Visual Impairment and Deafblind Education Quarterly

Volume 66, Issue 2

The Voice and Vision of Special Education
Cover photo description: The cover photo has the Council for Exceptional Children Learning Interactive Virtual Event: Live logo from the March 8-13, 2021 Convention and Expo. A focus on education, interaction, and inspiration.

Photo credit: The image was the logo used by the Council for Exceptional Children for the 2021 Convention and Expo.
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Information. Connection. Empowerment.

Information is Everywhere You Look and Everywhere You Listen.

When vision or hearing is affected, part of that information is missing. Promoting access to information connects us, it empowers us, and it promotes independence.

Promoting Access for People Who are Deaf, Hard of Hearing, Blind, or Visually Impaired is a free, self-paced, online training module. This module is designed to build confidence and comfort for anyone communicating or connecting with people who are deaf, hard of hearing, blind, or visually impaired and includes a collection of introductory information, evidence-based strategies, and scenarios at home, school, and in the community.

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- How do I approach a person who is blind or visually impaired in a social setting?
- How do I communicate with someone who is deaf or hard of hearing if I don’t know sign language?
- What are environmental considerations for making my classroom, organization, or community more accessible?
- What strategies can I use to increase opportunities for participation in my community?

2.5 Hours of Continuing Education Credit (ACVREP approved)

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I am thrilled to share the Spring 2021 Convention Issue with you! I hope everyone had a chance to attend CEC Live in March and view a presentation, stop by the DVIDB booth, or connect with colleagues and friends. This Spring issue of the VIDBE-Q journal features DVIDB award winners and DVIDB presentations from CEC Live 2021.

The issue begins with articles highlighting each of the award winners from 2021. Please take a minute to read about the amazing work being done by students,
teachers, advocates, higher education instructors, and researchers in the field of visual impairments and deafblindness. Congratulations to all of our award winners and thank you for all that you do that truly impacts the field of visual impairments and deafblindness.

Then, the issue features an amazing collection of eight manuscripts by presenters from this year’s conference from the field of visual impairments and deafblindness. These articles share information about the authors presentations and include a wealth of information. This issue is one you won’t want to put down. A special thank you to all of the amazing authors for sharing their work with the DVIDB community and the field.

Are you already preparing for the start of the new school year? Do you have great ideas to share for families, educators, paraprofessional, administrators, or university instructors in the field of visual impairments and deafblindness? Then, please consider submitting an article providing tips and strategies for starting the school year strong in Fall of 2021 for the Summer Back to School issue of the VIDBE-Q journal. Please feel free to email me with questions and inquiries about submitting an article for the summer issue at Kathleen.Farrand@asu.edu.
President’s Message

Nicole Johnson, Ed.D.
Professor, Kutztown University

njohnson@kutztown.edu

Happy Spring Everyone! We are excited to welcome returning Division on Visual Impairment and Deafblindness (DVIDB) executive board members and newly elected leadership. Congratulations to our new executive board members including Katie Ericson, Beth Jones, & Rachel Schles. I look forward to working...
with you over the next two years. Thank you to our returning board members for all of your time and dedication to our division. Although we are not face to face, a lot has been going on throughout our division. The DVIDB website committee led by Dr. Mackenzie Saviano worked hard to get our newly revamped website up and running. Please take time to look at the website to keep up to date on upcoming webinars, position papers, and opportunities within our division at https://dvidb.exceptionalchildren.org/.

The convention was much different this year, but we had a good turnout for our division. Over 65 people attended the DVIDB pre-convention led by Dr. Penny Rosenblum, Monique Coleman, Dr. Amy Parker, and Linda Hagood. This was a wonderful event with a lot of useful information. Thank you to Allied Instructional Services and American Printing House for the Blind for your sponsorship of this event. DVIDB was lucky to have over 25 presentations during the convention. As I was navigating all of these sessions, I was blown away by the enthusiasm of the presenters and all of the amazing work going on in the field of visual impairments. All of the sessions will be available on demand until June 1st. Thank you to all of the presenters in sharing your work with the field. Although we could not celebrate in person, DVIDB was able to host a virtual awards ceremony to honor and celebrate the contribution of award winners. All of our award winners have done so much for the field and were well deserved. Winners included Dr. Nora Griffin
Shirley for the Distinguished Service Award, Mark Richert, Esq, for the Exemplary Advocate Award, Tim Lockwood for the Teacher of the Year Award, Katherine Ericson for the Virginia M. Sowell Student of the Year Award, and Dr. Rachel Schles for the Deborah D. Hatton Dissertation of the Year Award.

We are hoping to be together for the 2022 CEC Convention & Expo in Orlando, Florida! Watch the CEC website for the Call for Proposals and consider sharing your work. I am looking forward to seeing everyone live next year. As a member of DVIDB please think about getting involved with one of our committees. 2021 will be a year of growth for our division and we could use your ideas and help. Reach out to me at njohnson@kutztown.edu if you are interested in finding out ways you can serve the division. Enjoy this convention issue and thank you to our editor, Dr. Kathleen Farrand, for all of your hard work on this great issue!
Throughout Katherine’s coursework in the Orientation and Mobility (O&M) program at Portland State University, she has demonstrated competence from a technical, scholarly, and community-oriented perspective. There were many instances where Katherine demonstrated leadership in different groups of learners and professionals, encouraging collaboration at a high level. For example, Katherine worked closely with a group of peers and mentors to publish a practitioner reflection on her practicum experiences for the Division on Visual Impairments and Deafblindness. As the lead author of the article, Katherine incorporated ideas from her peers and mentors, using the opportunity to synthesize learning for practitioners.

As a champion for students with disabilities, Katherine has shown her ability to innovate by working with families and teams of educators to achieve results. For example, through her applied assignments Katherine shared her thoughtful assessment and instructional approaches for children with complex communication and behavioral needs. While serving as a teacher of the visually impaired,
Katherine supported an individual with complex behavioral and communication needs throughout his transition from the school in Japan to a stateside school in Georgia. Working creatively with local and regional mentors, Katherine accepted coaching to create a thorough, data-driven O&M assessment which offered greater confidence to the family. In her work she thoroughly reflected on what would support her student’s progress, combining compassion and high expectations for her student.

From a scholarly perspective, Katherine has demonstrated a commitment to research, seeking opportunities to learn from researchers, including Dr. Lauren Leiberman. Katherine actively sought opportunities to partner with Dr. Amy Parker as a co-researcher on a study on distance consultation methods in O&M. Katherine has recently been elected as a member of the DVIDB board because she desires to continue to grow as a professional and to serve the field.

Dr. Parker writes, “I recommend Katherine Ericson without hesitation as the 2021 Virginia Murray Sowell Student of the Year because of her collaborative approach with colleagues; because of her data-centered assessment practices; and because of her ability to synthesize knowledge to share with professionals and families.”
SEEKING SCHolars FOR NEW FEDERAL GRANT OPPORTUNITY

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BENEFITS
- Up to 80% tuition remission for core courses and master’s sequence
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ELIGIBILITY CRITERIA
- Be enrolled in the VIL or O&M program
- Commit to complete the three course master’s sequence leading to a master’s degree
- Commit to interdisciplinary enrichment activities, including practicum, minimum of three full days, dates TBD
- Commit to pay back in service time supporting children and youth ages 0-21; one academic year of training results in two years of service time
- Be willing to complete a 2-credit course focused on STEM & sustainability education offered in Summer 2022
- Be a U.S. citizen

INTERESTED?

