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Social Interaction with Students Who Have a Visual Impairment in Early Childhood

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Social Interaction with Students Who Have a Visual Impairment in Early Childhood

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A Literature Review Presented
in Partial Fulfillment of the Requirements
for the Degree of Master of Education
Dr. Theresa Pedersen

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Abstract

The purpose of this integrative literature review is to research how social interaction can affect children in early childhood who are blind and visually impaired. It will delve into how children with visual impairments learn, what social interaction can provide, and what parents and educators can do to foster positive outcomes. Different assessment tools and skillsets that make evaluation appropriate for this age group will also be examined.

Keywords: early childhood, visual impairments, social interaction, blindness

Introduction

According to the 2015 census, approximately 174,600 children aged 3- to 5-years-old were visually impaired within the United States (Varma, 2017). This number may not seem alarming, but it is projected to grow immensely each year (Varma, 2017). Children who go undiagnosed between birth and age three are also not included. Children who have a visual impairment of any kind tend to have deficits in early literacy and other essential skills that help them in school (Varma, 2017). When children go undiagnosed with a visual impairment until they are five or older, they miss out on crucial direct instruction or early interventions to help supplement vision loss (Varma, 2017).

When direct instruction and/or intervention does not happen in the early years, students who are visually impaired can fall substantially behind and catching up can be difficult (Bauminger-Zviely et al.; Bishop et al., 2005; 2019, DeBoth et al., 2020; Hobson & Lee, 2010; Kılıç & Güngör Aytar, 2017; Varma, 2017). Children who are visually impaired often struggle the most with social and communication skills (Arndt et al., 2014). They cannot see how their peers react, socially communicate, show their emotions, or respond with body language. They must learn all these skills by direct instruction through a TVI (Teacher for the Visually Impaired), parents, or anyone else willing to show them social norms (Brown & Beamish, 2012). When entering school, every child is expected to have a set of skills that will help them reach academic goals (Runjic et al., 2015). These skills include having good expressive and receptive language, the ability to follow instructions, and the ability to problem solve. They should also have a range of social skills (Runjic et al., 2015). When no early intervention is involved, visually impaired students are set up for failure right away. The study from Runjic, Prcic, & Alimovic (2015) also found a correlation between students who have poor social skills and bad

behaviors. Students with visual impairments are entering the school system with few of the needed skills but seem to come with bad behaviors (Runjic et al., 2015). Clearly, this is a problem. The available research allows a glimpse into the huge role that social interaction can play within this demographic of students. Many different studies and articles revolve around the topic of children with visual impairments, but there is an obvious need for more research on the specific ways social interaction affects the learning of children with visual impairments in early childhood.

The purpose of this literature review is to highlight the ever-growing need for early intervention for students who have a visual impairment, and how it can be detrimental if they do not receive it. Since little research is dedicated to this specific topic, TVIs must understand how much their work can impact a student and their education. It is also important for early access teams to properly screen for a vision loss so that these students don't go unseen until it's too late. Additionally, this literature review will highlight statistically proven interventions for students with visual impairments. Ideally, this literature review will support the need for more professional development for TVIs and educational team members related to social interactions among visually impaired students

This literature review will cover a multitude of relevant topics such as children with visual impairments, social skills, early access interventions, classroom integration, behavior problems, technology, and much more. With little research revolving around the specific topic of social skills among students who have a visual impairment, this review will pull articles and studies from subset categories to piece together information to support the need for early social skills interventions among students with visual impairments. These studies were found within the Dewitt Library database, ProQuest, ERIC, and the Google Scholar database. Publication dates

ranged from 2010-2021, and the studies provided foundational knowledge on how educators look at characteristics of students with visual impairments, skills needed for further education, and some of the needed pieces within early intervention.

A Review of the Literature

Characteristics of Children Who Are Visually Impaired

According to Varma et al. (2017), having a visual impairment in early childhood can significantly impair development in all areas, including children's social skills. Most educators agree that teaching social skills from an early age benefits all children regardless of cognitive, developmental, and motor ability. Understanding certain social cues will allow for a more seamless interaction between conversations at home and in school. These skills are usually learned through visual observation and direct teachings. Varma's findings reiterate that students and children with a visual impairment are already off to a rough start. Having a visual impairment in early childhood can significantly delay the development function of visual, motor, communicative, and cognitive skills, which can lead to psychosocial consequences (Varma et al., 2017). Studies done by Varma et al (2017), Huurneman et al. (2014), and Peter Hobson and Lee (2010) point to visual impairment having a monumental impact on normal early child development.

