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Including Children with Visual Impairments in the Early Childhood Classroom

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Abstract

The practice of inclusive education—or inclusion—within general education classrooms is becoming more prevalent within early childhood settings. To successfully deliver classroom curriculums, promote learner growth, and meet the goals of all students served within inclusive settings, teachers must have a basic understanding of the unique learning needs of all students, including those with visual impairments. Because students learn best when the teachers who educate them first understand their needs, this chapter is designed as a basic starting point for early childhood educators who have limited to no background in working with students who have visual impairments. The goal of this chapter is to give early childhood educators a basic understanding of visual impairments, questions to ask when serving children with vision loss, and to show how accessibility can be approached in a way that is meaningful to students with visual impairments.

Keywords: visual impairments, blindness, inclusion, early childhood education, accessibility

1. Introduction

An inclusive educational classroom refers to a learning environment where the academic, physical, and social needs of all learners, including those with disabilities, are addressed within one comprehensive setting [1, 2]. The practice of inclusive education—or inclusion—within general education classrooms is becoming more prevalent within early childhood settings [3–5]. With this increase in practice, early childhood educators routinely encounter and teach students who have a range of special needs within regular classroom settings; however, parents of children served within these inclusive settings report that quality of inclusion can vary greatly among schools and individual service providers within school settings [1]. Due to the fact that the United States exemplifies one of the most comprehensive systems of special education in the world [6], highlights of this system and associated laws are noted throughout this chapter as an example for all readers who are interested in special education services.

The Individuals with Disabilities Education Act (IDEA) highlights that children in the United States of America must have access to equal opportunities within public education settings. Children with disabilities are entitled to the same educational experiences as their peers without disabilities [7]. While this is the law in the

United States, the practice of inclusion is expanding to more countries throughout the world [5, 8]. This expansion of services is due, in part, to documented benefits of inclusive classrooms where students with disabilities are making greater gains in academic skills and behavioral characteristics than same-age peers who receive services in special schools. In addition, court cases—such as the Hendrick Hudson School District v. Rowley U.S. Supreme Court landmark decision in 1982—followed by the 2004 amendments to the IDEA, the merger of special education and general education is viewed as benefitting all children in the classroom [9, 10].

To successfully deliver classroom curriculums, promote learner growth, and meet the goals of all students served within early childhood settings, teachers must have a basic understanding of the unique learning needs of all students, including those with disabilities. Early childhood educators who have received training in special education topics are generally more positive about inclusion than those who enter the teaching field with a limited knowledge of special education [5, 11]. Research indicates that the provision of basic special education knowledge and training to early childhood educators improves attitudes toward students with special needs, a better awareness of inclusion, personal expectations, and improved outcomes for students with disabilities who are served within these settings [5, 12–14]. Students learn best when the teachers who educate them first understand their needs and, then, provide instruction in a way that meets these needs.

Visual impairment is one specific category within special education identified under the IDEA. Within inclusive settings, early childhood educators may encounter students with a variety of different visual impairments. This chapter is written from the perspective and experiences of a dually certified elementary educator and teacher of students with visual impairments (TVI), as well as a certified orientation and mobility specialist (COMS) with over 20 years of experience in the field of education. It is designed to be a basic starting point for early childhood educators who have limited to no background in working with students who have visual impairments so they can acquire a basic understanding of visual impairments, questions to ask related to serving children with vision loss in their classroom settings, and how to approach teaching in a way that is meaningful to these students. While it is not designed to be a *comprehensive guide* to meeting all the needs of students with visual impairments placed within inclusive early childhood settings, this chapter is designed to provide *foundational information* for general educators who are expected to work with children who have vision impairments within inclusive education settings.

This chapter is divided into four sections. It begins with a basic overview of visual impairments and the specialized needs of students with visual impairments, continues with the educational implications of visual impairment on learning, and addresses the use of a team approach in meeting the unique needs of learners with visual impairments. The chapter concludes with a section that addresses “take-away tips” for early childhood educators—including practical strategies that can be used when working with students who have visual impairments in their inclusive classrooms.