Complete the scholarship application form!

For more information contact:
- Holly Lawson (VIL program) hlawson@pdx.edu
- Amy Parker (O&M program) atp5@pdx.edu
This year the Deborah D. Hatton Dissertation of the Year was awarded to Dr. Rachel Schles a recent graduate of the University of Pittsburgh and a new Assistant Professor of the Practice of Special Education at the Peabody College of Education and Human Development, Vanderbilt University. Dr. Schles is most deserving of this award for her hard work on an outstanding dissertation which took important steps to answer a long-standing, elusive question in our field—how many students with visual impairments including blindness receive services in the United States?

Dr. Schles showed great dedication by completing a labor-intensive, comprehensive, mixed-methods study to fully understanding the issues at hand so that ultimately, we can best support students with visual impairments.

The results of Dr. Schles’s dissertation provided a more detailed and accurate lens through which we can view data on the number of students we serve which, in turn, impacts policy and funding decisions at the federal and state levels as well as the day to day operations related to serving students with visual impairments. As a part of her work, Dr. Schles determined that the federal Child Count reports of the
number of students served by vision professionals is, on average, an underreport of 3.6 times the number of students actually receiving the services of a vision professional in each state. She also determined that factors contributing to the accuracy of a state’s total population count may include the presence of a TVI preparation program within the state and whether or not certain assessments were required as part of the eligibility process.

As another part of her study, Dr. Schles gained insight from administrators, practitioners, and researchers about the barriers and challenges which have prevented the obtainment of this information in the past as well as avenues for better collecting this information in the future. This led Dr. Schles to provide concrete future steps which states can take under advisement in collecting more accurate total population data.

Dr. Schles was an extraordinary student. She continues to be an extraordinary professional and person. Dr. Tessa McCarthy writes, “I enjoyed working with Dr. Schles in the capacity of her advisor during her time at the University of Pittsburgh a great deal. I know that Dr. Hatton, for whom this award is named, would find Dr. Schles very deserving of this award.”
Tim Lockwood has been employed at the Nebraska Center for the Education of Children Who Are Blind or Visually Impaired for nearly 20 years as a teacher of the visually impaired. However, the title of teacher doesn’t begin to cover what he does for his students or the school. Throughout the years, Tim has taken on many roles: Teacher of the Visually Impaired, Technology Instructor, Music Educator, along with many “other duties assigned.” Tim works with every student. Whether the student has multiple impairments, behavioral challenges, or is an academic student, Tim puts forth full effort into each and every lesson. He really believes that every student can learn and is very creative in developing ways for all students to be engaged in his classes.

In addition to the ever-changing technology challenges, Tim also teaches music to students with all ability levels. He is known to form a variety of choirs, teach a variety of music classes, provide one-on-one instruction for musical instruments and has even served as the “DJ” at prom. The list of skills is long when thinking of Tim Lockwood. However, nothing proves his expertise more than the
music performances his students provide twice per school year. Tim has managed to teach students who are mostly nonverbal to sing solos, students with autism to perform their best in front of a large audience, and he is known to even dance with students who may “choose” to not stay in their place on stage. Tim brings out the best in each of his students. That is the most amazing evidence of a teacher’s work.

Over the past two years, Tim has been assigned to teach the students in the elementary and middle school programs. He plans individualized instruction for each student. The elementary students have multiple disabilities and require a variety of related services, while the middle school students focus more on core subjects and academics. He juggles this masterfully, collaborates with a large number of staff involved, serves as case managers for his students, and supervises his paraprofessionals and utilizes their skills to work effectively. His student focus and dedication is beyond measure.

Sally Schreiner writes, “Tim puts his whole heart and soul into everything he does each and every day for his students. Our students, families and staff are better for having Tim Lockwood as a teacher at the Nebraska Center for the Education of Children Who Are Blind or Visually Impaired. As a school administrator, I could not be more proud of his work in this field.”
Orientation and Mobility

Quick facts

• 25– to 34-credits for a graduate certificate
• 45 credits for licensure and a master’s degree
• Flexible cohort model
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O&M Specialists are professionals who teach individuals with visual impairments, including those with deafblindness, how to travel safely, efficiently, and with purpose in a variety of environments. Students in the O&M program gain the professional skills and preparation to complete the international certification exam through the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP).

The O&M program is offered as an extension of PSUs long-standing Visually Impaired Learner program that has been preparing teachers of children with visual impairments (TVIs) to work with school-age children for over 50 years.
Mr. Mark D. Richert, Esq., has an acute grasp of national policy development, has mentored many leaders in the field, and has committed to serve as a leader of an international professional organization. While Mark was serving as the Policy Director at the American Foundation for the Blind (AFB) he used his knowledge of the law, his passion for the field of visual impairment and his skills in coalition building to craft and pass the 21st Century Communication and Video Description Act of 2010. This legislation has had a profound impact on video description, captioning, and has provided thousands of people who are deafblind access to telecommunication connections, including the internet.

In addition to working on other seminal policy initiatives, Mark wrote a large portion of the Alice Cogswell and Anne Sullivan-Macy Act which has been instrumental in articulating the needs of children with sensory disabilities in our nation. Mark’s role in developing and promoting the Cogswell-Macy Act is noteworthy because it has provided a tool for articulating our needs at a national level and has conjoined our voices with all educators who serve those with sensory
disabilities. Mark continues to advocate with the U.S. Department of Education to implement key components of the CMA within their regulatory structure.

A second area of contribution is through his mentorship. Throughout his career, Mark has been a mentor to multiple scholars and professionals in the fields of visual impairment and deafblindness. Mark has mentored many professionals including Tiffany Wild, Holly Lawson, Stacy Kelly, Amy Parker, Rebecca Sheffield, Eric Caruso, Kathryn Botsford, Sean Tikkun, and many others. He loves advocacy and this love pervades his professional life to the benefit of our entire field.

A third arena where his leadership shines, is within national organizations. This is Mark’s second time directing AER and his knowledge during a time of change in our field is invaluable. Mark has been working to provide guidance, create connections and to bring the field forward through his communications, outreach, and innovations. Leadership in the best of times is challenging but it is doubly so when the field is dealing with COVID-19 and profound changes in the way teachers must teach.

Amy Parker writes, “Mark exemplifies what effective advocacy, coalition building, mentoring, and leadership means. He brings his keen knowledge as an attorney together with his lived experience as an individual who happens to be blind to co-create a better world for all people with visual impairments.”
Dr. Nora Griffin-Shirley is the 2021 recipient of the Distinguished Service Award from the Division on Visual Impairment and Deaf-Blindness. A professor at Texas Tech University, she holds several positions: Director of the Virginia Murray Sowell Center for Research and Education in Sensory Disabilities, Coordinator of Orientation and Mobility Program, and Coordinator of TTU Graduate Certification Program in Sensory Impairments & Autism Spectrum Disorders.

