RedFame

Journal of Education and Training Studies
Vol. 3, No. 1; January 2015
ISSN 2324-805X E-ISSN 2324-8068
Published by Redfame Publishing
URL: http://jets.redfame.com

Inter-Professional Collaboration: Early Childhood Educators and Medical Therapist Working within a Collaboration

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Received: November 24, 2014 Accepted: December 8, 2014 Online Published: December 24, 2014

doi:10.11114/jets.v3i1.623 URL: http://dx.doi.org/10.11114/jets.v3i1.623

Abstract

Children with special needs present a unique set of challenges that require the services of specially trained educators and therapists. However, the various therapies and educational strategies are compartmentalized among these professionals. There is little interaction between educators and therapists that promote early childhood education and development. The purpose of this paper is to investigate the perceived impact of early childhood educators and medical therapists using a structured case study interview. The findings indicated that transference of professional knowledge impacts best practice for both professionals. This paper contributes to the unique perspectives of the medical community; and the connection between medicine, education, and the benefits and challenges of a transdisciplinary approach. This paper also provides insight on how to collaborate better to improve outcomes of teamwork and to develop coordinated approaches to education and service delivery to improve the efficiencies of both professionals.

Keywords: early intervention/early childhood special education (EI/ECSE), inter-professional collaboration, transdisciplinary, Reggio inclusion, knowledge sharing, case study interview

1. Introduction

The delivery of both educational and therapeutic services for children with disabilities has become more a common practice than exception. Children with disabilities are enrolled in inclusive early childhood programs in which they receive supports and services from professionals from varying fields, such as, early childhood educators, special educators, physical therapists, occupational therapists, and others (Bruder, Mogro-Wilson, Stayton, Dietrich, 2009; Bruder, 2010; Kilgo, 2006). These professionals receive specified training that provides them with expertise in supporting development across multiple domains including, cognitive, motor, communication, and adaptive (Campbell, Chiarello, Wilcox, & Milbourne, 2009; Odom, Buysse & Soukakou, 2011).

Collaborative teaming practices in early intervention and early childhood special education consist of three models: multidisciplinary, interdisciplinary, and transdisciplinary (Bruder, 2010; Horn & Jones, 2005; Kilgo, 2006). According to Kilgo (2006), "multidisciplinary and interdisciplinary teams are known for having clear hierarchies of power and providing isolated assessment, planning, and intervention processes for each profession represented on the team" (p. 12). Research has shown that transdisciplinary teams provide the best framework for implementing interventions across developmental domains for young children with disabilities Dunst, Bruder, Trivette, Hamby, & Raab, 2001; Horn & Jones, 2005; Kilgo, 2006; King et al., 2009, Hong & Reynolds-Keefer, 2013) and has also been determined as "recommended practice in the field of early intervention/early childhood special education" (Horn & Jones, 2005, p. 15; Sandall et al., 2000). According to Horn & Jones (2005), in order for transdisciplinary teams to be effective several components must be in place; (a) administrative and logistical support, (b) communication, (c) shared vision, goals, and ownership, (d) clarity of roles, (e) individuality of team members, and (f) team building.

A collaborative team process can be difficult given the different training and philosophical models of various professional disciplines (Bruder, 2010). The "traditional medical-model practices, in which different team members perform largely independently, are antithetical to recommended practices in EI/ECSE" (McWilliam, p. 2005). However, there is a growing practice of both interdisciplinary and transdisciplinary collaboration within the medical field (Klein, 2008; Reilly, 2001; Rogers & Nunez, 2013). Given the distinctiveness of these models within the medical field, the collaboration between educational and medical organizations to embed transdisciplinary teaming practices is unique.

Typical collaborations occur within these organizations, however, the collaboration between them for the purpose of educational and intervention services an emerging frontier.

In this study, professionals working within an educational and medical collaboration share their perspectives, benefits, and challenges of implementing a transdisciplinary teaming model in an inclusive early childhood program. The special dynamic of how to bring together so many individuals (supports) with their own expertise for the development of the whole child is not an easy task. Approaches toward intervention have been evolving over the years from multidisciplinary, interdisciplinary, and finally toward a transdisciplinary approach.

The purpose of this study was to present the perspectives of early childhood educators and healthcare therapists as they work within a university and medical-based collaboration. The following research questions were sought within the study: 1) How did the collaboration between a medical clinic and a teacher education program impact the inter-professional learning and development of professionals for the past 5 years?; 2) How and what did therapists and teachers share to improve their professional knowledge?; and 3) How did this collaboration impact in-service teacher and healthcare therapist professional development and healthcare professionals?