2. A basic overview of the specialized needs of students with visual impairments

2.1 Background

Visual impairment is categorized as a “low incidence disability” within the field of special education in the United States. The federal definition of the term “low incidence disability” includes (a) a visual or hearing impairment, or simultaneous

visual and hearing impairments; (b) a significant cognitive impairment; or (c) any impairment for which a small number of personnel with highly specialized skills and knowledge are needed in order for children with that impairment to receive early intervention services or a free appropriate public education [6]. None of the disabilities listed under the category of low-incidence, including students with visual impairments, generally exceeds 1% of the school-aged population at any given time [15]. This means that early childhood educators who work within inclusive settings may only encounter students with visual impairments on a limited basis throughout their careers. Due to this fact, these educators may have minimal to no experience in delivering services that meet the unique needs of students with visual impairments within the early childhood classroom.

In the United States, students with visual impairments have been included in general education classrooms since before the 1975 implementation of P.L. 94-142, the Education for All Handicapped Children Act, now known as IDEA. While data from the National Longitudinal Transition Study (NLTS) reports that students with visual impairments spent, on average, 86.8% of their day in general education classrooms, academic success has not been guaranteed, with as many as 49.9% of these students reported as having failed at least one course in general education [16, 17]. Educators who are specifically trained to work with students who have visual impairments have long argued that the *physical inclusion* of students with visual impairments in general education classrooms is *insufficient* for academic success [16, 18]. Rather, these specialists emphasize that the specialized needs of students with visual impairments, including the need to participate fully in the general education curriculum with *sufficient accommodations*, must be met if academic success is to be achieved [16, 19, 20]. In order to accomplish this goal, early childhood educators who serve these children within inclusive settings must recognize the needs of students with visual impairments to ensure these *sufficient accommodations* are provided for student accessibility and, ultimately, success in the classroom.

2.2 What constitutes a visual impairment?

One misconception among general educators regarding students with visual impairments is that “legally blind” means a complete loss of sight. This is not true. Under the IDEA, “visual impairment – including blindness,” is defined as, “an impairment in vision that, even with correction, adversely affects a child’s educational performance. The term includes both partial sight and blindness” [7].

Teachers who are not familiar with visual impairment—including blindness, may believe that students with vision loss placed in their classroom settings have *no usable vision*. Early childhood educators need to recognize that a majority of students who are diagnosed with a visual impairment have some degree of usable vision. According to information from the World Health Organization (WHO), an estimated 253 million people live with vision impairment: 36 million are blind while 217 million have moderate to severe vision impairment [21]. This means that while some students may have “no light perception,” meaning that they see only darkness, many have vision that is useful for a variety of tasks, including reading print, identifying faces, recognizing color, and traveling independently, without specialized training. When working with students identified as having a visual impairment, remember that their ability to use vision for classroom activity will vary. While some may have no usable vision, “blind” does not always mean a complete loss of sight.

Regardless of their diagnosis, students who have vision loss will also have variations that exist among the causes of visual impairment, severity, and the manner in which it affects how the individual can see. Students with visual impairments may see things differently from one another, even when they share the same eye

condition. Different types of vision loss may include a reduced acuity—or clarity—that cannot be corrected with glasses, a field loss—or “blind spots” with a student’s field of view, muscle control problems (lazy eye), or problems with perception—for example, a student may see educational materials, but cannot describe or comprehend what is being seen.

2.3 Recognizing visual impairments in the early childhood classroom

When a child with a visual impairment is assigned to an inclusive classroom setting, the classroom teacher should always ask about the child’s degree of vision loss. Teachers who do not recognize that there are varying degrees of visual impairments may wrongly assume that learning environments need not be visually stimulating; this is especially true in early childhood settings where pictures, color, sight words, and learning centers are used within everyday learning tasks. In settings where the majority of students rely on visual cues, teachers must explore alternative ways to meet the educational needs of their learners with visual impairments, including those with no vision and partial sight. Knowing the degree of a child’s vision loss can assist in determining, selecting, and using specialized accommodations needed within the educational setting.

In addition to recognizing the individualized degree of vision loss that is present when a child who is identified with a visual impairment is assigned to an inclusive classroom, early childhood educators must also be cognizant of the warning signs of visual impairment in children who are not specifically identified as having a visual impairment prior to attending a formal learning environment. Because the early childhood setting is one of the first formal learning experiences for young children, it is often within this setting that visual impairments are first identified. Because so much of classroom learning occurs through a visual model, it is important for early childhood educators to recognize when a visual impairment may be present. If visual impairments are overlooked, delays in learning can occur for children who require accommodations.