A 2014 study conducted in the Netherlands showed students with a visual impairment, such as nystagmus, have more difficulty with visual search tasks and have a longer search time overall (Huurneman et al., 2014). With over 60 trials, Huurnemann and his team found children with normal vision did not have to fixate as much within a simple matrix search and children with a visual impairment needed to make more visual fixations to find the prompted symbols (Huurneman et al., 2014). This study demonstrates how a simple task can contain a hidden

barrier for a student with a visual impairment. Additionally, a study conducted in London by Peter Hobson and his team found younger children around the mental age of 3 to 5 who were congenitally blind displayed similar characteristics to those who have autism (Peter Hobson & Lee, 2010). As the children got older, there were more children who no longer exhibited these autistic-like characteristics (Peter Hobson & Lee, 2010), revealing how children with visual impairments in early childhood show more autistic-like characteristics, but tend to grow out of these characteristics as they get older. Since discovering this trend, the need for intervention has become clear. Visually impaired students may require more direct instruction in social skills, communication skills, and motor development. Peter Hobson and Lee also suggest children who are congenitally blind do have a risk of developing autistic-like characteristics without early intervention. “If lack of vision contributes to the development of autism among blind children, then compensating for this may have a substantial effect on the children’s prognosis” (Peter Hobson & Lee, 2010 pg. 1240).

Identifying the need for early intervention in every developmental area among children who are blind or visually impaired is easy. The progress that follows early intervention can be substantial and can make a huge difference in future education (Hobson & Lee, 2010). Many children with visual impairments go undiagnosed or get diagnosed too late for early intervention to start, which is why so little intervention for this demographic is seen (Hobson & Lee, 2010). Projections indicate that the United States will report an estimated 14% increase of visually impaired children aged 36 to 72 months by 2060 (Varma et al., 2017). A need for early intervention will not be going away anytime soon, as there appears to be a steady increase of children diagnosed with some type of visual impairment in the United States. Early identification

and intervention among visually impaired children is crucial to their development in all areas of learning.

Social Interaction

Social interaction is a simple skill for most children in preschool. Children learn how to socialize from their home life, their peers, and even from shows on television. Bauminger-Zviely's 2019 study examined the role social intervention plays with communication, social interaction, and social play. This study was conducted in 23 different special education preschools located in middle-class, large, urban areas throughout Israel, with 23 students diagnosed with autism spectrum disorder (ASD) (Bauminger-Zviely et al., 2019). The decision to study students diagnosed with ASD was formulated from studies demonstrating the many great challenges they face with social interaction (Bauminger-Zviely et al., 2019). If they could strengthen the children's ability to interact, play, and converse more effectively with their peers at an early age, this might help with their social interaction later in life (Bauminger-Zviely et al., 2019). Compared to their control groups, the intervention groups improved their social interaction, conversation, and play skills (Bauminger-Zviely et al., 2019). Bauminger-Zviely et al. concluded that all of the above aspects should be integrated into the ASD curriculum if available (Bauminger-Zviely et al., 2019).

A 2011 Iranian study by Movahedi (2011) and his team looked at social interaction differences between athlete and non-athlete students who had a visual impairment. The socialization was measured with the Social Maturity Scale and focused on 107 visually impaired male students ages 13-19 years old (Movahedi et al., 2011). The findings of this study showed athletes who had a visual impairment had better socialization skills than their non-athlete, visually impaired peers (Movahedi et al., 2011). The authors concluded that participation in

sports offers students more socialization opportunities and can make improvements in their overall social skills (Movahedi et al., 2011).