2. Review of the Literature

2.1 Reggio Approach and Children with Special Needs

In the Reggio Emilia philosophy, children with special needs are referred to as "children with special rights" (Soncini, 2012). This has been the precedence for creating and maintaining the rights of children with special needs to have an equal education (Edward, Gandini, & Forman, 2012). These children are treated holistically in order to look at how the disability affects the whole child and to form their own knowledge of the child without any pre-conceptions about them. Unless they have a severe disability, children receive no special treatment holding that teachers have special radar honed in on them and their experiences within the classroom and are in tune to ways to adapt those experiences.

Reggio educators address the need for a shift in the way we look at children with special needs. Too often educational programs try to group children together with labels to make it easier to teach. This can be seen in reading groups and in special education. Educators have to look at each and every child as a capable and creative person. Each child has the ability to construct new knowledge based on their current understanding, previous experience, and provocations from caring educators. Their theories should guide them and how far a child will go is unique to each child.

In an effort to build the kind of trust needed by parents toward the school, Family relationship building is stressed as a necessary process for participation. Before a child enters a Reggio program the teachers meet with families to discuss the child's typical patterns at home in order to create a seamless transition between home and school. Attention is also given to helping parents accept their child's disability and find happiness within their struggle and fears. Being different is viewed as a positive. The contribution of the individual with a disability is stressed as everyone has something to contribute to others and society.

To promote inclusion in the infant toddler centers and preschools in Reggio Emilia, an education specialist acts as a coordinator between the school, the family, health services and therapeutic services. The education specialist visits the National Health Service doctors who exam and screen infants. Few children are overlooked as this is a national service network. The pediatricians explain to the families that children can attend the infant/toddler centers or preschools. These children not only receive priority in enrollment, but the families may choose which school their child will attend (Edward, Gandini, & Forman, 2012).

The perspective of the family is always a high priority in the Reggio educational process. The Reggio educators work closely with the child with special rights parents to create an educational plan for the child. The plan is not a strict, binding contract, but rather a plan that focuses on the child's interests and what specifically motivates the child. This is accomplished through careful observation and documentation. The education staff makes home visits to see how the child engages in their own environment and what strategies the caregivers have put into place.

The Reggio classroom is an inclusive environment where children of varying levels of development are brought together and their differences are supported through the learning group approach. Seeing these differences between themselves and others encourages children to be more observant of what is going on around them. Children requiring extra support are welcomed into Reggio classrooms and support systems are welcome as well. It is preferred that they obtain services in the classroom as much as possible and support services are adapted to fit the child's normal activity (Krechevsky, et al., 2012).

Reggio educators have no special training for "children with special right." In fact, they believe that it is important to learn as much as possible about the child and the basic needs of the child before they enter the classroom. They achieve this goal by collaborating with a team of people including the teachers, parents, pediatrician, and a member of the Pedagogical Coordinating team. An important step they follow is to prepare the other students for the new child with

special needs that is entering the classroom and involve them in contributing their ideas about how they can make the new child feel welcome and part of a group.

2.2 Transdisciplinary Approach

A trend toward a transdisciplinary teaming is becoming more commonplace today. This type of teaming involves more of an intertwining of disciplines and more of a family centered approach. In fact, "family-centeredness is a core value that is central to transdisciplinary teams and reflects the value that team members place on problem solving with families to provide optimum services for their children" (Kilgo, p. 17, 2006). This model recognizes families as a child's first and foremost teachers and a vital part of assessment, planning and implementation. This involves offering parents strategies at home for supporting their child and makes them an integral part of the decision-making process. Therefore, parents are always a part of the core team (McWilliam, 2000).

Transdisciplinary teams have the highest level of coordination and integration. All members of the transdisciplinary team, including the parents, provide information regarding the child's strengths and needs. Ideally, this process helps each discipline see the interrelationships among developmental areas (King, et al., 2009). This allows for a whole view of the child that is so crucial to the developmental process. In addition, team members partake in what is called role release (King, et. al., 2009) where there is a shared responsibility across disciplines involving the implementation of one another's strategies. In the trandisciplinary approach, the child's program is primarily implemented by a single person or a few persons, with ongoing assistance provided by team members from the various disciplines (Bruder, 1994). Usually, the child's teacher and teacher assistants/para-professionals take on the primary role of fulfilling many of these services. Role release requires trust that another professional will follow through and seek more advice when necessary (King, et al., 2009).