Signs of eye trouble in children may include physical characteristics, behaviors, verbal communications, or trauma to the face or eyes. Physical characteristics may include eyes that are red, inflamed, watery, or off-center. Behaviors may include rubbing, shutting—or covering—one eye for tasks that require vision, tilting of the head when viewing materials, leaning forward to see better, tripping over objects, excessive blinking, or extreme sensitivity to light. Verbal cues may include statements such as, “I can’t see that,” “I see two of that,” (double vision) or complaints of dizziness, headache or nausea [22]. Any of these symptoms, including classroom emergencies where the eye may be affected, should be reported to school health services, administration, and the child’s parents and/or guardians so that follow-up assessment can be determined.

3. Educational implications of visual impairments on learning

3.1 Planning for the needs of students with visual impairments

Planning for the needs of a child with a visual impairment within an inclusive classroom setting may be seen as a challenge, especially if it is the first time that a general education teacher encounters a student who has vision loss. With adequate background knowledge, support, and recognition of the unique needs of these learners, teachers can appropriately plan to meet the needs of students with visual impairments.

Once general education teachers recognize that there are different variations of visual impairment, the next step in planning is to understand the *educational implications* of visual impairments upon learning. The development of students with visual impairments can be affected by many factors. These include, but are not limited to the type and severity of the vision loss, the age of onset of the visual impairment, the amount of intervention received within educational and home settings, use of residual vision, personality, availability of equipment and resources, presence of other disabilities, acceptance, and family involvement. While students with vision loss can accomplish many of the same activities as children who are sighted, these outlying factors can affect education in various ways, causing students who are visually impaired to learn in a variety of different manners. Some students will require only minimal accommodations while others will require extensive accommodations and different tools for learning. These accommodations should be (a) developed and discussed by a team that includes parents, teachers, related service staff, and administrators. While this can be completed in a variety of different ways throughout the world, within the United States this is completed through the use of an Individual Family Service Plan (IFSP) or Individualized Education Plan (IEP). Because these forms are used within a highly consistent, regulated system within the United States [6], the IFSP and IEP are highlighted in this chapter with the understanding that these same forms may not be used consistently throughout the world. Countries other than the United States may have policies and/or forms unique to their individual laws. In the event that there is not uniformity within other areas, the US forms highlighted within this chapter may serve as an example for teachers in countries where progressive special education is still developing.

An Individual Family Service Plan (IFSP) is a legal document designed to focus on the needs of the family of a child with special needs, including visual impairment; this document is used for children from birth to the age of three. Within the IFSP, children are served through early intervention teams, usually in the home or a center-based setting.

An Individualized Education Plan (IEP) is legal document designed to focus on the education program of a child with special needs, including visual impairment, within school settings. Within the IEP, children ages 3–21 are served within local school programs by the personnel hired within these educational programs. Early childhood educators may encounter both IFSPs and IEPs when serving young children within educational settings; IFSPs will be particularly prevalent at meetings where children are transitioning from early intervention to pre-school settings. The content found within these documents is set by federal law; however, the actual documents used to outline these plans may vary from state-to-state. If they are not included within initial planning meetings, general education teachers who serve children with visual impairments may request to be a part of this team to gain a better understanding of needs, expectations, and accommodations needed to meet educational goals.

3.2 Addressing educational implications of visual impairment

Lack of visual input compromises the ability to see a whole picture or concept as a starting point to learning [23–25]. Learners who can see are able to capture the “whole” of an object through a sense of vision while learners with visual impairments must use their senses to learn from “part to whole.” For example, a student who has vision can look at a book, video, picture, or a display at a zoo to understand the concept, size, shape and magnitude of an elephant; the child learns about the “whole” animal at one time. A child with a vision loss cannot see the books, videos, pictures, or displays that provide a “whole” view of the elephant; this child

will learn about the animal in a step-by-step process. A typical learning sequence may include learning about the texture of an elephant's skin, the diameter of his legs or trunk, the weight of the animal, and the environment in which the animal lives; once these "parts" are learned, the "parts" are put together to form a "whole" picture.

Students with visual impairments must *learn through experiences—learn by doing*—in order to master a skill. Using the hands as a tool to gather information is needed for children who are learning without the use of sight as their primary sense. Allowing children to explore objects so that they can experience and learn details that are invisible without the use of touch is essential for learning. Allowing children to smell, feel, and move objects using all of their senses, in addition to exploring with their hands, provides multiple inputs for learning. When completing lessons, provide actual objects for the student to touch, hear, smell, and explore. An actual piece of fruit that can be peeled, smelled, and tasted is a much richer experience than looking at a photo or touching a model.