Dr. Griffin-Shirley is internationally known and respected for her work in the field of O&M and while perhaps best known for her writing in the areas of serving older adults and personnel preparation, she has also made significant contributions to the field of O&M in a wide range of critically important areas including topics such as legal issues and O&M practices; the role of O&M specialists in public schools; personnel preparation using distance education and O&M; single-subject design and O&M; O&M for children with CVI; early childhood and O&M; O&M for children with autism, CVI, and other developmental disabilities. Yes, Dr. GS has had a distinguished career so far, she is not done yet!
Actively involved in leadership, Dr. Griffin-Shirley has served in many national leadership capacities and has been active as a member of the Board of Directors for CEC’s Division of Visual Impairments. She has received numerous national and regional awards for her work. Dr. Griffin-Shirley has also been active in personnel preparation internationally. She has taught for the Northeast China Normal University, Changchun Peoples Republic of China for The Carter Center and Bhoj Open University in Bhopal, India as a Fulbright Scholar. Additionally, she has presented at several International Mobility Conferences.

Dr. Griffin-Shirley was first introduced to the field of O&M when working at a summer camp run by the Carroll Center for the Blind. She saw O&M specialists working with adults who were blind; she later attended Boston College where she got her Master's degree with a specialization in O&M. According to Dr. Griffin-Shirley, one of the best parts of working in this field is getting to empower individuals who have visual impairments to be, and do, all that they want. And, along with this, is the wonderful opportunity to get to know people on a personal level, establishing life-long friendships.

In summary, Nora is a consummate professional who has been a role model for many. She has been a strong, consistent contributor to the field of O&M and has had a positive influence on countless professionals and people who are visually impaired.
For those who do not have a Facebook account, you can view our page by going to the following URL:

Join Our Facebook Family

If you are passionate about the education of children and youth with visual impairments and deafblindness, including those with additional disabilities, please become part of our social network on Facebook. If you have a Facebook account, you can find our page and become a fan by searching for Division on Visual Impairments and Deafblindness.
An essential role of a teacher of students with visual impairments (TSVI) is ensuring that students have access to information throughout their school day. This includes providing direct instruction and accommodations as well as collaborating with families and other service providers so that students can access the general education content. The process includes assessing the student’s functional vision. Although this assessment was introduced in the 1960s, there still has been little research to determine best practices and establish consistency in the field.

A functional vision assessment (FVA) is used to determine what a student sees, how their vision affects their ability to complete day-to-day tasks, and what accommodations and interventions are needed to account for the student’s visual needs (D’Andrea & Farrenkopf, 2000; Lueck, 2004). In our experience, we have noticed that FVA content often varies, depending on the professional who conducted the assessment. This realization encouraged us to explore FVA content
and procedures. By initially surveying teachers about their practices, we confirmed that there was little agreement about what should be included in an FVA. We were encouraged that more than 85% of the teachers reported that they assess near visual acuity, distance visual acuity, peripheral visual fields, tracking, and color perception (Kaiser & Herzberg, 2017). However, there was less agreement in other areas, such as referrals for orientation and mobility (O&M) or clinical low vision evaluations. Next, we asked TSVIs to share a copy of the tools that they use for data collection in the FVA process. We compared these tools with the list of 23 components often used in the field by Erin and Paul (1996) and D’Andrea and Farrenkopf (2000). Content across the tools varied greatly. Slightly more than 50% of the tools included information about ocular conditions or interviews (Kaiser & Herzberg, 2021). In addition, less than 25% of the data collection tools included a screening about the possible need for an O&M evaluation and clinical low vision evaluation (Kaiser & Herzberg, 2021).

In order to promote consistency, we designed a Delphi study to collect information and build consensus among university personnel and TSVIs (See Kaiser et al., 2020). A Delphi study is a research method where groups of experts provide feedback and explore divergent opinions (Hsu & Sandford, 2007). This method uses multiple rounds of responses until a minimum level of consensus is
reached. For the FVA delphi, 80% agreement was used as the threshold. Key findings included:

- Students should be assessed every 3 years or when there is a change in functional vision.
- The TSVI is responsible for interpreting the results of the FVA and sharing this information with all team members, including families.
- Information about the student’s eye condition, whether the student has additional disabilities, and the reason for the assessment should be included in the report.
- Students should be assessed or observed in multiple locations, and key personnel, including family members, should be interviewed.
- Visual skills and abilities, including near acuity, distance acuity, central visual fields, peripheral visual fields, scanning, color perception, fixation, and contrast sensitivity should be assessed.
- Recommendations about classroom accommodations, materials to promote visual accessibility, and eligibility for services are essential items to include in the FVA report.

Not surprisingly, 80% consensus was not reached for some items such as testing accommodations, use of assistive technology, screening for a low vision evaluation, screening for an O&M evaluation, and recommendations for referrals.
to outside organizations. Additionally, agreement was not reached for some visual skills such as depth perception, muscle balance, figure-ground perception, and intermediate visual acuity. Even though consensus was not reached on these items, professionals should consider that they can be useful aspects of an assessment for some students.

We encourage TSVIs to review their assessment procedures and data collection tools to ensure that they are collecting comprehensive information that can be used by the educational team to plan instruction, meet the individual needs of each student, and promote consistent access to educational materials. All students with visual impairments should be considered for referrals for O&M assessments regardless of eye condition, age, additional disabilities, or current functional mobility. In addition, teachers may benefit from comparing their assessment tools to the key findings. For example, are you interviewing key personnel and assessing students in multiple environments? As needed, data collection tools may be updated or revised. This could be accomplished by individual teachers or groups of teachers. We also invite TSVIs to have conversations with their peers about procedures and content included in FVAs. By building consistency among professionals conducting FVAs, IEP teams will have more useful data for designing goals, instruction, and accommodations.
References


VIDBE-Q Summer Issue

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Submissions Due: July 1, 2021

Back to School Issue
Visual Impairment and Deafblind Education Quarterly

Email your manuscripts to Kathleen Farrand, editor
Kathleen.Farrand@asu.edu
Cortical visual impairment (CVI) is a neurological form of visual impairment which has unique implications for functional vision. CVI is the most prevalent cause of childhood visual impairment in the U.S. (Chang & Borchert, 2021); however, it is a condition that is underreported, underdiagnosed, and undertreated (Roman-Lantzy, 2018). This form of visual impairment requires a very different approach to instructional supports and environmental/material adaptations as compared with ocular visual impairments. When provided with appropriate, assessment-based interventions, children and youth with CVI can be expected to demonstrate measurable progress in visual functioning over time. The CVI Range (Roman-Lantzy, 2007; Rev. 2018) is an instrument used to assess the functional vision of individuals with CVI along a Range of visual functioning,
expressed in three Phases of severity. Results of the CVI Range can be used to support student-centered educational program development, with implications for adaptations and modifications across activities and skill domains.

Many children with CVI also present with additional challenges, including complex communication needs, physical challenges, and/or hearing loss (deafblindness). The 2019 National Deaf-Blind Child Count (NCDB, 2020) reports that approximately 29% of children and youth (age 0-21) identified as Deaf-Blind have cortical visual impairment, while an additional 16% are unknown as to whether or not they have CVI. Communication interventions for students with complex communication needs and visual impairments/deafblindness should be informed by the results of collaborative and multi-disciplinary assessment, including expressive communication assessment, functional vision assessment, learning media assessment, functional hearing evaluation, and/or fine/gross motor skill assessments (Rowland, 2009). The Communication Matrix (Rowland, 2004) is an assessment of early (pre-linguistic) expressive communication development appropriate for use with students who have complex communication needs and/or sensory challenges including deafblindness (Rowland, 2011). The Communication Matrix is widely used for assessing the current expressive communication levels of any child who is communicating on a pre-symbolic level, and results can be used
to drive communication goal development and support the collaborative educational team to design a path toward symbolic communication and language.