2.3 Background Information

This research study took place in the rust belt of the Midwest between a public university and a rehabilitative medical clinic that serves children with disabilities. The University serves as a teacher preparation site for both pre-service and in-service teachers enrolled in undergraduate and graduate early childhood programs. It also houses an inclusive early childhood education center that serves *all* children ages 12 months-6 years old. Located in the same building is the medical clinic that is a service agency developed to provide comprehensive, coordinated, family centered care for children with disabilities and their families. The services provided include diagnosis of both physical and mental disabilities (e.g. cerebral palsy, muscular dystrophy, autism, congenital/ developmental disabilities, chronic illnesses, orthopedic conditions, etc.) as well as provide therapeutic services.

These two institutions have partnered together to provide educational and medical services to young children and their families. The goal of this partnership was, and continues to be, to provide children with and without special needs the best in inclusive education and to prepare a future generation of education and health care professionals to work effectively with all children and their families. This unique collaboration prepares new generations of teachers and therapists to create an environment of inclusion in their future practice. The intention is to enrich both programs over the long term and generate new perspectives to the intersection of education and healthcare.

Through this partnership, early childhood educators and healthcare therapists have had multiple opportunities to gain an understanding and exchange knowledge, skills and practice in formal and informal ways. The overarching goals of this collaboration can be broadly summarized in three objectives: 1) To create programs for both children and families to interact and play together, 2) To generate multiple opportunities for professional development (e.g. observing each other's practice, contributing to a monthly colloquiums, annual inclusion conference, and attending other professional conferences), and 3) To develop new courses and learning opportunities for early childhood and healthcare students. Professional exchanges around a variety of education and medical topics have enriched the professional knowledge of all participants.

3. Method

3.1 Participants

This study was conducted by interviewing 10 early childhood educators and 4 healthcare therapists. Eight out of ten teachers held degree in early childhood and elementary education certification. One teacher held a master's degree in Learning Disability and another held a bachelor's degree in Child Development. All teachers were female and were Caucasian background and have been practicing teachers for an average of six years.

There were four participants from the medical clinic including: one speech pathologist (SLP), one occupational therapist (OT), and two physical therapists (PT). Each therapist was female and Caucasian except one participant was of Indian background. Three of the participants held a master's degree and certified in their area of specialty and one held a bachelor's degree. These participants have been practicing for an average of 20 years.

3.2 Instrument Protocol

Eight questions were designed for both groups and the content of questions were designed based on the perspective of the participants. The participants were asked to respond to the following questions:

1. What have you learned from having children in your classroom (clinic)?
2. What are the benefits of inclusion? What are the challenges of inclusion?
3. What have you learned from the collaboration with therapist (teachers) if you had an opportunity to interact with them?
4. What do you think the therapists (teachers) learned from you?
5. How does inclusion impact the Reggio-inspired curriculum philosophy used?
6. How do you contribute to the collaboration?
7. What do you think the University students get from this collaboration?
8. Is there anything else you would like to share regarding the collaboration?

Interviews were conducted in person using a structured interview protocol. Each interview lasted approximately 45 minutes and was audio taped. An independent transcriber was utilized to transfer interviews into text. Participants were given a copy of their transcription to check accuracy in the data. This measure also served as a measure of validity of the data. Two researchers independently analyzed interview transcriptions for content and developed themes based on the data (Corbin & Strauss, 2008). Researchers then shared their findings and selected the most common themes across each research question.

3.3 Data Analysis

There were 63 pages, single-spaced, totaling 34,719 words of transcriptions that were read and re/read by researchers (Charmaz, 2005). The data was coded independently by each researcher delineating prominent concepts/themes and placing them into categories (Corbin & Strauss, 2008). Frequency counts were computed of the most common words that were used amongst both teachers and therapists. More detailed themes emerged and were shared for inter-relater reliability. There was 95% inter-rater reliability between the two coders. These themes were strategies and supports, strengths across disciplines, relationship building, collaborative communication, [teachers] acceptance of children with special needs, [therapists] understanding and misunderstanding of the Reggio philosophy.

4. Results

There were four main findings from the data that were identified. These were: 1) the importance of establishing the relationship amongst team members, 2) the importance of ongoing information exchange, 3) the growth of understanding the importance of acceptance of children with special needs, and 4) the impact of this understanding on future educators and therapists. Additionally, there was evidence of role release, including the use of a more child-centered approach to clinical therapy. The results will be presented with each research question and the dominating themes that were evident in the data.

How did the collaboration between a medical clinic and a teacher education program impact the inter-professional learning and development of professionals for the past five years?

