, and explore barriers and facilitators to collaboration as outlined in the Hess et al. (2017) model. Distributed cognition theory has significant implications for this study. This theory informed us that the outcomes of collaborative teams will be different when contrasted to

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individual practitioners. For example, an occupational therapist may be an expert in their own knowledge and may excel at planning sensory based intervention for a student; a behavioral therapist may be an expert in reinforcing positive behaviors and promoting behavioral change for the student. But distributed cognition tells us that when these two professionals collaborate, the results will not only produce better outcomes for the student but each professional will also gain new knowledge. Therefore collaboration benefits student outcomes and programming as well as fosters ongoing professional development for each member of an interdisciplinary team.

Distributed cognition theory also suggests that the spaces in which teams collaborate and the means by which they communicate have effects on the outcomes of that collaboration and this was supported in the Hess et al (2017) model, based on a highly advanced team's practice. Therefore our proposal to further examine the environments in which professionals are working together as well as the means by which they collaborate was warranted at this time. Analysis of this study's results will afford a better understanding of the collaborative process and how to improve interdisciplinary team collaboration in special education.

Ethical and Legal Considerations

We followed ethical standards in order to produce trustworthy research and submitted an application to the Dominican University of California's Institutional Review Board (IRB) with IRB approval number 10541 to protect human subjects and ensure integrity. We also adhered to the standards set by the Occupational Therapy Code of Ethics veracity, autonomy, and procedural justice. The principle of veracity states that we must present the information gleaned from this study in a comprehensive, objective, accurate way. Autonomy refers to the right of confidentiality, and the right of self-determination. For our study, all participation was voluntary and subjects were given the option to cease participation at any time throughout the study. We

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also utilized a secure survey through Google forms in which all participants remained anonymous; names were not linked with their survey responses (Create forms, n.d.). The final principle, procedural justice dictates that we must abide by rules that apply to our research. We did this by abiding by all rules set forth by our school, our profession, our state and our country.

Methods

Design. This was a quantitative exploratory study design which incorporated quantitative data as well qualitative open ended response questions that were not coded. The survey was created in Google Forms by the authors of this study (Create forms, n.d.). The survey was directed toward professionals working in special education at a SELPA in Northern California. The authors contacted the director of special education at the SELPA with a letter that provided information about the study (Appendix A). Thereafter, permission was obtained from the director of special education for the researchers to conduct this study (Appendix B). Next, the authors of this study contacted a group of professionals working at a special center in this SELPA to find what type of information they would like to learn from the study. From the answers, a pilot survey was constructed and sent out to approximately ten professionals at the school. These professionals provided feedback, and the final survey was produced. Survey questions were based on the previously developed CMC (Hess et al., 2017) which was the outcome of qualitative research and interview methods. Use of quantitative data supported by open ended questions assisted in discovering emerging theories and gaining a more in depth understanding of how the collaboration model can be applicable to other schools. Participants were contacted via email and asked to complete the online questionnaire pertaining to their role, their sensory-based intervention methods, and collaboration with other team members in a series of closed and open ended questions (Appendix C). Additional information regarding confidentiality of the survey

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was provided to all participants (Appendix D). The survey can be viewed in Appendix E.

Data collection procedures. The online survey was sent out to potential participants' SELPA emails (Appendix C) via permission through our community partnership with SELPA administration. Participants were asked to complete the survey consisting of both close ended and open ended questions. Subjects were ensured their anonymity and any information they gave was confidential (Appendix D). We used Google forms which is a secure on-line survey tool and data was anonymized and password protected to ensure subjects' right to privacy (Create forms, n.d.). The SELPA distributed the survey through their email distribution list with two reminders / invitations to participate over a six week period.

Subjects. The SELPA in Northern CA where our participants were recruited from serves students from birth to age 22 enrolled in special education programs from 10 small regional school districts. Special education teachers, occupational therapists, speech therapists and other professionals working in special education classes were contacted via email through the SELPA office and asked to complete a voluntary on-line survey. Participant job titles were collected as part of the survey data. Participation was voluntary. The survey was received by: 81 special education teachers, five occupational therapists (OT), 15 speech language pathologists (SLP), two vision specialists, nine behavior therapists (BT), three registered nurses (RN), eight psychologists, one AT specialist and eight administrators; 132 total. A total of 27 participants completed the survey providing a 20% response rate – consistent with national averages of email survey responses (Nulty, 2008). Participant demographics are summarized in Table 2. The survey was sent out with two additional prompts over a six week period

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Table 2.
Participant Demographics

Role	<i>n</i>	% of total participants (<i>N</i> =27)	<i>M_a</i>	<i>M_b</i>
Special Ed Teacher	10	38	11.8	15.9
BT	3	11	7	14.3
SLP	2	8	3	6.5
OT	4	15	11.5	14.3
RN	1	4	7	7
AT Specialist	1	4	20	32
Social Worker	1	4	30	30
Vision Specialist	1	4	7	7
Administrator	3	12	2.8	12.3

Note. *M_a* = mean years working in current role, *M_b* = mean years working in special education; Special Ed = special education, BT = behavior therapist, SLP = speech language pathologist, OT = occupational therapist, RN = registered nurse, AT = assistive technology

Data analysis. Quantitative data responses were analyzed using SPSS (SPSS, n.d) statistical software program. Cross tabulation tests were run to summarize and combine multiple variables in order determine frequencies that were not readily apparent from survey data. Pearson's correlation tests were run to analyze the presence and strength of any relationship between two variables. The majority of our quantitative data variables were in Likert Scale format with 6 possible responses, where 1= strongly disagree, and 6= strongly agree. Given our sample size certain variables were later organized into dichotomous variables with scores of 1-3

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being on the lower end of the spectrum and scores of 4-6 on the higher end of the spectrum. This was due to little variance across the likert scale and more responses clustered around the higher or lower poles of the scale.

Variables. All variables that were run in SPSS were defined by questions in the survey (Appendix E). Variables contributing to the purpose of our study were run through cross tabulations and Pearson's correlation to determine frequencies, trends and relationships. These included the professional role of the participant, the conditions served, the ages of students and the type of team most commonly seen in their area of practice. Other variables pertaining to collaboration included facilitators, barriers and methodology of collaboration. Most variables in our study were measured via a six point Likert scale response from strongly disagree to strongly agree. In many of the statistical tests, *frequency of collaboration* was the dependent variable. *Frequency of collaboration* was defined by the question "I frequently collaborate with other professionals and talk about our students and their programs / goals."