Expressive communication modalities for students with CVI should be selected and adapted to reflect a balance between the student’s conceptual and expressive language development, and sensory access/goals appropriate to their current visual functioning. A “balanced communication plan” is one that incorporates both the sensory access of the child (CVI phase and characteristics, preferred learning channels) with their communication level access (pre-symbolic/symbolic, pre-linguistic/linguistic). Incongruent AAC programming reflects a “mismatch” between expressive communication levels and sensory access needs. In an “unbalanced communication plan,” on the one hand the AAC modality may be appropriate from a communication standpoint, but visually inaccessible (e.g., an eye gaze system for a student with CVI in Phase I, who is currently unable to establish eye-to-object contact/prolonged visual fixation). On the other hand, the modality may be visually accessible, but inappropriate in terms of communication development (current expressive levels) (e.g., a complex 2-D high tech AAC system adapted for a student in Phase III, but the child is currently a pre-symbolic communicator). The goal of AAC programming for students with cortical visual impairment is to create a match between what is appropriate
visually, and what is appropriate for the child’s current expressive communication and concept development.

Together, the results of the Communication Matrix and the CVI Range can be integrated strategically in order to develop and adapt AAC programs appropriate to students with CVI.

**Introducing the AAC/CVI Matrix**

The Augmentative and Alternative Communication (AAC)/Cortical Visual Impairment (CVI) Matrix is an instrument designed for educational team members and families of students with cortical visual impairment (CVI) and complex communication needs, including those with deafblindness, to assist in developing a “balanced communication plan.” *(The full AAC/CVI Matrix can be accessed here: [http://bit.ly/AAC-CVIMatrix2021](http://bit.ly/AAC-CVIMatrix2021)).

The AAC/CVI Matrix does not incorporate assessments or strategies for receptive communication, but rather presumes competence in a child’s ability to receive information that is provided in an accessible modality, and asserts that all children should therefore be provided with a robust receptive communication program. This instrument addresses the child’s current expressive levels of communication and provides considerations for adapting and scaffolding expressive communication development with regard to the impact of cortical visual impairment. It is important to develop communication systems that can grow with
the student as they make progress both visually (on the CVI Range) and in expressive communication (on the Communication Matrix).

In order to utilize the AAC/CVI Matrix, one must have prior knowledge of the CVI Range and the Communication Matrix. The child’s understanding of symbolic representation (the connection between a symbol and the object/activity that it refers to) and level of iconicity (the extent to which a symbol visually/tactilely and conceptually resembles its referent) must also be taken into account when choosing appropriate symbol systems for communication. The introduction to this instrument provides background resources and context for professionals and families to establish foundational knowledge regarding both CVI and communication development/assessment. Once CVI Range results and Communication Matrix results have been obtained, the team using the AAC/CVI Matrix will indicate the intersection of these results on the following chart (Table 1):
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The detailed tables that follow in the AAC/CVI Matrix are organized by CVI Phase (Phase I, Early Phase II, Late Phase II, and Phase III), with each table divided in columns by expressive communication level. The team will then refer to the corresponding table that matches their student’s respective aligned CVI Range results and Communication Matrix results. For example, a student may be identified as being in Late Phase II of CVI, and a Concrete Symbolic Communicator. The team would refer to the corresponding column on the AAC/CVI Matrix (Russell & Willis, 2020, p. 18-20). The extensive list of considerations in each column were developed to address the unique impact of CVI characteristics in each Phase, as they apply to communication modalities which are appropriate to each respective level of expressive communication.
Modifications for sign language and other tactile input systems (as needed) are also included at the bottom of each section of the AAC/CVI Matrix, in particular to address the needs of students with combined vision and hearing loss.

It should be emphasized that with regard to communication development and CVI intervention, there is no “one size fits all” approach. Individualized visual adaptations are made based on the impact of CVI Characteristics on visual functioning, and considerations for adapting expressive communication should be unique to the individual’s experiences. Through ongoing collaboration and review, teams should determine which items within the AAC/CVI Matrix match the needs of the student and are appropriate for assisting in the development of an accessible communication system.

Finally, the AAC/CVI Matrix includes a detailed appendix of terms, including detailed explanations and examples of various unique communication modes and techniques, and additional resources for educational teams and families. The intention of this resource is to guide the collaborative team in developing holistic, student-centered intervention practices for the diverse population of students with CVI and complex communication needs, including those with combined vision and hearing loss.
References


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Cortical visual impairment (CVI) is the most prevalent visual condition among children in the U.S. and students with CVI require unique approaches to assessment and intervention (Chang & Borchert, 2021; Roman-Lantzy, 2018). The New York City Department of Education (NYCDOE), the New York Deaf-Blind Collaborative (NYDBC), Hunter College of CUNY, along with various vision agencies in NYC are all collaborating to identify students with CVI and to provide essential vision and rehabilitation services for them. This involves working closely with schools, families and the vision community to support students with CVI to become more independent and successful overall.

In 2015, NYDBC and NYCDOE Educational Vision Services (EVS)
established the NYC Cortical Visual Impairment Cohort (hereafter referred to as the Cohort). EVS is the largest educational department serving children with visual impairments in the United States, employing over 90 vision service providers (TVIs) and serving approximately 900 students. With numbers continually increasing, an estimated 15-20% of EVS students are diagnosed with CVI. NYDBC is a federally funded Technical Assistance & Dissemination grant program (USDOE, Office of Special Education Programs) providing support services to educational teams and families of children and youth with combined vision and hearing loss, across New York State.

Based on an identified need to increase peer-based training on practices relevant to students with CVI, specific goals emerged for the Cohort. These goals included increased identification and referral of students who have CVI (including those with combined vision and hearing loss) and increased skills in conducting appropriate assessments and designing educational interventions for students with CVI. The Cohort was established as a deliberate community of practice in order to address these goals. Communities of practice are defined by Wegner, McDermott, and Synder (2002) as, “...groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 4). The Cohort consists primarily of itinerant educational vision service providers selected based on their capacity to
impact other service providers in their school settings in a peer-based “train the trainer” model. The process of facilitated peer-to-peer learning is referred to as developing “lateral capacity” and is critical to the achievement of systemic change in education (Rincon-Gallardo & Fullan, 2016). Through facilitated Cohort discussions, targeted professional development, and one-on-one intervisitations between teachers, cohort members reported an increase in their knowledge and skills in best practices related to this unique population.

The Cohort meets every 6 to 10 weeks throughout the school year, bringing together approximately 20 teachers and administrators from various participating agencies; the largest group being from NYCDOE EVS. Members then work in small groups that organically emerge between meetings to support each other in developing assessment and intervention strategies on-site with students with CVI across the five boroughs of NYC. Highlights are shared and challenges are then problem-solved at Cohort meetings.