Six themes emerged in relation to the first research question including strategies and supports, strengths across disciplines, relationship building, collaborative communication, [teachers] acceptance of children with special needs, [therapists] understanding and misunderstanding of the Reggio philosophy. Each of these themes were well pronounced in the responses of the participants.

4.1 Strategies and Supports

Both early childhood teachers and therapists demonstrated an attitude of self- acceptance of children with special needs within the early childhood classroom setting and their growth of understanding about inclusion. However, early childhood teachers demonstrated a higher level of awareness of the need for strategies to support children with special needs in the classroom setting. Across the 10 teachers, the terms strategies and supports were mentioned a total 53 times across the interviews, whereas across the four therapists strategies and supports were mentioned 10 times. Five of the teachers mentioned the impact the strategies had on their ability to support children with special needs in their classroom. As indicated by three of the teachers:

> The therapy techniques are the biggest thing I've taken from the collaboration because you don't get that in education classes. It's so important to be able to sit in and see multiple therapy sessions…So I think that's the biggest thing, learning what they (therapists) do with the children and learning how to incorporate it into the classroom (Teacher 1).
>
> I find that they know those little tips of super easy ways to incorporate what the child needs in the classroom. It

> kind of made it a little less overwhelming because they were able to break it down (techniques) in small ways how to help the child (Teacher 2).
>
> I think the biggest thing is about how to make them a part of the classroom or that there's a need to make them a part of the classroom and to make them accepted by their peers and by their peers' parents. When we first moved into the building there was a father who said, as he pointed over to Oakwood, None of them are going to be in here are they? And it caught me off guard. I learned how to promote their value within our class. I didn't expect to have to do that. So that was definitely something I learned about how to promote them and how to promote their value with parents but also with the children. ..I've also learned a lot about how to help the children play with the included children rather than just help them…They are all very willing to help them. They don't know how to enter play or the way they enter play is awkward so then that makes it difficult for the other children. So that's what I've been learning is how to get them to play together. That's one of the things that I want to learn more about is how to use those peers as models not as helpers (Teacher 6).

These teachers recognize the value in the expertise of the therapists. In addition, they wanted to ensure both children and parents of the importance of inclusion and educating *all* children within their classrooms.

4.2 Strengths across Disciplines

Along with strategies and supports, both teachers and therapists shared the benefits that they gained from having to collaborate with each other. This collaboration resulted in each seeing the strengths that each professional brings when working with children and families. Teachers had a focus on the global development of the child, while therapists were more specific to their discipline (e.g. fine motor or speech development). Some examples expressed by both follow:

> I think I learned more about the Reggio stuff because I knew nothing about that at all. So I guess some of the early childhood philosophies…I've learned to take some of the positive things in that and apply it to just my interactions…I'm kind of understanding the development of little kids and what's expected at that age, plus as a parent as well. I think just observing them and how they setup their classrooms and some of the activities that they do has been really helpful as a therapist and even outside this facility(Therapist 2).
>
> The therapists have skills they want the children to know and to be able to develop and I have the same thoughts in my mind, it's just I'm thinking more about the cognitive and the social while they're thinking of more the physical and the articulation and all of the medical things that are happening (Teacher 9).
>
> She had all of the information in her head so she (therapist) would implement a lot of that here in the classroom. I got a chance to go down once in a while, just to see a therapy a session and it was really nice because that was the first time that I'd ever seen a child in therapy (Teacher 5).
>
> I think that has been challenging for me is trying to learn some of the Reggio approach type things that they do in the classroom…The teachers are kind of educating me on the Reggio approach, like how their classroom is setup…the natural materials and some of the manipulates…the teachers are very creative and they're doing a great job (Therapist 1).

Both teachers and therapists are cognizant of each other's practices and the impact that when working together has on the whole development of the child. As each continues to share their knowledge, both gain respect and insight on each profession. Recognizing the differences and how they can come together strengthens the collaboration as professionals continuing to work together.

4.3 Relationship Building

As presented through the data relationship appeared to be another strong component to achieve collaboration. However, this was only emphasized by teachers. Across the 10 teachers the word relationship was mentioned 32 times during interviews, whereas, across the four therapists the word relationship was not mentioned at all. This demonstrates the high prevalence and importance for having a positive relationship in the perspective of teachers. As one teacher states, "Even developing that friendship between the therapists and ourselves that we can feel more comfortable going to them and asking them questions" (Teacher 3) Another teacher stated:

> I have become very familiar with a lot of the therapists there. I'm very happy with a lot of the relationships I've built…I understand their point of view. Just trying to bring them into our classroom and building that relationship is very important (Teacher 4).