The last study was conducted in New York, USA, by Arndt (2014) and his team. Different strategies that encourage positive social relationships in the classroom among blind and visually impaired students were studied (Arndt et al., 2014). Seven students and their parents were interviewed about the student's social life. Through the interviews, two different themes were apparent: adolescents' social lives & strategies and parents' strategies (Arndt et al., 2014). The students came up with three main themes for teachers to use in the classroom to support their social skills; provide access to equipment for games and academics, teach skills that promote independence, and provide time with other teens without adults present (Arndt et al., 2014). The parents also came up with three ways that teachers can support parents with the growth of their child's social skills: avoid overprotection, teach social norms, and create opportunities for socialization (Arndt et al., 2014). The findings showed a positive and satisfying social life when these strategies were presented (Arndt et al., 2014).

Overall, these studies look at a generalization of social skills among students who have a visual impairment. They run the gamut of social interventions, social skills of athletes, and the social life of adolescents. Even though these studies were less focused on early childhood students who have a visual impairment, they give a good look into the overall life and growth of a child with a visual impairment and their social skills.

Symbolic Play

There is a known controversy over the existence and nature of limitations in symbolic play with children who have a visual impairment (Bishop et al., 2005). Do children with a visual impairment automatically have issues with symbolic play or is this a learned limitation? A study

conducted in the Netherlands by Verver (2020) and team looked at the characteristics of peer play with children who have a visual impairment (Verver et al., 2020). The team worked with 72 different children aged 4- to 12-years-old who had some type of visual impairment, looking for the play characteristics exhibited by these children so that the adequate support could be put in place (Verver et al., 2020). The study found peer play with children who have visual impairments can vary drastically from child to child. Depending on the level of language development, vocabulary positively predicted cooperative peer play, but vocabulary was only marginally positively associated with symbolic play (Verver et al., 2020). Verver did find that the association between symbolic play and language decreases after the age of 4 among children who have visual impairments. Embedding play materials with technology that helps children with auditory social cues also helps facilitate social play for children with visual impairments who already have play difficulties (Verver et al., 2020).

Bishop et al. (2005) found a similar result in a study conducted in London, England. The researchers evaluated 13 5- to 9-year-old children who were congenitally blind on the ability to symbolize when the scaffolding was appropriately available (Bishop et al., 2005). Data was gathered through in-person and video observations, allowing the researchers to look at the attribution of symbolic meanings to play materials, the assignment of individual roles to play figures, and the play in certain scenarios as presented by the adult (Bishop et al., 2005). Socially abled blind children were able to show similar symbolic play skills with those of their sighted peers. However, blind children with social impairments were limited in the three areas of play stated above (Bishop et al., 2005). The children who were socially impaired did show some sort of symbolic play, which cued the researchers to conclude that there are conflicting reports and studies depicting children with a visual impairment as born with no symbolic play skills. Bishop

et al. stated, “the lack of vision is not a barrier to developing fully elaborated symbolic play” (Bishop et al., 2005 pg.459). Even though some participants showed limitations in symbolic play, they were still able to display instances that featured the attribution of symbolic properties to play materials and roles to play characters (Bishop et al., 2005).

Ozaydin’s 2015 study in Turkey focused more on what teachers can do, regardless of where the limitation is coming into play. The study revolved around teaching play skills to visually impaired preschool children and how those can affect their social interaction, rather than focusing on the reason for the discrepancy. The study participants were three female preschool students who had a visual impairment (Ozaydin, 2015). Fifty-five sessions in total revolved around using a multiple probe design across different subjects to determine the impact of play skills taught through direct instruction (Ozaydin, 2015). The findings clearly showed that teaching direct instruction to the target children can have a huge impact on their abilities to initiate interactions with and respond to their peers (Ozaydin, 2015). Not only did the students learn how to socially interact with their peers, they were able to retain the information two to three weeks after the direct instruction. The teachers also observed the classroom’s entire social atmosphere changing in a positive way (Ozaydin, 2015).

These studies revolving around the play skill of visually impaired students show each student and their specific needs are different. Symbolic play is more difficult for those who cannot see, but it doesn’t necessarily mean that children with a visual impairment cannot participate in symbolic play without direct instruction. However, direct instruction can help those who are shown to have a discrepancy. Educators need to be aware of their students’ needs and not just assume they cannot do something based upon their diagnosis.