In addition to "part to whole" learning, students with visual impairments sometimes have *fewer natural learning experiences* because they are not able to observe everyday objects and interactions, especially ones that are non-verbal. Areas of learning that can be particularly affected include concept development, interpersonal communication, life skills, and academic development. In accessing the early childhood curriculum and age-appropriate milestones of development, students with visual impairments should be encouraged to complete skills that are beneficial to the growth of positive self-image, appropriate dress, self-care skills, good interpersonal communication, appropriate behaviors, increased independence, and productive community experiences. These skill sets can begin in early childhood with simple, everyday tasks such as tooth brushing, hair combing, dressing, organizing a personal space, and eating.

Classroom teachers should resist urges to treat students with visual impairments differently than their same-aged peers. Encourage self-sufficiency and decision making from an early age. As an early childhood educator, it is easy to want to do things for a child who has a visual impairment, especially if a teacher notes that the child has a slower pace than peers who do not have a vision loss. Children with visual impairments learn best through experience—do not be afraid to give them *extra time to learn and explore*. Remember that a final product is not always as important as the learning process. Early childhood educators should allow students to experience natural learning experiences and classroom exploration that provides students with multiple opportunities for independence and success [26].

3.3 Creating an accessible learning environment

Because students with visual impairments cannot use their sight as a primary learning medium, they tend to rely on their senses of touch, hearing, smell, taste, movement, and residual vision to gather information from their learning environments. To address this way of learning, early childhood educators must create environments that are engaging and accessible using all senses so that those with visual impairments can learn. Because children are naturally curious, use of universal design in creating learning environments is beneficial. Use of color, clear-large print sight words, Braille labels, multiple textures, tactile markings, stickers, object cues, and a variety of materials that can be touched are all ways of encouraging students to explore with all of their senses to learn within the classroom setting. Teachers should recognize that alternate teaching materials for students with visual impairments may not always be needed for classroom activities. Many items, such as crayons, blocks, toys, finger paints, putty, musical instruments, recreational

equipment, or sensory table items, are universal tools that can be used by all students. A learning environment that is well planned is not just beneficial for students with vision loss, but for all learners who are participating in the classroom setting.

In addition to using a variety of materials for exploration, there are a variety of factors that can also be considered when planning a learning environment. Proper lighting should be considered, especially for children who have low vision or light sensitivity. Natural lighting diffused throughout a classroom—such as light from windows or overhead lights that point toward the ceiling versus fluorescent lights that point toward the classroom floor—is best for students with light sensitivity. Sound within classrooms can be modified to ensure all students can distinguish work time from free time or play time; use of an FM system or sound reduction boards to eliminate unwanted noise can benefit all students.

Use of contrast in creating classroom materials can assist all students in distinguishing picture cues and identifying classroom activities. Texture—or tactile additions, such as outlining a picture with school glue and allowing it to dry or placing a screen behind coloring pages—can assist children with no usable vision to access activities that are traditionally concepts that require vision. Finally, once a classroom setting is established, teachers should resist urges to move furniture. Keeping furniture pieces and specific learning areas in their original locations will assist children who have visual impairments with their classroom orientation, movement, and location of desired spaces within an environment. If the furniture is moved, be sure to notify children with visual impairments of changes, allowing them time to explore and become comfortable with their surroundings. This is another example where students with visual impairments will obtain information in a manner that is “part-to-whole,” as peers with vision will immediately see changes to a “whole” classroom layout, while a student with vision loss will learn the layout in a “step-by-step” manner.

3.4 The expanded core curriculum

In addition to learning age-appropriate milestones and subjects established within general education curriculums, students with visual impairments also have unique needs that expand beyond those of other students. Because students with vision loss are *unable to observe the nonverbal behaviors and actions of others*, classroom teachers must recognize that the manner in which incidental skills are learned is impacted by vision loss. In order to teach these incidental skills to students with visual impairments, an *expanded core curriculum (ECC) for students with visual impairments* has been designed to go beyond the core components of math, reading, writing, and science to address essential areas and experiences that are unique to persons with vision loss [26]. The ECC is a curriculum that addresses functional outcomes for students with visual impairments, including nine (9) skill sets that address (a) compensatory (or access) skills, (b) social interaction skills, (c) recreational and leisure skills, (d) orientation and mobility (O&M) skills, (e) independent living skills, (f) assistive technology skills, (g) career education skills, (h) sensory skills, and (i) self-determination skills.