Teachers felt the need to build a more personal relationship with each therapist, which helped them feel more comfortable getting information and working with them, whereas, therapists only required an acquaintance type relationship. The statement below indicates this view:

> So if they have a question, I think vice a versa, if they have any questions I think they are more comfortable coming to us because we've interacted now on a personal level even not just a professional level (Therapist 2).

This was also an important theme that was presented by teachers and therapists. The perspective on collaboration was quite different from each professional given their training and experience.

4.4 Collaboration

Therapists working within the collaboration also developed a sense of professional competency when working with children within the classroom setting. Typical therapy sessions occur one-on-one, however, within the collaboration therapists provide therapy within the classroom setting, which for some, was a learning and adjustment experience that went beyond their traditional one-on-one therapy practice.

> They [children with special needs] need to have the same experiences of any other kid and when they're treated separately I think everybody loses sight…They need to experience all of those things that other kids do. They're still just kids. Inclusion allows them to be just kids (Therapist 4).

> The benefits are none of our kids should be excluded for anything. They need to have the same experiences of any other kid and when they're treated separately I think everybody loses sight. ..They need to experience everything just like any other child. .. One way to treat them in large groups like school and not all children learn that way… they need more structure… they need repetitiveness...They need to be shown more how to do things versus just being allowed to interact and discover. A lot of times they need help with discovering and learning (Therapist 4).

One teacher goes further and shared her view about the importance of having children with special needs become part of a true classroom community.

> I learned how to promote their value within our class. I didn't expect to have to do that. So that was definitely something I learned about how to promote them and how to promote their value with parents but also with the children. ..I've also learned a lot about how to help the children play with the included children rather than just help them …They are all very willing to help them. They don't know how to enter play or the way they enter play is awkward so then that makes it difficult for the other children. So that's what I've been learning is how to get them to play together. That's one of the things that I want to learn more about is how to use those peers as models not as helpers (Teacher 6).

The therapists' responses also addressed increased collaboration amongst teacher, children, and parents. Overall, from this experience, they felt an increased comfort level working with teachers both personally and professionally. For example, they are open to demonstrate their clinical strategies to teachers so that teachers can use those strategies in the classroom.

> Even when I've had a couple of patients over there we've expressed that we would love for the teachers to come over and observe therapy and to ask any questions. And that doesn't always happen. I have had the experience of being able to go over and work in the classroom with some of my patients when the teachers had questions (Therapist 4).

Early childhood teachers were also more willing to accept therapists into their classrooms for integrated service.

> When we have out child study meetings together, I really like those because even if there's not a specific child that I'm talking to them about, listening to other people talk about their children in their classroom and getting strategies for those children is beneficial because I think that gives me ideas of things that I can try for the future too (Teacher 8).

> One of the therapists came down a couple of times and she was able to show us how to work with him a little bit more one-on-one…we could really incorporate a lot of the strategies into the classroom (Teacher 8).

Collaboration is a theme that has spanned from both the teachers and therapists, to the teachers and children, children and children, teachers, parents, and therapists. When analyzing the occurrence of the word collaboration is appeared 29 times across both professionals (11: therapist, 18: teachers). This indicated a balanced acceptance of the collaboration and the efforts needed by all professionals.

4.5 Acceptance of Children with Special Needs (Teachers)

One aspect of the collaboration between the University and medical clinic is the training of the professionals. When the collaboration first began teachers were trained in general education, many not having any experience working with children with special needs and their families. This collaboration would be new territory for these teachers and is evident by their reflections of growth as part of the partnership. One teacher commented: "[the collaboration] taught me a lot about working with children with special needs, the patience, but it also helped me decide where I wanted to go as

a teacher" (Teacher 1). Others stated:

> I've learned how to engage other children into the children with special needs' learning, how to have them be a part of that growth for them. I've just learned that how important it is overall for all children and for all adults in the classroom to have that exposure and that opportunity to work with special needs children (Teacher2).
>
> So working in an inclusive site I recognize the importance of that support and how important it is for young children to experience life with children with differing needs and special needs and how valuable that is for them in the long run. …I learned how loving children can be regardless of their abilities and that fundamentally children all have the same desires to be accepted and to learn and to grow regardless of whether they are typically developing or they have a special need (Teacher 9).
>
> Exposed to more different types of disabilities and how to differentiate their individual needs... after having a child, when I was in Amanda's classroom I never knew that there was a sensory delay. …I went down to CEF and talked to Morgan about it and I was like, "Oh this makes sense." Now I'm seeing more of it so that you can recognize it quicker with those kids then you know what to do with them, how to help them (Teacher 7).