Outcomes

In 2015, only approximately 3% of students registered with NYDBC were identified as having CVI, which was understood to reflect significant under-identification and under-referral of this population. After the first three years of the cohort (2015-2018), there was a measurable increase in the identification and referral to NYDBC of more than 15 students with CVI who were also diagnosed
with hearing loss. Moreover, from 2015 to 2018 the NYDBC reflected an increase from 3% (2015) to 28% (2018) in the total percentage of children and youth registered with NYDBC documented as having CVI. Through the progression of the Cohort and expansion to include additional agencies, such as the Hunter College Programs in Blindness and Visual Impairment, Lavelle School for the Blind, VISIONS Services for the Blind, and the NYCDOE's Hospital Schools Department, student referrals to initiate educational vision services and requests for support from NYDBC increased both inside and outside of the NYCDOE.

A 2020 impact survey of 15 members from the current 7 organizations/departments in the Cohort estimated the Cohort’s collective outreach to over 350 colleagues (i.e., resource sharing, mentoring, coaching). At that point, 84 new children had been identified as having CVI in NYC, with 33 new children identified as having both CVI and hearing loss (deafblindness) and referred to NYDBC. The 2020 survey additionally addressed the impact of the Cohort on self-identified professional knowledge and skills of members in meeting the unique educational needs of their students with CVI. Respondents reported the following significant gains:

- (86% of respondents): My skills and knowledge in identifying children with CVI have increased as a result of my participation in the Cohort.
• (93% of respondents): My skills and knowledge in assessing children with CVI have increased as a result of my participation in the Cohort.

• (93% of respondents) My skills and knowledge in planning intervention for children with CVI have increased as a result of my participation in the Cohort.

• (100% of respondents) My skills in supporting families of children with CVI to achieve improved outcomes for children with deafblindness (combined vision and hearing loss) has increased as a result of my participation in the Cohort.

Individual respondents provided additional comments regarding their own experiences and personal gains as a result of participation in the Cohort. One teacher shared; “The Cohort has given me the opportunity to discuss with other professionals current issues facing our CVI community today, and to jointly come up with ideas and solutions to give my students the chance to achieve progress and success in all areas.”
Example Cohort Survey Response

*Image Description.* Bar graph with professional development options and percent of respondents reflecting survey question asked What would you like more of in the Cohort going forward? Responses from least to most interest started with "More Intervisitation," "More Phase 1 training," "More Phase II training," "More coaching for assessment," "More information on strategies for intervention" "More information on literacy adaptations/ approaches" There was additionally "Other write ins" that was less than 5%.

Some examples of the Cohort’s work include:

- Creating a Fact Sheet on CVI for Families and Professionals
  - [https://www.pathstoliteracy.org/resources/cortical-visual-impairment-cvi-fact-sheet-families-professionals](https://www.pathstoliteracy.org/resources/cortical-visual-impairment-cvi-fact-sheet-families-professionals)
- Developing Assessment Kits for use in the field.
Cortical Visual Impairment Assessment Kit: Inventory List

<table>
<thead>
<tr>
<th>Photo</th>
<th>Description</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>Book: Look, Look!</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>Book: White &amp; Black</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>Book: ?</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>Book: ?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /></td>
<td>Pom Poms</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Image Description.* Example page from the Assessment Kit Inventory, it is a table with 5 columns labeled Photo, Description, Phase 1, 2 or 3. Large X's in certain columns denote what Phase an item is appropriate for. The items pictured are black and white books and a simple shape book with X's for Phase 2 and 3. A book with images of children with a Phase 3 X. A yellow pom pom with a Phase 1 X.

**Future Endeavors**

Now that we have established a model, process and multiple partnering vision organizations, we are focused on sharing and broadening our impact. We may look to combine with other related service areas, such as Speech and Hearing, and provide training and professional development in a more widespread arena. It would also be more beneficial overall to expand to include parents and families in
the Cohort or encourage a separate Cohort for Families. Data collection efforts will include surveying all of NYC TVIs to assess larger impact, including previous CVI Cohort members. We will also analyze internal NYC EVS, NYDBC Child Count, and NYS Legally Blind data for trends related to CVI and the cohort’s work. The CVI Cohort will continue to build on and share each other’s understanding of cortical visual impairment, including fine tuning assessments and interventions, in order to accelerate and enhance learning opportunities for our students.

**Resources from Cohort Members**

**EVS:** [www.edvisionservices.org](http://www.edvisionservices.org)

**NYDBC:** [www.nydeafblind.org](http://www.nydeafblind.org)


National Center on Deaf-Blindness (NCDB) (2017) Communities of practice.

[https://www.nationaldb.org/media/doc/Communities-of-Practice-Factsheet.pdf](https://www.nationaldb.org/media/doc/Communities-of-Practice-Factsheet.pdf)

**Hunter College:** [https://education.hunter.cuny.edu/bvi](https://education.hunter.cuny.edu/bvi)
References


Strategies for Teaching Tactile Tangible Symbol Systems: Case Study on a Learner with Deafblindness

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Susan Bruce, Boston College, susan.bruce@bc.edu

Sarah Ivy, University of Utah, sarah.ivy@utah.edu

Target audience: TVI’s, Special Education Teachers, Related Service Personnel

Tactile tangible symbols (TTS) are based on what Rowland and Schweigert (1989, 2000) called “tangible symbols”. These representations include three dimensional objects, partial objects or textures that can be mounted on a background or used alone. When TTS share a close resemblance to the referent, cognitive demand on the user is reduced (Bruce et al., 2011). TTS can be used in a variety of ways, including to represent abstract or concrete ideas, and can be combined with other representations, such as print or braille labels, to ensure consistency with the name associated with the TTS.

This qualitative research study looked to explore the development and use of Tactile Tangible Symbol Systems (TTSS), focusing on the instructional
approaches used to teach the TTSS, the knowledge students are demonstrating through the use of their TTSS, and the context in which the TTSS was being implemented. Data for the project was collected through observations that embedded the use of a TTSS, interviews with the developer of the TTSS, and a collection of artifacts that included pictures of the system and I.E.P. information that was relevant to the TTSS. Additionally, teachers completed a student description survey to provide demographic and historical information about their target students.

Data analysis was conducted on each case individually. Following a detailed procedure, each case was coded independently by two researchers who then met to engage in consensus coding to discuss any differences in codes, agree on code names, and to identify final themes. At the completion of the study there will be 12 student participants; however, this article will present the findings from just one case.

The student participant “S” was a five-year-old Caucasian-Hispanic female. She was diagnosed with CHARGE syndrome in addition to severe developmental delays. Her bilateral sensorineural hearing loss was in the moderate-severe range, but within normal limits when using her hearing aids. She experienced bilateral retinal colobomas that resulted in 20/260 uncorrected vision in addition to a field loss. She expressed through emerging speech and single manual signs. She was
placed in a substantially separate school. Her I.E.P. included a goal that she would assist in setting up her daily object calendar and identify the whole object TTS that represented the activities of the day.

**Figure 1**

*TTS and Schedule Examples*

1. TTS for morning circle: a red bag with yellow ribbon handle;
2. TTS for personal identifier: Yellow curved strip of fabric mounted on glossy, laminated black paper;
3. TTS for art: paintbrush with red wooden handle;
4. TTS for hearing aid: single hearing aid mounted on black cardboard backing;
5. Black, blank schedule background of tri-board, with 5 spaces for TTSs, and a square “finished’ box to the right with a red rim.