Although children who are visually impaired have little or no opportunity to learn ECC skills by visual observation alone, they have the opportunity to acquire these skills through sequential, systematic instruction by a *knowledgeable person* [27]. In addressing specific skills identified within the ECC, a team approach to learning is imperative. While early childhood educators are able to understand the basic implications of vision loss on learning and accommodate the basic needs of learners through universal designs and inclusive classrooms, these same teachers need to know they are not alone in determining what is best for students with vision loss.

There are educational *specialists who are specifically trained to work directly with students who have visual impairments*. In addition to working directly with students, these specialists also work with teachers, administrators, and families, to create individualized plans designed to meet the unique needs of students with vision loss. Early childhood educators who have children with visual impairments placed within their classroom settings can request the services of a teacher of students with visual impairments (TVI) and an orientation and mobility (O&M) specialist to assist with accessibility, technology, and ECC skill sets that go beyond typical classroom protocols.

4. A team approach for meeting the needs of learners with visual impairments

Because children with visual impairments fall into a category of “low-incidence disabilities,” early childhood educators who work within inclusive settings may only encounter students with visual impairments on a limited basis throughout their careers. In addition to the challenge of having minimal to no experience in delivering services that meet the unique needs of these students, early childhood educators may also not recognize that there are disability-specific specialists who are trained to work directly with these students.

In order to effectively serve students with visual impairments within inclusive settings, early childhood educators must recognize and understand that learners with visual impairments have unique needs. Even the youngest of students with visual impairments access information using a range of tools, including enlarged print, Braille, technology, screen-reading applications, audio output, and close-circuit televisions (CCTV). The tools being used by learners with visual impairments will vary based on age, individual capabilities, learning characteristics, and the extent of vision loss. Adaptations are determined by team decisions, after an assessment is completed by a certified teacher of students with visual impairments (TVI) and/or orientation and mobility (O&M) specialist.

Due to the complexities of vision loss that go beyond a typical classroom learning environment, early childhood educators who have students with visual impairments in their classroom settings can—and should—request services from professionals who are specialized in visual impairments and trained to work with children who have vision loss. Often times, these specialists are hired on an itinerant basis, meaning that they will come to the classroom setting and work with children who require their services on an as-needed basis as determined by the educational team. By working collaboratively with educational and mobility specialists to assist with assessment, planning, teaching, and implementation of strategies to address the expanded core curriculum (ECC)—including Braille, technology, and orientation and mobility (O&M) within inclusive settings, children with visual impairments who receive specialized services will receive a broad range of educational services to meet their unique needs.

4.1 Specialists serving low incidence populations

According to federal mandates, states are required to provide all students with a free, appropriate public education (FAPE). Critical shortages of special education teachers represent a serious challenge to achieving this goal for students with disabilities [28]. In providing services to students with low-incidence disabilities, the availability of qualified special education teachers is limited; this is especially true when a direct focus is placed on the education of students who are blind or visually impaired. Regardless of this shortage, students with visual impairments are entitled

to the services of these professionals to facilitate learning goals within educational settings. Early childhood educators, as well as the parents of children with visual impairments who are placed within their classrooms, have a right to request the services of a teacher of students with visual impairments (TVI) and an orientation and mobility (O&M) specialist as an appropriate accommodation.

A *teacher of students with visual impairments* (TVI) is a licensed teacher trained to provide disability-specific needs of children with visual impairments, including needs that go beyond those of a special education curriculum for high incidence populations. University programs that train teachers of students with visual impairments (TVI) include courses that cover a variety of tools and skills specific to the needs of students with visual impairments. These include teaching and using assistive technology, writing reports, assessing students with visual impairments through formal assessments, determining accommodations, teaching and using Braille for both literacy and mathematics, and addressing the expanded core curriculum (ECC), with the exception of orientation and mobility (O&M) training. These specialized services provided by TVIs are essential components of educational programs for all students who are visually impaired [29].