Results

The survey was sent to 131 participants from a specific SELPA in Northern California and a total of 27 completed surveys were submitted for an overall response rate of 20.6% which as mentioned before falls within the national average for email survey responses (Nulty, 2008). Participants included 10 special education teachers, 3 behavior therapists, 2 speech language pathologists, 4 occupational therapists, 3 administrators and one registered nurse, AT (assistive technology) specialist, social worker, and a vision specialist. One participant did not disclose his or her professional role. Participant demographics can be viewed on Table 2. Collected results regarding participant caseloads are summarized in Table 3. Likert scale responses (1-6) were

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grouped into dichotomous variables with scores of 1-3 indicating a “low” response while “4-6” indicating a high response. We found results for the following research questions:

1. What are common facilitators and barriers to collaboration and how does it take place?
2. What is the frequency of collaboration in different classroom types and age ranges?
3. How often do professionals collaborate with one another and is there a relationship between respecting and valuing each role?
4. How much are sensory-motor programs prioritized in different classroom types and age ranges, and what types are most frequently used?
5. Is there is relationship between prioritization of sensory-motor programming and frequency of collaboration?
6. Is there a relationship between understanding of OT and prioritization of sensory-motor programming?
7. Is there a relationship between frequency of collaboration and experience, student outcomes or personal professional development.

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Table 3.
Participant Caseloads

	<i>n</i>	% (<i>N</i> =27)
Student Condition		
Autism Spectrum Disorder	23	85.1
Deaf/Blindness	3	11.1
Emotional Disturbance	9	33.3
Hearing Impairment	12	44.4
Intellectual Disability	21	77.7
Multiple Disabilities	19	70.3
Orthopedic Impairment	15	55.5
Specific Learning Disability	9	33.3
Language or Speech Disorder	20	74
Traumatic Brain Injury	9	33.3
Visual Impairment	7	25.9
Classroom Type		
Autism Spectrum Disorder	14	51.8
Deaf and Hard of Hearing	3	11.1
Severely Handicapped	20	74
Orthopedic Handicapped	9	33.3
Emotional Disturbance	4	14.8
Age Range		
Preschool	11	40.7
Primary	18	66.6
Intermediate	15	55.5
High School	13	48.1
Young Adult	6	22.2
Campus Type		
General Education	16	59.3
Special Center	21	77.8
Team Type		
Multidisciplinary	17	63
Interdisciplinary	19	70.4
Transdisciplinary	19	70.4

Note. % = percentage of total participants.

Importance of Collaboration

Cross tabulations of frequency of collaboration and student outcomes and professional development were analyzed in SPSS to provide a multivariate frequency and an overwhelming

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97% of participants agreed that quality of collaboration leads to (1) improved student outcomes and (2) participants own learning and professional development.

Facilitators and Barriers to Collaboration

What are common facilitators and barriers to collaboration and how does collaboration take place? Frequency distributions were run through SPSS to provide a multivariate frequency demonstration of barriers, facilitators and methods of collaboration. Major facilitators of collaboration with 100% of participants reporting a high score were having positive rapport, compatible personalities, and rapport with parents. This was followed by having extra time and having formal meetings, by which were also scored high facilitators by 96.2% of participants. Finally 88.4-92.6% of participants reported collaboration facilitators of having administrator support and informal meetings (See Figure 2.) Top barriers were time and caseload, with 93% of participants reporting a high response on the Likert Scale. Bad rapport was another high scoring barrier with 88.9% of respondents reporting a high response. The remaining barriers including lack of knowledge, poor rapport with parents, lack of administrator support, difference in personality and imbalance of powers (See Figure 3.) Frequency tests found that 100% of participants utilized IEP meetings and email communications as methods of collaboration, 92.6% of participants reported using texting or in class communication as methods for collaboration, 88.8% of participants collaborate at school meetings and 85.1% of participants utilize phone calls. Less than 85% of participants collaborate before or after school hours, during lunch breaks or other informal means of communication (See Figure 4).

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Figure 2. Facilitators to Collaboration. *Figure 3. Barriers to Collaboration.*

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Figure 4. Methods of Collaboration.

Frequency of Collaboration

Years of experience with collaboration. Pearson's correlation of years of experience in a profession and frequency of collaboration was analyzed in SPSS to determine if years of experience related with increased collaboration. No significant relationship was found between the two variables $r(23) = .013, p > .05$.

What is the frequency of collaboration in different classroom types and age ranges?

Cross Tabulations were analyzed to determine the frequency distribution of collaboration among different classroom types and different student age ranges. Frequency of collaboration was determined through Likert scale questions on a scale from 1-6 that was converted to a dichotomous variable indicating either high or low collaboration. Low scores were 1-3 and 4-6 was a "high" score.

For all five classroom types, at least 70% of participants reported high frequency of collaboration. Data analysis revealed 95% of the participants who worked in classrooms serving

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the severely handicapped (SH) reported a high frequency of collaboration, 92.9% working in classrooms serving Autism Spectrum Disorder (ASD), 87.5% in classrooms serving the orthopedic handicapped (OH), 80% in classrooms serving the emotionally disturbed (ED), and 75% in classrooms serving the deaf and hard of hearing (DHOH) (See Figure 5).

For all five age ranges, at least 80% of participants reported high frequency of collaboration. Participants who worked in preschool age range reported a high frequency of collaboration of 92.3%, 88.9% in primary age range, 86.7% in intermediate age range, 84.6% in high school, and 83.3% in young adult (See Figure 6).

Figure 5. Frequency of Collaboration Per Classroom Type. ASD = autism spectrum disorder.

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Figure 6. Frequency of Collaboration Per Age Range.