*Image Description.* (1) TTS for morning circle: a red bag with yellow ribbon handle; (2) TTS for personal identifier: Yellow curved strip of fabric mounted on glossy, laminated black paper; (3) TTS for art: paintbrush with red wooden handle; (4) TTS for hearing aid: single hearing aid mounted on black cardboard backing; (5) Black, blank schedule background of tri-board, with 5 spaces for TTSs, and a square “finished’ box to the right with a red rim.
The TTS for student S mainly consisted of unmounted whole objects and were selected or developed by her teacher. Some of the representations included textures and some had text labels. Other TTS were identified in the student’s learning environment including: commercially produced books adapted with textures; story boxes that included objects and textures; and, a texture paired with her photo used at morning circle and to designate her personal work space. Figure 1 provides examples of some of the items in her TTSS.

The individual symbols in the system developed for student S were used across a variety of activities. This included the daily schedule where the TTS were reviewed before and after each lesson. Additionally, TTSs were used in mini-schedules or within-activity schedules, experience books, while objects in general were used in morning meeting as well as in experience books.

Analysis of the data yielded 16 strategies that supported student success with learning the tactile tangible symbol system. Below are the strategies with the descriptions that emerged from the qualitative analysis of the data collected on this case.

- **Consistency in implementation of the TTSS.** This included the teacher’s use of predictable and consistent routines and key vocabulary.
- **Multiple communication forms/modes.** When the teacher interacted with the student often she would be simultaneously signing, speaking, and
referencing a TTS to describe an activity or key vocabulary word to the student.

- **Attentional strategies.** This strategy included the use of the child’s name, touch cues, teacher positioning herself at child’s level, and 1:1 instruction as much as possible. Additionally, attention strategies included removing unnecessary distractions, such as the reduction of visual clutter by removing unnecessary items from the workspace to enhance visual attention.

- **Informing the student.** This occurred in different ways depending on the activity taking place. For example, the teacher informed the student about the sequence of activities for that day through the daily schedule, but also informed the student before acting on or around her body, such as asking before touching, informing before moving the student’s adaptive equipment, and moving materials that the student was looking at.

- **Teacher responsiveness.** The teacher was highly responsive to the student, providing immediate feedback to the student’s communication attempts across multiple forms, interpreting the student’s body language, and interpreting the student’s preferences.

- **Teaching routines and sequences.** This strategy took place mainly through the use of the daily schedule and the within-activity schedule or mini-schedule. Routines were consistently implemented with the inclusion of
sequencing vocabulary (first, next, then) and time warnings (e.g. one more, last one).

- **Memory strategies.** Examples of this strategy included making reference to what happened earlier, generalizing objects across lessons, and summarizing different aspects of an activity or text read.

- **Child-guided strategies.** Throughout the observed activities the teacher would hold out her hand to wait for the student’s interest before proceeding, handle objects co-actively, and allow the student to decide how long to engage with an object.

- **Teacher response to student errors to promote learning.** This strategy included repeating directions, asking questions in a new way when there was no response, teacher modeling the correct response, shaping correct answers, and teacher having a neutral affect for incorrect responses (making it safe to make mistakes).

- **Prompting appropriate to child per activity.** The teacher followed a prompting hierarchy utilizing least to most prompting. This included physical cues rather than physical assistance (such as tapping). The teacher also disclosed in the interview that she started with a greater level of prompting when teaching a new skill to engage in errorless learning.
• **Reinforcement.** The child’s communication attempts were repeated as a means of reinforcement. Praise was provided through speech and manual sign for a job well done.

• **Making sure everything is meaningful to the child.** The teacher invested the necessary time to use objects to support meaning (i.e. incorporating a concrete representation to support understanding).

• **Timing strategies.** The teacher consistently used wait time after asking a question (3-14 seconds depending on the lesson/activity), allowed time for the student to explore new objects, and regulated the pace of her speech/instruction.

• **Comprehension.** The teacher consistently provided comprehension checks throughout the set-up of the student’s object schedule, having the child name the TTS she was handling. During a literacy lesson the teacher would summarize text, offer choices of objects as a comprehension check, and allow the student to handle objects that were associated with the concept being taught.

• **Offering choices (enhancing self-determination).** Choices were provided throughout the activities including choice of items to use (for an art project), whether to continue or terminate using an object, and the choice to hold or not hold an object.
• *Encouraging independence.* The teacher would expect the student to carry her own things, encourage the child to perform an action before asking if she needed assistance and she respected the student’s opinion (e.g., when she did not want to hold something or put on a clothing item related to a story).

In conclusion, this research study explored the design and implementation of tactile tangible symbol systems. This case illustrates how one teacher combined a child-guided approach that included high levels of responsiveness, sensitivity to the child’s interests, and memory building strategies, with behavioral principles such as prompting, reinforcement, and wait time. Within and across the lessons, the teacher created predictability to support the child to make meaning, expand her expressive communication, and ultimately increase her independence.
References


Learn strategies and tools to teach visually impaired learners

The Visually Impaired Learner (VIL) program is a nationally accredited graduate program to prepare teachers of students with visual impairments (TSVs), birth to 21, including those with multiple disabilities. Nationwide there is a critical need for TVIs, particularly in rural areas of the U.S. Portland State University offers the only program for TVI training in the Pacific Northwest using an innovative and flexible hybrid model.

Whether you are seeking an endorsement or pursuing a master’s degree with initial licensure, you will acquire skills to provide high quality services to students with visual impairments and help them fully access the general education curriculum. Hands-on, field-based learning activities are included in most courses.
Beth A. Jones, Texas A&M University-Commerce, beth.jones@tamuc.edu

Amy T. Parker, Portland State University, atp5@pdx.edu

Belinda Rudinger, Texas A&M University-Commerce, belinda.rudinger@tamuc.edu

Brittany L. Hott, University of Oklahoma, brittanylhott@gmail.com

My journey to wanting to better understand the evidence base for supporting students with visual impairments and deafblindness was provoked by both personal and professional experiences. As a special educator who taught English/language arts and mathematics for grades K-6, I understand the importance of instruction pertinent to the mechanics of reading and writing and the impact on performance in mathematics, science, and social studies. When a child has a learning disability or another barrier to organizing information from written media, they need their educators to understand interventions that are supported by research. My work as a teacher and a professor has led me to study and contribute to the field in this area. I also wanted to understand this work as a person who has a visual impairment and
as a parent of two children with visual impairments—one of whom is served as deafblind—who both receive academic instruction in a general education setting. As someone who recognizes the importance of access and implementing evidence-based interventions, I aimed to become familiar with the literature base and enlisted the help of colleagues who have experience in the field of visual impairments and deafblindness, as well as in research methodology, to help me explore the existing body of research in a meaningful way. My intention is to help others gain a more complete understanding of available interventions as well.