The area of orientation and mobility (O&M) is an important component of success within school and community settings, particularly for students with vision loss [30, 31]. Orientation and mobility (O&M), or the ability to move about in the home and community, is a specialized training designed to facilitate the ability of persons with visual impairments to perform independent travel skills [30]. Orientation and mobility (O&M) training can begin within early intervention to address early body movements, identification of sound sources—including voices, turning toward sounds, and first movements with scooting, crawling, and, eventually, walking. It is a skill set that continues through adulthood, when adults train to become independent within every day, community settings.

Orientation and mobility (O&M) services enable individuals to acquire knowledge and skill sets needed to travel safely and independently [32–37], resulting in better accessibility to public domains and enhanced quality of life. *Orientation and mobility (O&M) specialists* are university-trained and certified to teach these skill sets to students—and adults—with visual impairments. Orientation and mobility (O&M) specialists are not the same as an occupational therapist (OT); these should not be confused when establishing services for children with visual impairments, as occupational therapists (OT) are not certified to provide O&M training for individuals with visual impairments.

Early childhood teachers who are working with students who have visual impairments in the inclusive classroom can assist with orientation and mobility (O&M) skills by remembering some basic interactive tips. When interacting with a student who has a vision loss, always remember to introduce yourself. While a student with visual impairments may know you, that student may not immediately recognize your voice. When talking with a student who has a vision loss, do not direct your conversation to someone else and use a normal conversational voice. Always ask before rushing to assist a student with a visual impairment. Finally, when leaving a student who is blind, be sure to tell the student that you are leaving. As a classroom teacher, the interactions that you have with students who are visually impaired will be watched and imitated by other students in the class. Always remember to provide a good example, so that others can learn from your modeling.

4.2 Collaboration for success within the early childhood classroom

The addition of a teacher of students with visual impairments (TVI) and an orientation and mobility (O&M) specialist to the educational team of students with

visual impairments can be imperative to success. These professionals address unique learning needs, such as Braille, technology, orientation and mobility (O&M), and other areas of the expanded core curriculum that are not addressed within teacher training programs designed for early childhood educators. While early childhood educators can provide access to standard curriculum materials, unique learning needs—including Braille, technology, orientation and mobility (O&M), and other areas of the expanded core curriculum (ECC) must be addressed by knowledgeable professionals training in these specific disciplines [26].

Once these professionals are part of a student's educational planning team, early childhood educators should work cooperatively with them, as well as the school administration, student families, and other related service providers to provide educational experiences that are effective and enjoyable. As the use of specialized curriculum, equipment, materials, and individualized instruction becomes incorporated into the inclusive classroom setting, the early childhood educator should regularly collaborate with the teacher of students with visual impairments (TVI) and the orientation and mobility (O&M) specialist to become familiar with these additions to the classroom setting. Because itinerant staff often travel between school buildings, there will be times when the classroom teacher is a student's only point of contact. Returning to ideas presented at the beginning of this chapter, early childhood educators who work with students with visual impairments in inclusive settings should be familiar with the adaptations and accommodations used by these students to ensure student success, as they may be the only point of contact available to the student at a given point in time.

5. Final considerations and “take-away tips”

As role models to students, early childhood educators who have students with visual impairments in their classroom settings are responsible for ensuring that these children are welcomed and given the opportunity to form social relationships within the school community. Early childhood educators must have an awareness of the unique needs of these students, especially in areas where there is not a teacher of students with visual impairments (TVI) or an orientation and mobility (O&M) specialist assigned to the student.

When working with students who have visual impairments, be challenged to take risks that encourage the growth of these students. Do not simply plan to eliminate parts of a curriculum that may be challenging for a child with a visual impairment, but find meaningful ways to make it accessible. Be aware of situations where a child may have limited exposure so that examples or explanations can be provided to expand learning concepts. Do not be afraid to ask what the child sees. Having a concrete understanding of a child's perspective may assist teachers with expanding upon this knowledge.

Ensure that all children in the inclusive classroom setting feel safe. Use peer interactions to develop positive self-esteem and have high expectations for all students, including those with visual impairments. Remember that students with vision loss will sometimes miss non-verbal cues that are provided within classroom settings. Emphasize listening skills for all students, avoid using non-verbal expressions—such as shoulder shrugs, head nodding, or facial expressions—to manage classroom behaviors. Simple sound cues—such as a tap on a student's desk—or a gentle touch can quietly ensure that a child with a visual impairment is being included in a discussion.