How often does each profession collaborate with every other profession? Cross tabulations between professional roles were analyzed in SPSS to determine frequency of collaboration with the special education teacher, occupational therapist, behavior therapist and speech language pathologist. Responses were again grouped into high and low frequency categories. “High frequency” was defined by a report of collaboration of at least a few times per month or more and “low frequency” was defined by a report of less than a few times per month. Collaboration was broken down between professional roles and was analyzed for the special education teacher, the OT, the BT and the SLP. Among all professions, 87.5% of special education teachers collaborate among themselves at high frequency, and 100% of all other professionals which include the OT, BT, SLP, RN, AT Specialist, Social Worker, Vision specialist and Administrator collaborate with Special Education teachers at high frequency. Results showed that 100% of BT’s, OT’s, RNs, AT Specialists and Administrators reported high

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frequency of collaboration with OT's. Data analysis also revealed that 90% of special education teachers report high frequency of collaboration with OT, 50% of SLP's report high frequency with OT and 0% of social workers and vision specialist reported high frequency of collaboration with the OT. Further data analysis revealed 100% of OT, AT Specialist, BT, SLP, RN, vision specialist and administrator reported high frequency of collaboration with the BT, 70% of special education teachers report high frequency of collaboration with the BT, and 0% of social workers reported high frequency of collaboration with the BT. Lastly, all professionals aside from administrators, which reported 0% collaboration with SLP, reported high frequency of collaboration with the SLP.

When participants were asked how they feel about the frequency of their teams' collaboration, 59.3% stated that they felt their team does not meet often enough. When asked about the overall quality of their collaboration, only 7.4% of participants felt the quality was great and there was no need for improvement whereas 92.6% of participants stated that improvements could be made to quality of collaboration.

Role Understanding

Is there a relationship between understanding and respecting another professional's role? A Pearson's Correlation was run in SPSS to determine the correlation between role understanding and value and respect for each role. Overall, a moderate to high correlation was found between understanding and respect for each profession type aside from the SLP and BT in which data was not significant. The researchers also asked which professionals best understood the role of occupational therapy since it is a profession that is often misunderstood. Every participant reported a 100% understanding of OT role except for the administrator role and

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vision specialist role which reported 67% understanding and 0% understanding respectively (See Table 4).

Table 4.
Correlations Between Understanding and Respect of Professional Roles

Professional Role	<i>r</i>	<i>p</i>	<i>n</i>
Special Ed Teacher	.694	.000*	27
OT	.605	.003*	22
Para Educator	.2	.024*	27
SLP	.093	.645	27
Behavior Specialist	.191	.339	27
School Psychologist	.64	.000*	27
Administrator	.554	.003*	26
Adaptive PE Teacher	.682	.000*	26
Vision Specialist	.53	.011*	22
RN	.549	.003*	27

Note. * $p < .05$; Special Ed = special education, SLP = speech language pathologist, OT = occupational therapist, PE = physical education, RN = registered nurse

Sensory-Motor and Sensory-Based Programming

How much are SMPs prioritized in different classroom types and age ranges and

what types are most frequently used? Cross tabulation analysis was run through SPSS to determine frequencies of prioritizing SMPs for the individual student and the classroom.

Frequencies were found per student ages. Data analysis revealed 83.3% of participants reported high prioritization of SMPs for both the individual and classroom for preschool aged students.

An overwhelming 94.1% of participants reported high prioritization of SMPs for both the

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individual and classroom for students in primary school, 78.6% of participants report high prioritization in the classroom, 86.6% reported high prioritization for the individual for students at the intermediate level, 84.6% report high prioritization for both the individual and classroom for high school students and 85.8% reported high prioritization for the individual and classroom for young adult students (See Figure 7).

Analysis of classroom type and prioritization of SMPs was conducted. Data analysis revealed 95% of participants reported high prioritization of SMPs for both individual and classrooms in SH classes, 92.9% of participants reported high prioritization for both individual and classrooms in ASD classes, 87.5% reported high prioritization for both individual and classrooms in OH classes, 80% reported high prioritization for both individual and classrooms in ED classes and 66.7% of participants reported high prioritization for both the individual and classrooms in DHOH classes (See Figure 8).

Participants were asked to select SBIs most commonly used in their classrooms from a list provided with an option to fill in other methods they commonly used. The top used SBIs are fidget toys, therapy ball and adaptive seating, quiet spaces and corners, sensory breaks, headphones, scooter boards and intermittent exercises (See Table 5).

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Figure 7. Prioritization of SMPs in Different Age Group Classrooms.

Figure 8. Prioritization of SMPs in Different Special Day Classroom Categories. ASD = autism spectrum disorder.

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Table 5.
SBI's Used in the Classroom

Strategy	% (N=27)
Fidget Toys	95.8
Therapy Ball/Adaptive Seating	91.7
Quiet spaces and corners	91.7
Intermittent exercises	83.3
Oral motor tools such as chewy toys	83.3
Scooter boards	79.2
Weighted vests	79.2
Classroom based sensory motor programming	62.5
Individualized sensory diets	54.2
Brushing/Joint compression	50
Sound based therapy such as therapeutic listening	41.7
In classroom swings/suspended equipment	33.3
Individualized fine and gross motor equipment	4.2
Walks or sitting outside	4.2%
Obstacle course, structured outside play/motor sequencing	4.2%
Respiration/blowing activities, tactile bins smelling jars, visual toys	4.2%

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Do transdisciplinary teams have higher prioritization of SMPs compared to other team types? Cross tabulations were run through SPSS to determine frequencies of SMPs in the classroom and individual student for different team types. In the transdisciplinary team, 94.2% of participants report high prioritization in the classroom and 94.5% of participants reported high prioritization for the individual student. In the interdisciplinary team, 94% of participants report high prioritization in the classroom and 100% of participants report high prioritization for the individual student. In the multidisciplinary team, 90% of participants report high prioritization for both the classroom and individual.

Is there is relationship between prioritization of SMPs and frequency of collaboration? A Pearson's Correlation was run in SPSS to determine the correlation between frequency of collaboration and the prioritization of SMPs . A moderate correlation was found between frequency of collaboration and the prioritization of SMPs for classrooms $r(21) = .56$, $p < .05$. A moderate correlation was found between frequency of collaboration and the prioritization of SMPs for individual students $r(22) = .48$, $p < .05$.