The Present Study

Journals are an avenue by which service providers and policy makers obtain new information about evidence-based instructional strategies. Accordingly, the Journal of Visual Impairment & Blindness (JVIB) fulfills this role for professionals working in the field of visual impairment. “Practitioners and researchers, policymakers and administrators, counselors and advocates rely on JVIB for its delivery of cutting-edge research and the most up-to-date practices in the field of visual impairment and blindness” (American Foundation for the Blind, 2020). To better understand the elements of published literature related to serving individuals with visual impairments and deafblindness, a systematic review of the Journal of Visual Impairment & Blindness (JVIB) was conducted (Jones et al., 2021).
JVIB articles published between 2010 and 2019 were coded according to these characteristics: (a) article focus, (b) article type, (c) topic, (d) population, (e) disability eligibility, and (f) media. The research team coded 492 articles. Thirty-four topics were noted (with some articles having more than one topic area), which is in congruence with the JVIB mission to publish a variety of articles to support researchers, practitioners, and policymakers. Study participants included infants, school age children, adults, and geriatric populations. In addition, professionals, such as teachers of students with visual impairments and orientation and mobility specialists were the subject of some works seeking their input through survey research. Findings indicate gaps in descriptions of participants’ characteristics and inadequate information regarding instructional media used. For example, the disability eligibility (i.e. visual acuity and/or presence of co-morbid disabilities) was often not described thoroughly. The emittance of such crucial information makes it difficult for service providers to know what interventions have been shown effective for whom. This becomes vitally important when we consider that professionals are asked to serve individuals with extremely diverse needs and varying (and often demanding) caseload sizes (Correa-Torres & Howell, 2004).

Implications for Interpreting Research

Reading research reports can be a daunting task. Below we provide a summary of key elements which are unique to research related to individuals with
visual impairments and deafblindness. In addition, please see Figures 1 and 2 for checklists to assist with reviewing and interpreting literature.

**Practice Pieces vs. Empirical Studies**

The intent of a practitioner piece differs from that of original research. Even though practice pieces may include research that supports a given intervention as evidence-based, the chief aim of such articles is to describe the implementation of a particular intervention or strategy (e.g., a tool for collaboration between service providers or a math strategy for students with visual impairments). Conversely, original research involves using primary or secondary data analysis to produce new knowledge in the form of a novel work (Dunfon, 2005). Researchers may choose to gather and analyze their own data, or perform a new analysis on data collected previously by others. Research articles can employ group designs (i.e., control group and intervention group) or single-case designs (i.e., studies with small participant pools which use each participant as their own control) and represent one of the best means for educators to identify and evaluate evidence-based practices (Dunfon, 2005). Understanding articles that seek to disseminate research findings depends upon an awareness of the types of research methodologies, their purposes, and their applications.
**Figure 1**

*Questions to Ask When Reading Research by Section*

<table>
<thead>
<tr>
<th><strong>Introduction</strong></th>
<th>All research articles should begin with a review of the existing literature on the topic of interest.</th>
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<tbody>
<tr>
<td>• What has been done before?</td>
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<thead>
<tr>
<th><strong>Purpose</strong></th>
<th>The purpose of the study should be directly focused on the gaps in the literature that the author’s preceding literature review just pointed to.</th>
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<tbody>
<tr>
<td>• What is being investigated?</td>
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<table>
<thead>
<tr>
<th><strong>Participants</strong></th>
<th>The authors should describe how participants were selected, how many participants there were, and their demographic characteristics (i.e. ethnicity, gender, age, etc.)</th>
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</thead>
<tbody>
<tr>
<td>• Who is being studied and what are their demographic characteristics?</td>
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<thead>
<tr>
<th><strong>Procedures</strong></th>
<th>The specifics of how a study was conducted is enumerated in the procedures section.</th>
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<tbody>
<tr>
<td>• What is the design (i.e. large group, single case) and method of data collection?</td>
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<tr>
<td>• What measures are being used?</td>
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<td>• Were the researchers properly trained and did they ensure procedural fidelity?</td>
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<tr>
<th><strong>Results</strong></th>
<th>Authors may organize their presentation of results by their specific research questions.</th>
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<tr>
<td>• What were the findings of the investigation?</td>
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<tr>
<th><strong>Discussion</strong></th>
<th>The discussion section should provide direct answers to the research questions stated in the introduction of the article.</th>
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<tr>
<td>• What do the findings mean in relation to the existing literature?</td>
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<tr>
<td>• What are the implications of the findings and what populations might benefit from the findings?</td>
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<tr>
<td>• What were the limitations of the investigation?</td>
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</table>

*Image Description.* This figure is organized according to six components of research articles; (a) introduction, (b) purpose, (c) participants, (d) procedures, (e) results, and (f) discussion. A definition is given for each element as well as questions readers may consider pertinent to each. The questions can be summarized by asking if the authors gave enough detail to understand their participants and replicate their procedures, consider limitations of the study, and gleam implications of the findings.
Figure 2

Specific Considerations for Research with Individuals with Sensory Impairments

![Image Description. This figure shows a circle with four sections, each as one-fourth of the circle, which embody elements needed in research articles involving individuals with sensory impairments: (a) inclusion of participants’ visual acuity and/or residual hearing, (b) participant’s media, (c) disclosure of any existing comorbid disabilities in individuals studied, and (d) a description of how measures were selected and used in the study.]

Elements of a Research Study

The first step in any research article includes a review of the previous studies on a particular topic. This foundation allows a reader to understand how this work extends or adds to previous literature. Providing this context allows authors to
relay their findings in a meaningful manner that can be used by practitioners, researchers, and policy makers. Authors must also be careful to describe their methods with a degree of detail that allows for replication by other researchers (Dunfon, 2005).

The specifics provided in research articles include a thorough description of participant recruitment, selection, and demographics (e.g., age, gender, ethnicity). Descriptive statistics are typically reported, such as the mean age of participants and standard deviation. For research with individuals with sensory impairments, a description of the participants should include information such as visual acuity or residual hearing, learning media, and the presence of any comorbid disabilities. Providing this degree of detail is necessary to allow readers to reach their own informed conclusions regarding whether the intervention in question can be generalized and/or replicated in future studies or practice settings (Ravid, 2020).

After the participants are sufficiently described, an author uses the procedures section of an article for an explicit description of the exact steps involved in executing the study. In layperson’s terms, an article will explain either what the participants did, or what was done to them. The procedures section describes the study location, the order of events, the persons conducting the research (and any relevant training), steps taken to ensure procedural fidelity, and whether or not any participants withdrew from the study (Ravid, 2020).
section should also include a discussion of the measures used, if any, and why they were selected. Namely, authors should disclose the reliability and validity of all measures specific to their use with individuals with sensory impairments. With an appropriate level of detail, a study can be replicated by other researchers in the future.

The results of the study should be explained in relation to the stated research questions. The study should conclude with a discussion of findings in relation to the literature which was presented at the beginning of the article. This discussion should include implications of the findings, any limitations the reader would be aware of, and areas for future investigation.

**Conclusion**

To effectively evaluate research and subsequently implement evidence-based practices, professionals need to know the crucial elements which authors should be including for appropriate generalization and application. Additionally, authors need to ensure that participants and methodologies are adequately described to support practitioners implementing interventions, policy makers responsible for guiding legislative decisions, and researchers replicating findings. These initiatives will likely contribute to an expansion of evidence for serving students with visual impairments or deafblindness and the implementation of those evidenced interventions.
References


Target Audience for Article: TVIs, O&Ms, Program Administrators

Perkins School for the Blind has been a leader and innovator in the education of students with visual impairments since opening in 1829 as the first school for the blind in the United States. In addition to providing education to day and residential students at the campus in Watertown, Massachusetts, Perkins also provides support and services to more than 1,200 children who are blind or visually impaired, including those who are deafblind or have multiple disabilities ages birth-22, through Community Programs. Community Programs comprises the Infant Toddler Program, Educational Partnerships, and Outreach Short Courses. In
March 2020, as the COVID-19 pandemic hit, Community Programs was faced with the need to rapidly pivot to virtual instruction for all of its students. While not without challenges, our work over the past year demonstrates that virtual instruction, when done with committed program leadership and the creativity and collaboration of teachers and parents, can be an effective model of education and support for students with low incidence disabilities.