A shift in acceptance occurred for teachers with more engagement with children and families with special needs. Teachers expanded their awareness of disabilities and how to best support the varying needs of children within their classrooms. Both collaboration with families and therapists increased acceptance among children, teachers, and families.

4.6 Understanding/Misunderstanding of Professional Disciplines

The Reggio philosophy is one that is typically studied by early childhood general education teachers during some aspect of their training. Continued understanding of the philosophy is developed with practice, professional development, and reflection. As such with any field, misconceptions can arise when one only has a basic level of understanding. This was the case for many of the therapists when entering classrooms to support children with special needs. Teachers wanted to stress that "there's intentional purpose for everything we do" (Teacher 7). There were mixed understandings of the Reggio philosophy which can be seen in the comments made by therapists.

> The Reggio approach that they are using is a little bit more freer and child directed and this child I have would need a more structured environment. So sometimes trying to help the teachers figure out how to help a child that has poor attention or sensory processing issues, trying to meld that with the Reggio approach, I guess in the classroom (Therapist 1).
>
> And kind of thinking outside of the box which I know Reggio allows for but really pushing us to think outside the box and really thinking about not only the child but the environment that that child is in for what they can and cannot succeed with. …I think it's layered. It allows teachers to grow, it allows therapists to grow but the best benefit is students (Therapist 3).
>
> That's opened up our [therapists] eyes a little bit, different things to use. Even just working and problem solving things for some of the teachers too and figuring out when it is appropriate for parallel play and when is it appropriate for reciprocal play and all of those different things we didn't really learn that much of. You learn just development not appropriate play and things like that. That's been really great for us to teach the parents (Therapist 4).

These data represent distinct and shared feelings and understandings across teachers and therapists. These insights aid into the perspectives of the teachers and therapists for the improvement of these professionals working within the collaboration.

How and What Did Therapists and Teachers Perceive Their Counterparts Professional Knowledge?

Teachers and therapists have acknowledged each other's professional knowledge and understand the limitations of their professions, which is compensated with the skills and knowledge of those in which they collaborate with, in turn, benefiting children and families with special needs being served by both organizations. Table 1 below shows the perceptions of each professional's knowledge.

The collaboration affords these professionals to really reflect upon their work and the work of their colleagues, thus taking time to understand what each brings forth that benefits to the children they are both supporting. Both professionals want children with special needs to be fully engaged in their classroom community and beyond. The collaboration provides the professionals the opportunity to give children the experiences and the developmental skills to be successful in all the environments that they will potentially encounter.

Table 1. Perceptions across discipline knowledge

Teachers' perception of educational practices	Therapists ' perception of therapeutic services
• Benefit of the natural environment (classroom) for children with special needs • Benefit of therapists working with teachers' within the classroom • Benefit of socialization for children with special needs with same-age peers • Benefit of cooperative learning groups to support peer learning among *all* children • Benefit of therapists' understanding child-centered philosophy • Benefit of using open-ended materials for development and learning • Benefit of learning through play	• Benefit of teachers' understanding of strategies to implement with children with certain needs within the classroom • Benefit of understanding of the effectiveness of one-on-one therapy within a structured setting • Benefit of understanding the importance of individualization and scaffolding children to the next level • Benefit of children with special needs experiencing the "everyday" (e.g. going to school, park, etc.).

The table above presents perspectives that are both in/out of sync with the practices of the professionals. The examples summarized of the professionals show the understanding/misunderstanding of the child-centered approach to teaching and use of open-ended materials, as well as providing a structured environment for children and the use of one-on-one therapy. For example, there were mixed understanding of child-centered approach to supporting children with special needs. These therapists show two different views on child-centered approach:

> One way to treat them [children with special needs] in large groups like school and not all children learn that way…they need more structure…they need repetitiveness...They need to be shown more how to do things versus just being allowed to interact and discover. A lot of times they need help with discovering and learning (Therapist 4).

> And kind of thinking outside of the box which I know Reggio allows for but really pushing us to think outside the box and really thinking about not only the child but the environment that that child is in for what they can and cannot succeed with…I think it's layered (Therapist 3).

Another component in which there were mixed understandings occurred regarding placement of services for children with special needs. There was conflicting views on determining whether there were more benefits to providing therapy in the classroom versus one-on-one therapy in the clinical setting. Again, there was varying agreement to which approach was best. Examples from a teacher and therapist show this difference.

> …gives them the opportunity to be with typically developing peers to have that model. For children with speech delays it helps them hear children using language a lot. For children on the autism spectrum it gives them a chance to see children interacting and being social and engaging in classroom activities (Teacher 2).