Provide students with appropriate materials to maximize learning and have a variety of learning resources on-hand to quickly adapt and/or explain concepts to

a child with vision loss. Early childhood educators should regularly consult with parents and specialists to identify ways to support student learning. Remember that disability-specific skills, such as orientation and mobility (O&M) or Braille, will be addressed by a specialist; however, familiarity with these concepts are important to understand all aspects of the child participating in the early childhood classroom setting.

Finally, when in doubt of how to handle a particular situation, never be afraid to reach out and ask questions. Communication and collaboration with other professionals who have had similar experiences is one of the biggest resources for educators who are working with children with visual impairments for the first time. Remember that all students—regardless of background, income, disability, diversity, or visual impairment—have the same rights within the classroom setting. Provide them with daily opportunities to develop their goals, dreams, and aspirations, keeping in mind that all kids—regardless of their variations—are more alike than different.

Acknowledgements

I would like to express my appreciation to Dr. Tiffany Wild for her encouragement and support in developing this chapter.

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References

- [1] Brown CM, Packer TL, Passmore A. Adequacy of the regular early education classroom environment for students with visual impairment. *Journal of Special Education*. 2013;**46**(4):223-232
- [2] Foreman P. *Inclusion in Action*. 2nd ed. Melbourne, Australia: Thomson; 2008
- [3] Ainscow M, Cesar M. Inclusive education ten years after Salamanca: Setting the agenda. *The Journal of Psychology*. 2006;**21**:231-238
- [4] Cook BG, Cameron DL, Tankersley M. Inclusive teachers' attitudinal ratings of their students with disabilities. *Journal of Special Education*. 2007;**40**:230-238
- [5] Lee FL, Yeung AS, Tracey D, Barker K. Inclusion of children with special needs in early childhood education: What teacher characteristics matter. *Topics in Early Childhood Special Education*. 2015;**35**(2):79-88
- [6] Kritzer JB. A four country comparison: Special education in the United States, China, India, and Thailand. *British Journal of Applied Science & Technology*. 2014;**4**(23):3370-3382
- [7] Individuals with Disabilities Education Act, 20 U.S.C. § 1400. 2004
- [8] Dessemontet RS, Bless G, Morin D. Effects of inclusion on the academic achievement and adaptive behavior of children with intellectual disabilities. *Journal of Intellectual Disabilities*. 2012;**56**:579-587
- [9] Cyr E, McDiarmid P, Halpin B, Stratton J, Davis-Delano LC. Creating a dual licensure program in elementary and special education that prepares culturally responsive teachers. *Interdisciplinary Journal of Teaching and Learning*. 2012;**2**(3):158-168
- [10] Pugach MC, Blanton LP, Correa VI. A historical perspective on the role of collaboration in teacher education reform: Making good on the promise of teaching all students. *Teacher Education and Special Education*. 2011;**34**(3):183-200
- [11] Lee FL, Tracey D, Barker K, Fan JC, Yeung AS. What predicts teachers' acceptance of students with special educational needs in kindergarden? *Australian Journal of Educational and Developmental Psychology*. 2014;**14**:60-70
- [12] Feng L, Sass T. What makes special education teachers special? Teacher training and achievement of students with disabilities. *Economics of Education Review*. 2013;**36**:122-134
- [13] Smith MK, Smith KE. "I believe in inclusion, but..." regular education early childhood teachers' perceptions of successful inclusion. *Journal of Early Childhood Research*. 2000;**14**:161-180
- [14] Yang CH, Rusli E. Teacher training in using effective strategies for preschool children with disabilities in inclusive classrooms. *Journal of College Teaching & Learning*. 2012;**9**:53-64
- [15] West EA. *International Perspectives on Inclusive Education, Including Learners with Low-Incidence Disabilities*. Vol. 5. Bingley, GBR: Emerald Group Publishing Limited; 2015. Available from: <http://www.ebrary.com>
- [16] Bardin JA, Lewis S. A survey of the academic engagement of students with visual impairments in general education

classes. *Journal of Visual Impairment and Blindness*. 2008;**102**(8):472-483

[17] Wagner M, Blackorby J, Hebbler K. *Beyond the Report Card: The Multiple Dimensions of Secondary School Performance of Students with Disabilities*. Menlo Park, CA: SRI International; 1993

[18] Harrell RL, Curry SA. Services to blind and visually impaired children and adults: Who is responsible? *Journal of Visual Impairment and Blindness*. 1987;**81**:368-376