Is there a relationship between understanding the role of OT and prioritization of SMPs? A Pearson's Correlation was run in SPSS to determine the correlation between understanding of OT and the prioritization of SMPs. Both of these variables were obtained from Likert scale questions that were converted to a dichotomous variable. Scores of 4-6 indicated "high" and scores of 1-3 indicated "low" understanding of OT and prioritization of SMPs. A moderate correlation was found between understanding of OT and the prioritization of SMPs for classrooms $r(21) = 0.52$, $p < .05$. A moderate correlation was found between understanding of OT and the prioritization of SMPs for individual students. $r(22) = .493$, $p < .05$.

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Discussion

Overall, our results highlighted that professionals believe strong collaboration leads to positive student outcomes and is also vital for professional growth. This study builds upon the CMC (Hess et al., 2017). Our findings support aspects of intentional collaboration as well as details about how to engage in collaborative practices.

Perceptions of Collaboration

Although the majority of the participants felt they collaborated frequently with other professionals, they still believed that there was room for improvement to increase both frequency and quality of collaboration. Belief that collaboration could improve demonstrates insight and drive to increase quality of practice. It is also consistent with the CMC wherein intentional collaboration is an overarching premise (Hess et al., 2017). Intentional collaboration means that each individual takes action to continually improve and facilitate productive communication and rapport building. Intentional collaboration happens through scheduling meetings that take place outside of the formal IEP meetings, and by using alternative communication strategies such as email and texting when face to face meetings cannot take place. Knowledge and implementation of intentional collaboration is critical for teams who are aiming to improve their own collaboration before barriers to collaboration can be effectively addressed.

An overwhelming percentage of participants agreed that increased frequency of collaboration leads to (1) improved student outcomes and to (2) increased professional development. This finding reflects the benefits of collaboration and is consistent with the literature that suggests effective collaboration improves practice and student outcomes such as higher IEP goal attainment, better fine motor skills, and more frequent on task behaviors (Case-Smith et al., 2012; Case-Smith et al., 2014; King et al., 1998; Ohl et al., 2013; VandenBerg,

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2001). These findings are also consistent with the theoretical framework, distributed cognition, which asserts that collaboration creates new learning and new knowledge among professionals (Hutchins, 2006; Pea 1993). When the members of an interdisciplinary team work together, they produce unique outcomes and knowledge that would not exist had they worked individually (Hutchins, 2006).

Facilitators and Barriers to Collaboration

The results indicate that having positive rapport with other professionals, similar personalities, and good rapport with parents are the top facilitators to collaboration. All three of these facilitators pertain to the relationship among the members of interdisciplinary teams, suggesting that positive professional relationships are the most important components of collaboration. This is also consistent with the CMC in which respect and value of team members were among the key elements of interdisciplinary collaboration (Hess et al., 2017). Additionally, each facilitator that was presented in the survey was agreed upon by at least 80% of participants as being strong facilitators of collaboration. This indicates that all facilitators listed in our survey were considered beneficial and important for the respondents. For example, formal meetings, informal meetings and having extra time were also reported by over 90% of participants as being important facilitators suggesting that finding time to meet face-to-face is an important part of collaboration. It is also reflective of the “Take Action” and “Communicate” aspects of the CMC model emphasizing that scheduling and prioritizing collaboration within a workload is essential (Hess et al., 2017).

While there was not much variability in responses found among facilitators to collaboration, there were larger differences in responses regarding barriers to collaboration. The top three barriers included lack of time, large caseload, and bad rapport. Just as good rapport and

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more time are facilitators, not having enough time and having bad rapport are barriers to collaboration. The barriers of lack of time and large caseloads also suggested the importance of prioritizing collaboration and scheduling meetings which is emphasized in the CMC (Hess et al., 2017). This data demonstrates that building rapport and prioritizing collaboration are ways to improve collaborative practices within an interdisciplinary team. All the facilitators and barriers found in our results are consistent with facilitators and barriers found in the literature (see Table 1).

When considering how and where collaboration takes place, the results showed that outside of scheduled meetings such as the annual IEP meeting or other school meetings, the highest reported methods of collaboration are email and texting. This shows a trend toward electronic means of collaboration (e.g. email and texting) which can be an ideal alternative given that many professionals face barriers such as not having enough time and having large caseloads in several locations. It also shows that professionals are making time to meet outside of the minimum of required times designated by IDEA (i.e. the annual IEP meeting) (Pub. L. 108–446). This suggests that professionals are intentional about their communication with one another. Capitalizing on opportunities to collaborate, a form of taking action and overcoming barriers are key overarching components of the CMC (Hess et al., 2017).

Frequency of Collaboration in Different Classroom Types and Age Ranges

As mentioned before, participants agreed that although their teams collaborated frequently, there was still room for improvement. OH, ED and DHOH classes had lower percentages compared to that of other classrooms. These differences highlight somewhat of a gap in collaboration for certain populations / classroom classifications. Results also depicted a trend of decreasing collaboration across the different age ranges with high school and young adult

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students receiving the least collaborative services. Regardless of age, all students can benefit from services that are collaborative in nature especially as a young adult transitions out of the special education system. These findings are worth noting for improving collaborative practices in the future and professional development training opportunities.

Understanding of Professional Roles

The CMC includes understanding roles and making an effort to understand the roles of other team members as essential components of collaboration (Hess et al., 2017). Results indicated a moderate to high correlation between understanding and respect for professional roles for almost every role type suggesting that both these variables go hand in hand. This is important because respect is essential for building positive rapport to increase collaboration. Given that good rapport was found to be an important facilitator of collaboration, it is important to foster respect, and therefore rapport, between professions in order to improve the quality of a team's collaborative practices. It was also found that almost every professional reported understanding the role of an OT. However the vision specialist and administrative roles appeared to show less understanding which may be indicative of infrequent collaboration between the roles. It is important to note that our sample only included responses from three administrators and one vision specialist and therefore our findings may not be representative of those professions. Understanding that these limitations exist can lead to future role promotion and increased collaborative practices.