> I hope that it would be different positioning ideas, how to help someone support a child so that they're not totally supported and not able to move but not able to participate. That's been our biggest thing because so many of our kids are cute and cuddly and when you go into the classroom they are being held. Its like "no," they need to be using their walker. They need to be sitting in the chair. All they need is a footstool to put their feet on to balance themselves. So a lot of those different things to problem solve how to allow them to be able to discover and participate. A lot of our kids need a routine and that structure (Therapist 4).

How Did This Collaboration Impact Pre-Service Teacher Development and Pre-Healthcare Professionals?

Both therapists and teachers saw the impact that the collaboration has on pre-service teachers and pre-healthcare professionals. Exposure to multiple disabilities and disciplines (e.g. SLP, OT, and teacher), working within the same environment to meet the needs of the children in the classroom increases the pre-service professionals experience to working alongside team members. The opportunities to observe and interact with professionals, children, and families helps students build confidence in their future approach to working with various children with special needs. Therapists addressed the benefits of students getting the opportunity to see children within the context of their natural environment (the classroom), as opposed to just within the therapy sessions that they may be accustomed to. This affords the pre-service therapist students to see the child as a whole, as opposed to the specific needs that they are supporting. These experiences expand their approach to planning strategies and techniques, to think beyond the context of the therapy, but to the natural routines and activities of a child. This was thoroughly expressed by one therapist:

So whenever we have, you know like I have visitors, people who watch throughout the day. The level one interns who are like the observational students and then we have the full time interns. I always take them over to the other side of the building to show them the classrooms and this is what the teachers are doing. Like some of these kids are our kids that come for therapy. They kind of see that overlap and you know picking them up and bringing them down and sometimes we treat them in the classrooms. So I think that not all OTs obviously work in pediatrics so some of them go on to adult work and stuff. So they don't necessarily always get that part of the school system because some of our OTs work in outpatient pediatric centers like Children's or something. So they don't get that school component. So I think that it's nice for them to see you know working in our environment is not the child's place. You might work on positioning and stuff but then when you take them to the classroom they might not have that special seat or those special paint brushes or something. So it's figuring out okay how can the child still do those activities without sometimes the fancy equipment that we have and trying to incorporate some of those things. How are the teachers making modifications for those kids? Some kids obviously still do go into the more routine classrooms but a lot of them aren't. Figuring out how are the teachers adjusting for those children with ADHD or some of the sensory disorders and stuff. So I think it's nice for them to see them in their natural environment because we don't necessarily have that natural environment here in the therapy part. It's no different than if you did therapy with a child in their home. So that piece is nice at least to see them in their natural environment because we don't go to their homes very often (Therapist 1).

In addition, teachers saw the impact that their inclusive classrooms and the collaboration had on pre-service teachers. Teachers were more conscious of informing and involving students in the collaboration and communication exchanges that take place with therapists on a daily basis. They also helped students see the complexity of teaching that sometimes goes beyond the classroom, meetings with other professionals and parents to meet the whole needs of the child. In turn, these opportunities build pre-service teachers confidence in educating and supporting young children with special needs in their future classroom. The experiences they have during their educational program builds their comfort level and provide them with the technical skills to create environments that meet the needs of learners that are diverse in multiple capacities.

It kind of makes it easier for the students because they don't have that choice of being thrown into it. They just are but then they quickly realize "I can do it." I think they really realize that they can make it work in their own classroom. They're not going to be as nervous about having children with special needs in their own classroom because they've seen us have children with special needs in our classroom. They know it can be done and they know what to do. They know it's going to be okay. I think that's a huge impact (Teacher 2).

I think it teaches them acceptance and it shows them the other side also of education. It's not just about teaching reading and writing and math. There's so much more that they're developing. We're developing social skills. We're helping children by doing gross motor, fine motor and they get opportunities to see what the therapists do as well. They're getting a lot out of it too. I know I've had students who have gone to the all-day thing where they sit in and go to each different therapy session. They said that it was really interesting to see. I think that's a great opportunity as well (Teacher 4).

…think the collaboration is helping them recognize the importance of that team approach. It really is a team of people who are working together - the therapist and the parent and the classroom teacher, to really help that child have the most success at school (Teacher 3).

5. Discussion

This study provides insight on the perspectives of collaboration and coordinated approaches to education and service delivery to improve the efficiencies of professionals working with children with special needs. When working amongst varying professionals, there needs to be a respect of professional knowledge, openness to learn from respective counterparts, and willingness to transfer information to one' own practice.