Communication

The foundations of communication skills are learned when people are very young, and these foundations develop into communication skills used by adults. However, are communication skills dependent upon visual cues? A study conducted in London, England, with school age children between the ages of six and 12 found students who have a visual impairment showed signs of having difficulties with early social interaction and communicative competence (Tadić et al., 2010). The exact reason as to why this is the case is unknown, but the latest belief is that these outcomes are connected to disruptions in visually guided experiences and visual behaviors (Tadić et al., 2010). Through Tadić's testing, she also found students with a visual impairment scored significantly higher with language development but scored significantly lower with socio-communicative skills when compared to their sighted peers (Tadić et al., 2010). This was surprising to Tadić as she thought that language and socio-communicative skills would go hand in hand and show low scores for both.

Another study conducted in London, England, by Dale (2013) and his team looked at early social communicative competencies in children with visual impairments. This study included children between the ages of 1 and 3. Dale et al. found a growing concern regarding the social communication, tactile defensiveness, self-centeredness, limited communicative attempts, lack of social interest, and difficulties in joint attention with younger children who have a visual impairment (Dale et al., 2013). They were concerned about how to identify those children most at risk for delays in social communication (Dale et al., 2013) and found that the SOCI-VI 35 questionnaire would be the most appropriate, as it is able to identify the variation in abilities and difficulties in social communication of children with differing levels of congenital visual

impairment (Dale et al., 2013). This questionnaire may not be the answer for identifying all children who are at risk, but Dale believes SOCI-VI 35 could be a great start (Dale et al., 2013).

One final study revolving around the topic of communication comes from Russia. Kamalova and Vasilyeva (2016) and their team looked at formative communication skills and how they can affect socialization with preschool children who have a visual impairment (Kamalova & Vasilyeva, 2016). This study looked at 20 5- and 6-year-old children with a visual impairment who participated in a program developed to build communication skills of visually impaired children. Kamalova and Vasilyeva found that their program can help the development of communication skills in children with a visual impairment (Kamalova & Vasilyeva, 2016). The program works on interactions with regular seeing peers, projecting a friendly and attentive attitude, compromise, and the ability to negotiate with each other (Kamalova & Vasilyeva, 2016).

These studies provide a glimpse into three different communication topics: how communication is affected due to a vision loss, what we can do to identify those children in need of communication intervention, and what intervention can be done to enhance communication skills. Even though communication can be hindered by a visual impairment, skills can be learned to close the discrepancy gap. Early identification is perhaps the most important piece. Children in need require identification so help can be given.

Technology

Technology has created remarkable progress in the education world, including in the area of assistive technology. Assistive technology helps students with a visual impairment access their environment and education. One study conducted in the Czech Republic by Růžičková & Hordějčuková (2015) looked at types of modern devices that could help the early development of

a preschool student with a visual impairment (Růžičková & Hordějčuková, 2015). The modern device in question was a general touch screen device. It was used with the child, their parents, and their vision therapists over a 6-month period (Růžičková & Hordějčuková, 2015). Růžičková & Hordějčuková found that touch screen devices contributed to the positive development of visual effectiveness, which includes visual attention, fixation, tracking, transfer of visual attention, manipulation of objects, hand-eye coordination, visual imagination, and graphic motor skills (Růžičková & Hordějčuková, 2015). They noted the importance of parental education for utilizing both types of stimulation and visual skill training, including modern technology. (Růžičková & Hordějčuková, 2015).

A study conducted by Verver (2019) and her team in the Netherlands looked at how sound-augmented toys can facilitate play and social skills between regular sighted children and their visually impaired peers (Verver, Vervloed, & Steenbergen, 2019). Verver et al. hypothesized that overall, the augmented toys would increase play and social skills in all areas between the peers. However, they found that the sound-augmented toys drew the peers' attention to the toys and away from each other (Verver, Vervloed, & Steenbergen, 2019). The sound-augmented toys somehow hindered the amount of cooperative play, as this type of play decreased when the toys were present (Verver, Vervloed, & Steenbergen, 2019).

Another study conducted by Verver (2019) looked at how 15 visually impaired children aged 6-10 played with sound-augmented toys as compared to their regular sighted peers. Within the study, the children were read an informative story and given sound-augmented toys that went along with the story (Verver, Vervloed, Yuill, et al., 2019). When the sound-augmented toy was paired with a second learning medium, such as the informal story, the children who had a visual impairment gained more knowledge than their sighted peers (Verver, Vervloed, Yuill, et al.,

2019). The authors concluded that having more than one learning medium to teach a specific topic or skill can be beneficial to children with a visual impairment in a special education setting (Verver, Vervloed, Yuill, et al., 2019).