Frequency of Collaboration Between Professionals

Despite certain outliers in our data there is an overwhelming trend of frequent collaboration among the special education teachers, OTs, BTs and SLPs. Professionals such as the social worker, vision specialist and administrator were among those that reported 0%

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collaboration with the above listed roles. However those roles were not well represented in our study as their sample size was between one to two participants. The OT role was found to have the most varying amounts of collaboration with other professionals. Most professionals felt they have a good understanding of the role of the OT and therefore these same professions reported high frequency of collaboration with the OT. In contrast, and as mentioned before, the vision specialist reported infrequent collaboration with the OT which appears to be related to little understanding of the role. This suggests a relationship between understanding of a role and frequency of collaboration. Again, it is important to understand this lack of collaboration as a result of poor understanding of roles. Therefore professionals must assert their areas of expertise as part of daily service delivery while simultaneously making time to learn about the expertise of colleagues.

Sensory-Motor and Sensory-Based Programming

Best practices indicate that SMPs and SBIs should be a collaborative process among all professionals because students will benefit most from strategies implemented throughout the school day (Barnes & Turner, 2000). Results indicate that SMPs were equally prioritized for both the entire classroom and the individual student. This demonstrates the importance of addressing sensory issues for all students, not just those who appear to “need” it more. It also shows that professionals have a commitment to utilize sensory strategies as part of the learning day for the whole classroom. This allows all students to benefit from OT expertise regardless of the status of their IEP. It also allows SMPs and SBIs to be integrated into a student’s school day rather than pulling a student out of class to provide isolated intervention.

The results showed differences in the prioritization of SMPs among different classrooms. SH and ASD classes had the highest percentage of respondents reporting high prioritization. This

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would be expected due to these students having marked sensory learning needs. However, ED classes had less prioritization, which is surprising given the expected sensory needs of this population. This again reflects back to how collaborative practices can improve. At least 75% of all participants reported high prioritization of sensory-motor programming with no significant change across the different age ranges which illustrates the importance of maintaining consistent collaboration to improve the quality of SMPs for all students as they age.

Studies have found that SMPs and SBIs are most impactful when implemented throughout the day (Hess et al., 2017; VandenBerg, 2001). Hess et al's (2017) CMC indicates how classroom SMPs are best done via intentional collaboration leading to improved student outcomes. OTs have the best understanding and training in SMPs and SBIs as a frame of reference and treatment approach. The positive correlation between understanding of OT and prioritization of SMPs also demonstrates the importance of frequent collaboration with the OT. Understanding the occupational therapist's role and collaborating with them can lead to improved classroom and individualized student interventions.

Limitations and Future Research

Despite our survey response rate of 20% which fell within expected rates of 20-47% the overall participant size was small (Nulty, 2008). When considering the sample size per professional role, some professions (i.e. social worker and vision specialist) were only represented by one to two participants. Therefore the results obtained from those individuals may not be representative of their profession as a whole. Further research and analysis would be needed to learn more from those professional roles. Additionally, this small sample size limits overall generalizability of the data. This study has a limited scope, as the data were gathered from a single SELPA in northern California. Future studies should gather data from multiple

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SELPA's in different areas to increase generalizability.

Other factors contributing to low participation rates may have included time. The survey took approximately 15-20 minutes and may have been considered lengthy by some participants. Additionally, there were no incentives offered for participating which may have deterred some individuals from completing the survey. Any follow up surveys should be more concise, and have incentives for completion. These steps may increase the response rate.

When looking at further directions for research, the CMC can be implemented throughout other locations and settings as a means to strengthen collaborative practices across all different areas. It was found that there was no relation between years of experience and collaboration which illustrates that every professional regardless of how long they have been in practice can benefit from education of the CMC and best collaborative practice.

Implications for Practice

The results of this study suggest several important implications for collaborative practice in special education:

- Develop understanding and respect for other team member roles by seeking out learning opportunities from colleagues. Use staff meetings to educate team members about various professional roles.
- Promote your professional scope of practice as part of daily service delivery and make an effort to respect and understand other professional roles.
- Educate team members on the benefits of collaboration and on what intentional collaboration entails in daily practice.

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- Consider using electronic methods of collaboration (e.g. texting, email, Google docs) to make up for a lack of time. Plan times to collaborate with other team members outside of what is required and utilize that time wisely.
- Collaborate with administrators because they are in a unique position to facilitate collaboration by creating opportunities for team building. Educate administrators about your role and highlight best practices.
- Prioritize rapport building as part of professional development, both formally and informally.
- Collaborate with OT to build classroom-based SMPs, since they are best implemented through collaboration.
- Maintain consistency in collaborative practices as students grow older to aid them in the transition out of school.

Conclusion

Overall, the results from this study support the CMC created by Hess et al. (2017). The CMC was created based on qualitative research using interviews with a single transdisciplinary team. In this research, we have found the CMC's themes and components to hold true for this sample. The CMC can be used as a guide for collaborative practices in school-based special education services by providing ways to improve collaboration and address barriers.

It is also possible that the CMC may be adapted for other areas of collaborative practice and future research would need to be conducted to examine this empirically. Intentionality of collaboration, understanding roles, taking action, communication, addressing barriers, and reinforcing team values, can be applied to any practice setting in which professionals strive to collaborate.

COLLABORATIVE PRACTICES

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Appendix A: Letter to Participants

COLLABORATIVE PRACTICES

**LETTER OF INTRODUCTION TO PARTICIPANTS IN ANONYMOUS SURVEY RESEARCH
DOMINICAN UNIVERSITY OF CALIFORNIA**

Dear [REDACTED],

My name is Katherine Sadoff and I am a graduate occupational therapy student at Dominican University of California. I am conducting a research project as part of my capstone requirements, and this work is being supervised by Laura Greiss Hess, Ph.D., OTR/L, Assistant Professor of Occupational Therapy at Dominican University of California. I am requesting your voluntary participation in my study, which will investigate interdisciplinary team collaboration practices in special education.

Participation in this study involves completing an online survey about collaborative practices in special education, as well as some demographic questions to be used for statistical purposes. Please note that your participation is completely voluntary and you are free to withdraw your participation at any time. In addition, your survey responses will be completely anonymous. Filling out the survey is likely to take approximately 10-20 minutes of your time.

If you choose to participate in this study, please fill out the survey as honestly and completely as possible. Remember, this survey is completely anonymous; do not put your name or any other identifying information on your survey.