Data presented from teachers and therapists show the impact that working within a collaborative framework has had on their inter-professional learning and development. Both teachers and therapists indicated the need to share strategies and supports to enhance their interactions with children with special needs. Providing services in a collaborative and unified approach increased their own awareness of their practices and the benefits of embedding strategies used by other professionals. Sharing knowledge of strategies increased across disciplines as relationships were built and common goals were communicated for the best interest of the child. Motivation for collaborative communication took place where both teachers and therapists saw value in sharing information to support children with special needs. However, continued dialogue, observations, and interactions needs to take place to alleviate the misunderstandings of various aspects of both disciplines.

Many teachers indicated that having therapists come work in their classrooms were very beneficial. Teachers felt that

they were lacking the educational preparation in special education resulted in a lower confidence level of supporting children with special needs. Seeking the expertise of the therapists was used for validation of best practices when working with children with special needs, regardless of the disability. Teachers sought special techniques and supports from therapists, although they were equipped with the knowledge of child development to support all children. Therapists were enthusiastic about sharing their expertise within the context of their clinical settings. They saw themselves as providing expert knowledge and special techniques, thus creating an expert/novice relationship among professionals. As more engagement and reflection the strengths of teachers' practices were recognized by some of the therapists, which resulted in a transfer of practice to their own interactions with children and families.

Providing opportunities for both professionals to spend time within each other in their settings builds their knowledge base. Teachers and therapists are more willing to work across environments (classrooms and medical clinic) to gain a better understanding of the intentionality of each other's practice. As these professionals work amongst these realms their ability to collaborate will be transferred to others they work and mentor. One aspect of the collaboration is inter-professional training. Teachers and therapists share many experiences with each, some in the form of formal meetings and others informal. Professionals are provided opportunities to attend/present at colloquium meetings scheduled monthly, attend conferences, and organization program events (e.g. family day, Halloween walk, program exhibit, etc.). Meetings are also scheduled with teachers, therapists, and parents for planning and supports. Also, teachers and therapists can just talk on a regular basis face-to-face or by email regarding supporting children with special needs. These interactions allow information to be shared in a natural way.

Data reported from teachers and therapists showed the value in providing pre-service teachers and therapists with the opportunity to learn and work with children with special needs. The collaboration provides teachers and therapists a chance to teach pre-service professionals to work collaboratively with colleagues and families in the interest of the child. Teachers were more cognizant of providing experiences for students to increase their acceptance and understanding of supporting children with special needs in the classroom. Therapists viewed this experience as a chance to see the child in a natural environment. This provides the learners the opportunity to transfer their observations and experiences to enhance the therapeutic practice and knowledge of the child.

6. Limitations

Some of the limitations of this study were the use of one collaborative partnership. In addition, the number of participants was limited due to the use of one site and participation being voluntary. The number of teachers compared to therapists was almost 2:1. This does not present a balanced perspective of those participating in the collaboration. It was also disclosed of the imbalance across the professional training and educational level of the participants. Although the teachers all had at least a bachelor's degree, their overall years of teaching was less than 6 years, whereas the therapists had more than double the time in practice working with children with special needs. Another limitation is the lack of models that are available with this collaborative approach. Thus, we are developing ways to best improve collaborative practice within our unique infrastructures.

7. Conclusion

Understanding the perspectives from those working day-to-day is an important aspect of the effectiveness of best practice. If more insight is provided into the views of those working close within this collaborative framework is shared, the transdisciplinary collaborative practice would become more of the norm than the exception. The preparation of future professionals can grow into a practice that is cross-discipline, instead of discipline specific. Working with children with disabilities takes many qualified professionals and training.

This study attempts to delve into the complexities of institutional inter-disciplinary collaboration from the viewpoint of teachers and therapists. The goal of the collaboration is to move into a joint transdisciplinary model. Many benefits have resulted of this collaborative efforts: 1) providing services to children with special needs and their families, 2) inter-professional growth, 3) changes in cross-disciplinary practice, 4) and increasing pre-service development across educators and therapists.

Some challenges that presented itself indirectly were administrative barriers. Teachers and therapist were more than willing to collaborate, however, working under different administrative structures did not allow for such flexibility and continuous engagement. This must be considered at the forefront of any collaborative effort. Such administrative barriers include financial resources, flexibility in scheduling, sharing building resources and spaces, different policies, and administrative views. Addressing administrative barriers is a high priority in order to move towards a true joint transdisciplinary model. As two institutions, with separate administrative levels, this direction is still evolving.

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