One may conclude through these three studies that technology can be beneficial to children with a visual impairment if it is handled in a purposeful manner. Assistive technology needs to have a purpose and show how it is helping students make educational gains toward standards or goals. There is not one piece of technology that is suggested over another; rather, the piece of technology depends upon the student and the purpose of its use.

Family Interactions and Bonding

Růžičková and Hordějčuková's 2015 study touched on the role family plays in a child's development with regards to technology. Their study raised questions about the topic of family involvement as whole. A Norwegian study by Metell (2015) explored how musical interaction can contribute to bonding and early interaction among young children who have a visual impairment. Children aged 1- to 4-years-old participated in music therapy sessions with their parents for a total of 10 weeks to see how positive these interactions could become (Metell, 2015). Throughout the study they saw connections in the forms of shared happiness, joint attention, togetherness, and body contact (Metell, 2015). They found that "music therapy promotes positive bonding patterns and enhances early interaction" (Metell, 2015 pg.121). Musical interaction serves as a bridge between children with visual impairments and their caregivers by exposing them to elements of early interaction that can be challenging on their own (Metell, 2015). Metell argues that musical therapy encourages joyful interactions and empowerment in those who may not be thought of as having a voice (Metell, 2015).

Another study located in Colorado, USA, by Smyth et al. (2014) focused on caregiver interactions with a visually impaired child during mealtime. They specifically looked at whether the level of a child's visual impairment affected their social interactions (Smyth et al., 2014). The authors (a teacher for the visually impaired, a speech language pathologist, and an orientation and mobility specialist) looked at 30 children ranging from 3 months to 3-years-old (Smyth et al., 2014). They separated these children into two different groups; tactual learners and visual learners (Smyth et al., 2014). Separation was based upon their degree of vision loss. When the study concluded, they found that children with a visual impairment benefitted from structured daily routines that have a clear start and end, with accommodations present (Smyth et al., 2014). They also found that improving caretaker confidence by training and providing activities and adaptations for the child's visual needs can minimalize difficulties with establishing mealtime and other daily routines (Smyth et al., 2014). Collaboration between therapists and parents can be beneficial to the child as whole and can provide the entire team with new strategies and activities (Smyth et al., 2014).

A study conducted by Sakkalou (2020) and her team looked at infant-mother interactions among children who had congenital severe and profound visual impairments, and the effects of developmental trajectories. Children ranging from 8- to 17-months-old were video-taped playing with toys while their mothers worked on following and maintaining the child's focus (Sakkalou et al., 2020). Data was also collected on the mothers' responsiveness to their infants' behaviors (Sakkalou et al., 2020). The children were separated into two different groups; those with severe visual impairments (some form of vision) and profound visual impairments (light perception at best) (Sakkalou et al., 2020). The study found that infant-mother interactions were dependent on the level of visual impairment of the child (Sakkalou et al., 2020). However, the need for mother

responsiveness was apparent as it was the only “long-term positive association with advances in verbal comprehension from infancy to about three years” in both groups of children (Sakkalou et al., 2020, pg.742).

These three studies demonstrate the growing importance of family interaction and bonding in those very early years of life. Interaction and responsiveness from the child may rely on the degree of visual impairment, but interaction between the child and the caregiver shows more benefits than not. The more the caregiver and/or family attempts to make strides through interventions, strategies, and recommendations, the more the caregiver will learn about the needs and wants of their child. Their child’s learning and growth may depend on that early interaction and bonding.

Educator Roles and Trainings

In addition to therapists and parents, educators also play a pivotal role in helping children with visual impairments. To understand the roles and responsibilities of teachers for the visually impaired, one must understand their job and duties. A study conducted by Brown and Beamish in Australia (2012) investigated the changing roles of teachers of the visually impaired (TVIs). The study authors interviewed a total of eight TVIs, most of them between 31- and 45-years-old (Brown & Beamish, 2012). Multiple interview questions were asked, with four questions providing the main focus for the authors; “What does your role involve? Which specific areas do you teach? Which aspects of your role do you find difficult? What would allow you to be the best possible teacher of students with visual impairments?” (Brown & Beamish, 2012 pg.86).