If you have questions about the research you may contact me at [REDACTED]. If you have further questions you may contact my research supervisor, Laura Greiss Hess at [REDACTED] or the Dominican University of California Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with protection of volunteers in research projects. You may reach the IRBPHS Office by calling (415) 482-3547 and leaving a voicemail message, or FAX at (415) 257-0165, or by writing to IRBPHS, Office of Associate Vice President for Academic Affairs, Dominican University of California, 50 Acacia Avenue, San Rafael, CA 95901.

If you would like to know the results of this study once it has been completed, a summary of the results will be presented at Dominican University of California's Academic Showcase in April, 2017.

Thank you in advance for your participation.

Sincerely,

Katherine Sadoff
Department of Occupational Therapy
Dominican University of California
50 Acacia Avenue San Rafael, CA 94901

Appendix B: Signed Consent for Research

COLLABORATIVE PRACTICES

**LETTER OF PERMISSION TO DOMINICAN FACULTY
DOMINICAN UNIVERSITY of CALIFORNIA**

Laura Greiss Hess, PhD, OTR/L
Department of Occupational Therapy
Dominican University of California

RE: PRESENTATION OF RESEARCH PROJECT

Dear [REDACTED],

This letter confirms that you have read a brief description of my research project that examines collaboration practices among professionals on the special education team and that I have your permission to recruit employee participants for this project. I would only need approximately 10-20 minutes of their time to fill out an anonymous online survey.

This project is an important part of my graduate research requirements as an Occupational Therapy major at Dominican University of California. Dr. Laura Greiss Hess is supervising my research. If you have questions about the project you may contact me at [REDACTED]. If you have further questions you may contact Dr. Laura Greiss Hess at [REDACTED] or the Institutional Review Board for the Protection of Human Subjects at (415) 482-3547.

If my request to contact your employees meets with your approval, please sign this letter on the line provided below, date, and return a scanned copy to me as soon as possible.

Thanks for your assistance.

Sincerely,
Katherine Sadoff
50 Acacia Avenue
Department of Occupational Therapy
Dominican University of California
San Rafael, CA 94901

I agree with the above request

[REDACTED]

2/7/17

Appendix C: Email Invitation to Survey

COLLABORATIVE PRACTICES

Hello,

You are invited to participate in a research study being conducted through the occupational therapy department at Dominican University of California. We are examining collaborative practices between professionals working in special education.

Please follow this link to our survey: [Google forms survey link inserted here]

Participation in our study is completely voluntary and anonymous. If you like some further information about our study please see the attached document. Please contact Katie Sadoff at [REDACTED] if you need assistance with technical issues.

We appreciate your time and participation!

Sincerely,
Blanka Pentek MSOT Candidate
Katherine Sadoff MSOT Candidate
Evelyn Tang MSOT Candidate
Laura Greiss Hess, PhD, OTR/L

Appendix D: Recruitment Letter / Confidentiality Information

COLLABORATIVE PRACTICES

INTERDISCIPLINARY COLLABORATION QUESTIONNAIRE

You are being asked to participate in a research study conducted by Blanka Pentek, Katie Sadoff, and Evelyn Tang from the Occupational Therapy Department at Dominican University. You were selected as a possible participant in this study because you work at a school in the San Joaquin County school district.

PURPOSE OF THE STUDY

The purpose of this survey study is to examine a model of collaboration from a special education school in a broader context, and see how it can be applied to other ages and populations.

PROCEDURES

Participation will take about 10-15 minutes. If you decide to participate in this study, you will be asked to do the following things:

1. Click on the link to begin the questionnaire
2. In the questionnaire, you will be asked various questions about your profession, knowledge of other professions, interdisciplinary collaboration, and setting that you work in.
3. Complete demographic information relating to experience and your profession

POTENTIAL RISKS AND DISCOMFORTS

There are no foreseeable risks associated with participation in this study.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

There are no direct benefits to participants in this study. However, participants may develop a better understanding of their own inhibitors and enablers to collaboration as well as increased knowledge of how to foster improved communication with other members of the professional team. Findings from this study can be applied to various settings in society in helping improve the collaboration dynamic for any professional team.

CONFIDENTIALITY

Recruited participants' names and e-mail information will not be stored. Names and other identifying information will not be gathered with survey questionnaires; the consent form and the answers on the questionnaire will be kept separate and all data will remain de-identified.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study.

COLLABORATIVE PRACTICES

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact the investigators, Blanka Pentek, Katie Sadoff, Evelyn Tang, or faculty advisor Laura Hess.

IRBPHS Research Participant's Bill of Rights

DOMINICAN UNIVERSITY of CALIFORNIA

Every person who is asked to be in a research study has the following rights:

1. To be told what the study is trying to find out;
2. To be told what will happen in the study and whether any of the procedures, drugs or devices are different from what would be used in standard practice;
3. To be told about important risks, side effects or discomforts of the things that will happen to her/him;
4. To be told if s/he can expect any benefit from participating and, if so, what the benefits might be;
5. To be told what other choices s/he has and how they may be better or worse than being in the study;
6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study;
7. To be told what sort of medical treatment is available if any complications arise;
8. To refuse to participate at all before or after the study is stated without any adverse effects. If such a decision is made, it will not affect his/her rights to receive the care or privileges expected if s/he were not in the study.
9. To receive a copy of the signed and dated consent form;
10. To be free of pressure when considering whether s/he wishes to be in the study.

If you have questions about the research you may contact us at

[REDACTED], [REDACTED]
 [REDACTED] If you have further questions you may contact our research supervisor, Laura Hess, at [REDACTED] or the Dominican University of California Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with protection of volunteers in research projects. You may reach the IRBPHS Office by calling (415) 4823547 and leaving a voicemail message, or FAX at (415) 2570165, or by writing to IRBPHS, Office of Associate Vice President for Academic Affairs, Dominican University of California, 50 Acacia Avenue, San Rafael, CA 94901

Appendix E: Survey

Team Collaboration

Participation in this study involves filling out an online survey. Please note that your participation is completely voluntary and you are free to withdraw your participation at any time. In addition your survey responses are designed to be completed anonymously. Anonymity cannot be guaranteed, however, and in the unlikely event an identity becomes known, all information will be held as completely confidential. By clicking "next", you agree to these terms.