[19] Curry SA, Hatlen PH. Meeting the unique educational needs of visually impaired pupils through appropriate placement. *Journal of Visual Impairment and Blindness*. 1988;**82**:417-424

[20] Lewis S. The editors talk... some thoughts on inclusion, alienation, and meeting the needs of children with visual impairments. *RE:view*. 2002;**34**:99-101

[21] Bourne RRA, Flaxman SR, Braithwaite T, Cicinelli MV, Das A, Jonas JB, et al. Vision loss expert group. Magnitude, temporal trends, and projections of the global prevalence of blindness and distance and near vision impairment: A systematic review and meta-analysis. *The Lancet Global Health*. 2017;**5**(9):e888-e897

[22] Bishop V. *Preschool children with visual impairments* [Internet]. Texas School for the Blind and Visually Impaired. 1996. [cited Jul 25, 2018]. Available from: www.tsbvi.edu/curriculum-a-publications/3/1069-preschool-children-with-visual-impairments-by-virginia-bishop

[23] Wagner MO, Haibach PS, Lieberman LJ. Gross motor skill performance in children with and without visual impairments--research

to practice. *International Review of Research in Developmental Disabilities*. 2013;**34**(10):3246-3252. DOI: 10.1016/j.ridd.2013.06.030

[24] Kahn S, Wild T, Woolsey L, Haegele J. Let's get physical. *Science and Children*. 2014;**51**(5):37-43

[25] Wild T, Hilson M, Farrand K. Conceptual understanding of geological concepts by students with visual impairments. *Journal of Geoscience Education*. 2013;**61**:222-230

[26] Fast D, Wild T. Traveling with science. *Science and Children*. 2018;**55**(5):54-59

[27] Lohmeier K, Blankenship K, Hatlen P. Expanded core curriculum: 12 years later. *Journal of visual impairment and blindness*. 2009;**103**(2):103-112

[28] Billingsley BS. *Special Education Teacher Retention and Attrition: A Critical Analysis of the Literature* (COPSSE Document No. RS-2). Gainesville, FL: University of Florida, Center on Personnel Studies in Special Education; 2003

[29] Ohio Department of Education: Office for Exceptional Children. *Ohio Guidelines for Working with Students Who Are Blind or Visually Impaired*. 2017. Available from: https://deafandblindoutreach.org/up_doc/2017-ohio-guidelines-for-working-with-students-who-are-blind-or-visually-impaired.pdf

[30] Crudden A, Cmar JL, McDonnall MC. Stress associated with transportation: A survey of persons with visual impairments. *Journal of Visual Impairment & Blindness*. 2017;**111**(3):219-230

[31] National Council on Disability. *The current state of transportation for people with disabilities in the*

United States. 2005. Available from:
[http://www.ncd.gov/rawmedia_](http://www.ncd.gov/rawmedia_repository/afd954e1_161b_4524_ace5_38aefac854cc.pdf)
[repository/afd954e1_161b_4524_](http://www.ncd.gov/rawmedia_repository/afd954e1_161b_4524_ace5_38aefac854cc.pdf)
[ace5_38aefac854cc.pdf](http://www.ncd.gov/rawmedia_repository/afd954e1_161b_4524_ace5_38aefac854cc.pdf)

[32] Corn A, Rosenblum P. Finding Wheels: A Curriculum for Nondrivers with Visual Impairments for Gaining Control of Transportation Needs. Austin, Texas: Pro-Ed; 2000

[33] Fazzi D, Barlow J. Orientation and Mobility Techniques: A Guide for the Practitioner. 2nd ed. New York: American Foundation for the Blind; 2017

[34] Jacobson WH. The Art and Science of Teaching Orientation and Mobility to Persons with Visual Impairments 2nd ed. New York: AFB Press; 2013

[35] LaGrow SJ, Long RG. Orientation and Mobility: Techniques for Independence. Alexandria, VA: Association for Education and Rehabilitation of the Blind and Visually Impaired; 2011. pp. 209-225

[36] Long RG. Orientation and mobility research: What is known and what needs to be known. *Peabody Journal of Education*. 1990;**67**(2):89-109

[37] Wiener W, Welsh R, Blasch B, editors. Foundations of Orientation and Mobility, History and Theory. 3rd ed. Vol. I. New York: American Foundation for the Blind; 2010