The four main roles of a TVI were collaborating and consulting with school staff, parents, and outside agencies; completing paperwork requirements; direct teaching; and supporting students and advocating for their needs (Brown & Beamish, 2012). The Expanded Core

Curriculum (ECC) was identified as the most taught area, with literacy and numeracy skills, information-processing skills, knowledge and implications of certain vision conditions, teaching braille, and study and research skills coming also listed (Brown & Beamish, 2012). Time restraints were found to be the most difficult part of being a TVI. TVIs also noted that having more trained staff and teacher aids working with visually impaired students would make their job much easier, along with more access to resources and facilities (Brown & Beamish, 2012). The jobs of a TVI keep growing but the consistent struggles associated with performing these activities grow as well (Brown & Beamish, 2012).

What can be done to address the regular struggles of a TVI? A study conducted in Malawi by Lynch (2018) and team evaluated a training program targeting parents, community professionals, specialist teachers and volunteers by providing advice on different in-home developmental stimulations for children with visual impairments (Lynch et al., 2018). The new training program was aligned with the Care for Child Development (CCD) and provided new materials in training packages that were culturally relevant to those in Malawi (Lynch et al., 2018). The packages included 16 separate counselling cards with eight play activities and eight communication activities for different aged children (Lynch et al., 2018). When the program trial was finished, Lynch et al. found that team members and parents were more positive toward their child with a visual impairment, and it also improved relationships and interactions for all team members and parents overall (Lynch et al., 2018). Parents showed great interest in this new program, and reported that it made them feel supported and involved within the team (Lynch et al., 2018).

These studies emphasize the important role played by educators and the benefits they bring to the child's team. It is also apparent that training programs for team members and

educators indirectly help the child. More opportunities are provided for the child overall when educators and team members are fully supported. Collaboration between the family and team members is crucial. Along with teaching the families what to do, more professional development must be provided for educators. When looking specifically at teachers for the visually impaired, the resources being offered need to be analyzed. Teachers for the visually impaired are trained and qualified teachers who have expertise and practical experience in the field of visual impairments (Brown & Beamish, 2012). They can play a role in a child's life from birth to age 21 in most countries. TVIs' roles keep adapting to provide the most assistance to their students, but more struggles are being brought to light about what TVIs need to do their job more effectively.

Intervention Strategies

Many different strategies exist to help children who have a visual impairment, and it is up to team members to discover which strategy will work best for their own students. A study conducted in Turkey by Kılıç & Güngör Aytar (2017) studied the effect of possible social skills training programs and the relationship between social skills and temperament (Kılıç & Güngör Aytar, 2017). They applied social skill training to 55 preschool students three times a week for eight weeks (Kılıç & Güngör Aytar, 2017). The overall findings indicated that implemented training had a positive effect (Kılıç & Güngör Aytar, 2017). They found the test scores of the children who participated in the training were higher than those who did not participate. They also found children who had a high activity level showed lower scores in communication and social skills, compared to those who were more timid to those activities (Kılıç & Güngör Aytar, 2017).

An Australian study by Ashdown and Bernard (2012) looked at the effect of a social and emotional learning skills curriculum, the You Can Do It! Early Childhood Education Program (YCDI), on social-emotional development, well-being, and academic achievement (Ashdown & Bernard, 2012). The study focused on 99 first grade students and four separate teachers and lasted over a 10-week period (Ashdown & Bernard, 2012). After 10 weeks of teacher-led lessons, students in the YCDI program showed growth in their social emotional well-being (Ashdown & Bernard, 2012). Those students also presented more positive emotions and behaviors and less negative emotions and behaviors (Ashdown & Bernard, 2012).