Team Collaboration

If any of these questions do not apply to you, leave them blank

1. What is your current primary role?

Mark only one oval.

- ☐ Special Education Teacher
- ☐ Paraprofessional/Instructional Aide
- ☐ Occupational Therapist
- ☐ Speech Language Pathologist
- ☐ Behavior Specialist
- ☐ School Psychologist
- ☐ Administrator
- ☐ Adaptive Physical Educator
- ☐ Vision Specialist
- ☐ Registered Nurse
- ☐ Other: _____

2. How many years have you worked in your current role? Round up to the nearest year

_____

3. How many years have you worked in special education? Round up to the nearest year

_____

4. What types of diagnoses are you currently serving on your workload/caseload? Check all that apply*Check all that apply.*

- ☐ Autism Spectrum Disorder
- ☐ Deaf-blindness
- ☐ Deafness
- ☐ Emotional Disturbance
- ☐ Hearing Impairment
- ☐ Intellectual Disability
- ☐ Multiple Disabilities
- ☐ Orthopedic Impairment
- ☐ Specific Learning Disability
- ☐ Language or Speech Disorder
- ☐ Traumatic Brain Injury
- ☐ Visual Impairment
- ☐ Other: _____

5. In your primary role, what types of classrooms are you serving? Check all that apply*Check all that apply.*

- ☐ Autism
- ☐ Deaf/ hard of hearing
- ☐ Severely Handicapped
- ☐ Orthopedically handicapped
- ☐ Emotional disturbance
- ☐ Other: _____

6. In your primary role, what age ranges are you primarily serving? Check all that apply*Check all that apply.*

- ☐ Preschool
- ☐ Primary
- ☐ Intermediate
- ☐ High School
- ☐ Young Adult
- ☐ Other: _____

7. What kind of campus do you work on? Select all that apply:*Check all that apply.*

- ☐ Special center
- ☐ General education campus
- ☐ Other: _____

8. How Often Do You Collaborate With the Following IEP Team Members, both formally and informally?

Mark only one oval per row.

	Once a day	A few times a week	Once a week	A few times a month	A few times a year	Only for IEP meetings	Never
Special Education Teacher	☐	☐	☐	☐	☐	☐	☐
Paraprofessional / Instructional Assistant	☐	☐	☐	☐	☐	☐	☐
Occupational Therapist	☐	☐	☐	☐	☐	☐	☐
Speech Language Pathologist	☐	☐	☐	☐	☐	☐	☐
Behavior Specialist	☐	☐	☐	☐	☐	☐	☐
School Psychologist	☐	☐	☐	☐	☐	☐	☐
Administrator	☐	☐	☐	☐	☐	☐	☐
Adaptive Physical Educator	☐	☐	☐	☐	☐	☐	☐
Vision Specialist	☐	☐	☐	☐	☐	☐	☐
Registered Nurse	☐	☐	☐	☐	☐	☐	☐
Parents	☐	☐	☐	☐	☐	☐	☐

Team Definitions (please use the following definitions to answer the question below)

MULTIDISCIPLINARY: Team member roles are distinct with no overlap. Programming ideas and student goals are separated by areas of expertise and discipline.

INTERDISCIPLINARY: Team members meet regularly to collaborate. Programming ideas and student goals are sometimes integrated and blended across disciplines.

TRANSDISCIPLINARY: Team collaboration is frequent and is the foundation of student programming. Collaboration is fluid and team members are comfortable integrating strategies from the other disciplines. Programming ideas and student goals are fully integrated across disciplines.

9. Would you classify any of the teams that you work on as multidisciplinary?

Mark only one oval.

- ☐ Yes
- ☐ No

10. If you answered yes, how many of your teams would you classify as being multidisciplinary?

_____

11. Would you classify any of the teams that you work on as interdisciplinary?

Mark only one oval.

- ☐ Yes
- ☐ No

12. If you answered yes, how many of your teams would you classify as being interdisciplinary?

---

13. Would you classify any of the teams that you work on as transdisciplinary?

Mark only one oval.

☐ Yes

☐ No

14. If you answered yes, how many of your teams would you classify as being transdisciplinary?

---

15. Do you have any comments about the questions on this page?

How Much Do You Agree With the Following Statements?

If any of these questions do not apply to you, leave them blank.

16. The roles of the professionals at work are very clearly defined, with little or no overlap in student service delivery.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

17. I am comfortable addressing student's needs that are the area of expertise of another professional on the IEP team.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

18. I frequently collaborate with other professionals and talk about our students and their programs / goals

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

19. Do you have any comments about the questions on this page?

Roles of other professionals

How much do you understand the roles of the other professionals that you work with? If any of these questions do not apply to you, leave them blank

20. I have a strong understanding of what the role of a special education teacher is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

21. I have a strong understanding of what the role of a paraprofessional / instructional assistant is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

22. I have a strong understanding of what the role of an occupational therapist is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

23. I have a strong understanding of what the role of a speech language pathologist is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

24. I have a strong understanding of what the role of a behavior specialist is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

25. I have a strong understanding of what the role of a school psychologist is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

26. I have a strong understanding of what the role of an administrator is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

27. I have a strong understanding of what the role of an adaptive physical educator is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

28. I have a strong understanding of what the role of a vision specialist is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

29. I have a strong understanding of what the role of a registered nurse is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

30. I have a strong understanding of what the role of a parent is in the school setting.

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

31. Do you have any comments about the content on this page?

Value of other professionals

How much do you respect and value the other professionals that you work with? If any of these questions do not apply to you, leave them blank.