The last study focused more directly on young students with visual impairments. This study took place in Cleveland, OH. DeBoth (2020) and his team looked at how music therapy, especially piano keyboard, can benefit fine motor skills in young children who have a visual impairment (DeBoth et al., 2020). They took four different children aged 3-6 and designed an intervention program that focused on learning the piano keys (DeBoth et al., 2020). Along with wanting to see if fine motor skills improved in these children, they also wanted to see if they could successfully embed this program into a preschool setting (DeBoth et al., 2020). DeBoth's team was able to successfully embed this program into a preschool program where it was welcomed (DeBoth et al., 2020). They also found fine motor skills did improve slightly for most of the students across the post assessment scores (DeBoth et al., 2020). Overall, DeBoth et al. found that music therapy can be beneficial in a school setting and could be beneficial to more children on a larger scale (DeBoth et al., 2020).

The above studies focused on intervention strategies and programs lead to the conclusion that intervention needs to be directly related to the needs of the child(ren) that it is being implemented for. Even though one of the programs was not directly related to students with

visual impairments, there appear to be many possible benefits for visually impaired students as well. Children with disabilities need accommodations and, possibly, new learning strategies to help them learn to the best of their potential. It is the educators' and therapists' job to figure out what those strategies may be.

Relationship Between Behavior and Social Skills

When looking at behaviors in children who have a disability, many have asked the question, "Is there a correlation between the two?" A study conducted in Northern Ireland by McKerr (2020) looked at whether there was a correlation between the impact of behavior and academic achievement among students with vision needs. Nine students with a visual impairment participated in the study and the teachers involved needed to meet the visual needs and accommodations of each student to the best of their ability (McKerr et al., 2020). As the accommodations for each student were met, they noticed that the student's behaviors had changed in a positive manner (McKerr et al., 2020). Behaviors related to emotional difficulties, hyperactivity, and prosocial behavior showed the most improvement (McKerr et al., 2020).

Runjic's 2015 study in Croatia also examined the relationship between social skills and behavioral problems with children who have visual impairments. Children with visual impairments often have trouble with social skills throughout their life because of their visual impairment (Runjic et al., 2015). Thirty-nine parents of students with visual impairments filled out a survey and the data were collected using the Social Skills Rating System (Runjic et al., 2015). The findings showed a correlation between social skills and problem behaviors among students with visual impairments (Runjic et al., 2015).

Another study done in Slovakia by Celeste and Grum (2010) investigated the difference between the play behavior and social interactions of a Slovakian preschool-aged child who was

blind, compared to a child of the same age who was blind but located in the USA (Celeste & Grum, 2010). A correlation between behavior and vision accommodations has already been established, but this study asks the question, does location matter? When looking at the study, the social development of both children was similar, and both were near typical development for their age (Celeste & Grum, 2010). The study found that the student located in Slovakia showed more social competence and was less prone to social isolation compared to the one located in the USA (Celeste & Grum, 2010). Celeste and Grum predicted that the findings were not an issue of degree of visual impairment, but more so personality attributes (Celeste & Grum, 2010).

The synopsis of these three studies makes clear a correlation between a child's level of social skills and having a visual impairment; a correlation between social skills and problematic behaviors also exists. Personality traits must be taken into consideration when looking at social competency. Everything appears to be connected and can impact student learning. Students with a visual impairment have a lot of things working against them and educators must rally together to see these connections and help them grow in every area.

The Educational Setting

Educators today are working toward making the educational setting more inclusive to all that enter it. The classroom should be a place of growth and give all students equal access to such an environment. A study conducted by Bryant (2018) within multiple public schools in Virginia explored different perspectives held by preschool teachers on inclusion within the classroom. After interviewing eight preschool teachers, the data illuminated six major themes: outsiders' beliefs, general and special education received, benefits of formal and on-the-job training, effects of training on attitude toward teaching, general attitudes toward teaching, and proposed improvements (Bryant, 2018). Seven out of the eight teachers received training to work

with the students who had special needs in their classroom, which in turn made them feel more comfortable regarding inclusion (Bryant, 2018). The teachers stated that the more training one has, the better their attitude is, which makes them more comfortable with the lesson or activity (Bryant, 2018). All the teachers seemed positive toward the idea of inclusion but were very aware that it could be overwhelming or intimidating for a new, untrained teacher (Bryant, 2018).

Another study conducted in the USA by Chen (2017) and her team looked at whether a child's disability affected their social interaction toward their peers and teachers. A total of 484 preschoolers were observed and data analysis was taken to see how a disability status affects things like play and conflict networks (Chen et al., 2017). The findings of this study revealed that children with special needs were less likely to interact with peers, as compared to their typically developing peers during play (Chen et al., 2017). No difference was noted among those with or without special needs in relation to conflict networks (Chen et al., 2017). An interesting and controversial finding from Chen et al.'s study was that students with special needs interacted more with other children who had special needs, as compared to those without (Chen et al., 2017). This made the teachers and authors of this study think twice about inclusion, and they wondered what would be the most beneficial for social interaction (Chen et al., 2017).

Another study conducted in Northern Ireland by Little and Saunders (2018) studied the poor communication of visual needs, visual problems, and support needed within the classroom and on an individualized plan. The main question the authors asked was, "Are students with visual impairments getting the right accommodations and special educational needs within the classroom?" (Little & Saunders, 2015). The authors reviewed 28 different records, IEP's, and/or plans to see if correct, or if any accommodations were included (Little & Saunders, 2015). Even though vision accommodations and needs were common and often placed in medical reports,

Little and Saunders found they did not have this needed information posted (Little & Saunders, 2015). Student needs may not be met within the educational classroom if their visual limitations are not being recognized (Little & Saunders, 2015).

A final study regarding the educational setting revolved around the effectiveness of implementing visual accommodations when working on choice-making with students who have a visual impairment. This study was conducted in multiple different classrooms by Clark and McDonnell (2008). Typically developing students do not require different accommodations within the educational setting, and they learn through watching others and independent exploration (Clark & McDonnell, 2008). Different factors such as the type of object and the activity go into choice making. Typically developing children learn to choose wisely, as they can see the effects of their choices (Clark & McDonnell, 2008). Students with a visual impairment do not have this luxury and require environmental accommodations (Clark & McDonnell, 2008). The study implemented an intervention that put into place certain visual accommodations relevant to each student and their visual diagnosis (Clark & McDonnell, 2008). Clark and McDonnell found that the interventions were successful as they increased accuracy of choices (Clark & McDonnell, 2008). They also found that there was a huge beneficial impact of active visual accommodations on the level of accuracy in their specific choices (Clark & McDonnell, 2008).

The four studies above make it clear that vision accommodations are a must when a student with a visual impairment is in the classroom. A student's visual limitations have a huge impact on the educational environment. When it comes to inclusion, there is no denying that morally, it is what should be done with every classroom. However, one particular study

challenged this idea. If students are making more progress with social interaction among peers of the same disability, is this the new and correct path educators should take?

Conclusion

Without a doubt, students who have a visual impairment face daily challenges that cause anxiety and frustration. The obstacle of not being able to see takes away the opportunity to learn incidentally and to practice peer-like behaviors. One of the biggest challenges visually impaired students face is the ability to socially interact with others on a level that is appropriate and socially acceptable. Social skills also go together with many other aspects of these students' everyday lives, such as communication, play skills, technology use, behavior, and the ability to bond with caregivers.

Inclusion of students who have a visual impairment is important for creating feelings of acceptance and inclusion with their peers. However, some are hesitant to place visually impaired students in the general education setting for the purpose of improving their social skills. Further research needs to be conducted on whether inclusion is wholly beneficial to students who have a visual impairment. While Chen's 2017 study found that visually impaired students socially interacted more with peers who also had a disability, questions remain about what is most beneficial in classroom inclusion. More research also needs to be conducted on pieces of technology that will work best for these students. Sound-augmented toys and iPads worked well and promoted growth in the areas of play and communication, but what other pieces of technology could be utilized? An entire world of assistive technology exists just for students who have a visual impairment. Further research to determine what technology will work best would be very helpful to educators and team members.

Visually impaired students regularly rely on adults or caregivers to provide them with the appropriate experiences and correct accommodations, and they rely on educators to have the correct training to do it all in a professional manner. Educators must learn about their students' visual limitations, research or collaborate on the appropriate accommodations, learn new strategies or interventions, and then implement them in a way that will give students the most access to their educational environment. Helping a visually impaired student strengthen their social skills and interaction is not a one-person job. An entire team must determine what is in the best interest of the student and then implement exactly what that student needs to successfully grow in their social skills and interactions.

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