32. I respect and value the special education teachers that I work with

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

33. I respect and value the paraprofessionals/ instructional assistants that I work with

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

34. I respect and value the occupational therapists I work with

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

35. I respect and value the speech language pathologists that I work with

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

36. I respect and value the behavior specialists that I work with

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

37. I respect and value the school psychologists that I work with*Mark only one oval.*

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

38. I respect and value the administrators that I work with*Mark only one oval.*

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

39. I respect and value the adaptive physical educators that I work with*Mark only one oval.*

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

40. I respect and value the vision specialists that I work with*Mark only one oval.*

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

41. I respect and value the registered nurses that I work with*Mark only one oval.*

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

42. I respect and value the parents that I work with*Mark only one oval.*

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

43. Do you have any comments about the content on this page?

Collaborative Practices

If any of these questions do not apply to you, leave them blank

Collaborative Places

Where do you collaborate? If any of these do not apply to you, leave them blank

44. I collaborate with other professionals at scheduled team meetings

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

45. I collaborate with other professionals at IEP meetings

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

46. I collaborate with other professionals in the classroom

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

47. I collaborate with other professionals before/ after school

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

48. I collaborate with other professionals during lunch or other breaks throughout the school day

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

49. I collaborate with other professionals informally throughout the day (eg. on the way to the bathroom, on the way to the parking lot, in the hallway, etc.)

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

Modes of Collaboration

How do you collaborate? If any of these questions do not apply to you, leave them blank

50. I collaborate with other professionals using email

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

51. I collaborate with other professionals using text messaging

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

52. I collaborate with other professionals using face to face communication

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

53. I collaborate with other professionals using phone calls

Mark only one oval.

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

54. How much do you prioritize collaboration with your team?

Mark only one oval.

		1	2	3	4	5	6	
I don't prioritize it at all	☐	☐	☐	☐	☐	☐	☐	It is my top priority

55. Do you have any comments about the content on this page?

Facilitators of Collaboration

How much do you agree with the following statements? If any of these do not apply to you, leave them blank

56. **In my experience, having positive rapport with other professionals has led to good collaboration**

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

57. **In my experience, working with other professionals who have personalities that I get along with has led to good collaboration**

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

58. **In my experience, having informal meetings with other professionals has led to better collaboration**

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

59. **In my experience, having formal meetings with other professionals has led to better collaboration.**

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

60. **In my experience, having extra time in my day to meet with other professionals has led to good collaboration**

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

61. **In my experience, administrative support has led to good collaboration.**

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

62. In my experience, positive rapport with parents/ guardians has let to good collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

63. Do you have any comments about the content on this page?

Barriers to Collaboration

How much do you agree with the following statements? If any of these do not apply to you, leave them blank

64. In my experience, having bad rapport with other professionals has gotten in the way of collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

65. In my experience, working with professionals who have personalities I do not get along with has been a barrier to good collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

66. I have experienced an imbalance of power between professionals to be a barrier to good collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

67. In my experience, not having enough time to communicate with team members has been barrier to collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

68. In my experience, a lack of knowledge about other professions has been a barrier to collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

69. In my experience, having too large of a workload/ caseload has been barrier to collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

70. In my experience, a lack of administrator support has been a barrier to collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

71. In my experience, challenging rapport with a parents/ guardians has been a barrier to collaboration

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

72. Overall, how do you feel about the frequency of your teams' collaboration?

Mark only one oval.

- ☐ We meet frequently enough
- ☐ We don't meet enough
- ☐ We meet too frequently
- ☐ Other: _____

73. Overall, how do you feel about the quality of your teams' collaboration?

Mark only one oval.

- ☐ It is great, and doesn't need improvement
- ☐ There are a few things that could improve
- ☐ Our team needs to greatly improve our collaboration
- ☐ Other: _____

How much do you agree with the following statements?

If any of these questions do not apply to you, leave them blank

74. In my experience, good collaboration with other professionals has contributed to improved outcomes for our students

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

75. In my experience, good collaboration with other professionals has contributed to my own learning and professional development

Mark only one oval.

	1	2	3	4	5	6	
Strongly Disagree	☐	☐	☐	☐	☐	☐	Strongly Agree

76. Do you have any comments about the content on this page?

Sensory Interventions

77. What types of sensory based strategies / equipment have you used? Check all that apply

Check all that apply.

- ☐ Therapy balls or other adaptive seating
- ☐ In classroom swings/ suspended equipment
- ☐ Scooter boards
- ☐ Intermittent exercise throughout the day
- ☐ Oral motor tools such as chewy toys
- ☐ Sound based therapy such as therapeutic listening
- ☐ Brushing/ joint compression (Wilbarger Method)
- ☐ Quiet spaces/ corners
- ☐ Sensory breaks
- ☐ Headphones (noise cancelling or other)
- ☐ Fidget toys
- ☐ Individualized sensory diets for students
- ☐ Classroom based sensory motor programming
- ☐ Weighted vests/ lap buddies
- ☐ Other: _____

78. How frequently do you use sensory based strategies in your classrooms?*Mark only one oval.*

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

79. How frequently do you see others using sensory based strategies in your classrooms?*Mark only one oval.*

	1	2	3	4	5	6	
Never	☐	☐	☐	☐	☐	☐	Frequently

80. How much do you prioritize sensory motor programming for overall classroom programming?*Mark only one oval.*

	1	2	3	4	5	6	
I don't prioritize it at all	☐	☐	☐	☐	☐	☐	It is my top priority

81. How much do you prioritize sensory motor programming for individual students?*Mark only one oval.*

	1	2	3	4	5	6	
I don't prioritize it at all	☐	☐	☐	☐	☐	☐	It is my top priority

82. How do you do sensory based interventions? Check all that apply:*Check all that apply.*

- ☐ I do them by myself
- ☐ I do them with the help of other the special education teacher
- ☐ I do them with the help of the paraprofessionals
- ☐ I do them with the help of the occupational therapists
- ☐ I do them with the help of the speech language therapists
- ☐ I do them with the help of the behavior specialists
- ☐ I do them with the help of the school psychologists
- ☐ I do them with the help of the administrators
- ☐ I do them with the help of the adaptive physical educators
- ☐ I don't do them at all

83. Why do you use or not use sensory based interventions?

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84. Do you have any comments about the content on this page?

Short Answer

85. What do you think is the most important thing that leads to good collaboration in special education?

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86. What do you think is the most detrimental thing to collaboration in special education?

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87. Why do you think collaboration is or is not important in special education?

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88. What would you propose for change in order to facilitate better collaborative practices?

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89. What do you think would help overcome any barriers to collaboration that you experience?

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90. Do you think additional in-service training would be helpful in this area? If so, what types of programming do you feel would broaden collaborative practices?

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91. Do you have any additional comments about this survey?

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