In June 2019, Perkins, through generous philanthropic support, began a pilot project to look at the effectiveness of virtual visits. 5 teachers were trained in a hybrid approach of in-person and virtual visits, and 10 Infant Toddler Program families enrolled into the pilot. Data was collected on family engagement, teacher experience, and cost-savings. We partnered with the University of Massachusetts Donahue Institute, a neutral third party, to analyze data. Though the project was planned before the pandemic, the lessons learned helped shape and target our professional development to rapidly pivot and scale our program, implementing the new virtual teaching model across Community Programs. We continued our partnership with the Donahue Institute, allowing us to further collect and analyze our data on the effectiveness of virtual teaching, now with a much larger cohort (See figure 1).

The initial 2-week period in March 2020 when Massachusetts closed all schools, Community Programs used that time to engage in intensive professional
development for all of the staff. The 5 teachers from the pilot project trained their colleagues in the fundamentals of virtual teaching, including strategies to effectively communicate with parents and develop strong parent coaching skills. Infant Toddler Teachers focused on using the PIWI (Parents Interacting with Infants) (McCollum, & Yates, 2017) approach and the SOPR Coaching Framework (Family Guided Routines Based Interventions, 2020). Educational Partnerships thrived using a collaborative co-teaching model paired with direct exploration of the many different virtual platforms each of their schools planned to use. They also worked to develop crucial accessibility strategies for their students.

Figure 1

*Image Description.* A line graph showing the number of telepractice visits during the pilot project and the increase in the number of telepractice visits beginning March 2020.
The Infant Toddler Program includes 16 teachers and 2 Social Workers, as well as a Coordinator and a Program Director, all of whom needed training on how to deliver services, engage families using virtual platforms, and supervise and ensure continuity of services. Technology was also a core part of our initial training. Massachusetts Department of Public Health, Lead Agency for Early Intervention, allowed billing for virtual sessions that were conducted on multiple platforms, enabling our teachers to reach more parents. Sessions were primarily conducted via Zoom, WhatsApp, Facetime, and Google Meet. Our data indicates that almost 60% of families used a smartphone or tablet as their primary method of accessing telepractice services (Citino et al., 2020).

One of the core tenets of Early Intervention is that children learn best within the context of positive relationships with caregivers, and that parents feel most successful when they are able to most effectively engage with their children. Our data shows that 75% of parents reported telehealth services with Perkins increased the strategies used to help their child’s development. Almost 60% of parents felt more engaged with their child during visits, and 66% reported feeling more confident in supporting their child (See figure 2). Lastly, our teachers were better able to support parents within their home, attend IFSP and IEP meetings, had more
interactions with other EI team members, and increased efficiency from saved drive time (See figure 3) (Citino et al., 2020).

**Figure 2**

*Image Description.* A graph showing the impact of telepractice visits on caregiver engagement in services, including increased use of strategies, engagement in sessions, and caregiver confidence.

**Figure 3**

*Image Description.* Graphics showing the amount of time, mileage, and money saved per telepractice visit by Perkins Infant Toddler teachers.

Educational Partnerships is the largest single provider of vision services in New England, providing direct and consult services to over 500 students across
150 school districts in 4 New England states. Educational Programs consists of 20 full-time teachers (TVIs, COMS, and Deafblind Specialists), an Assistant Director, and a Program Director. At the beginning of March 2020 teachers were challenged to flexibly respond to districts who were either in person, hybrid or completely remote. They developed lesson plans and instructional strategies for skills such as braille, orientation and mobility, and educational supports for students with CVI. Using small work groups and “Brainstorming Bunch” meetings, teachers, leadership, and other colleagues collaborated to develop a shared Google Drive with a vast assortment of resources, lessons, and strategies for remote learning. Educational Partnerships teachers reported that remote teaching had positive impacts on their practice: “I have learned that creativity, online resources, built in features of platforms (screen sharing, white boards, etc.) and the ability to mail or drop off materials, made online learning a viable option for the education of many students” (Clark, 2021).

While assessments are a critical component of our work, they have always been done in-person until this time. In our small working groups we brought in experts in the field of assessment and brainstormed with them to create a set of best practices for remote assessment. These meetings resulted in a series of documents that teachers were able to use, including instructions and assessment elements to share with families, as parents and caregivers were now deeply involved in the
process. Teachers created outlines of materials to be used remotely, strategies for engaging parents in the evaluation process, and language guidelines to use in reports to indicate the potential limitations of remote assessments, including the need for re-evaluation once children returned to in-person services.

Outreach Short Courses offers a variety (weekend, week-long, 3-week, 5-week) of year-round residential programs on the Perkins campus for public school students ages 7 to 22 who are blind and visually impaired across the United States. Each program, built around the 9 areas of the Expanded Core Curriculum and the unique learning needs of students, exposes students to a range of experiences and skill building activities while meeting peers who are blind and visually impaired. Outreach quickly pivoted their program delivery at the start of the pandemic, with the goal of remaining connected to students, albeit virtually. This goal was often challenged by the Zoom fatigue that students experienced over the year, as their online school demands increased.

In April 2020, leveraging Perkins staff expertise, we offered 1-hour drop-in sessions 4 afternoons each week. Session topics included: independent living skill education; guided cooking lessons; student-driven trivia; adaptive workouts; and a Perkins Radio class. Concurrently, Outreach collaborated with Community Programs’ TVIs and O&Ms to create additional programs that would gain student interest resulting in two new virtual summer programs, Virtual Five Week and
Zoom Ahead. These two back-to-back 5-week programs ran Monday through Friday for 2 hours each day, providing diverse instruction to 11 students ages 14 to 22. 11 course facilitators provided pre-employment skills education, workplace readiness training, recreation and leisure exploration, and panel discussions with working professionals and college students with visual impairment. This virtual offering enabled us to enroll new participants from in and out of state who otherwise may not have had the opportunity to attend our programs.

Outreach then offered three concurrent 10-week programs that ran for two hours, one day per week (Monday-Wednesday). We partnered with the Perkins Library in the fall of 2020 to offer our first ever Book Club program, where we read and discussed *Percy Jackson: The Lightning Thief* and culminated with watching the audio-described version of the movie. Kitchen Ambition offered kitchen safety and skills education, and diverse, hands-on, guided cooking experiences, with the support of parents and the facilitator. Pre-employment skills offered individualized instruction on resume building, and job search and interview skills. Over February 2021 school vacation, we offered a week of free one-hour drop-ins to all students, with the goal of keeping connected and engaged. Offerings included yoga, creative writing, cooking, Jeopardy, a spelling bee, a movie night, and more.
Virtual teaching across all 3 departments of Community Programs offered the opportunity for increased parent engagement and student success. Teachers have provided effective consultation while also being able to more frequently attend team meetings. Parents report feeling more engaged and successful in using strategies with their children. As we move forward and the impact of the pandemic lessens, we intend to continue incorporating remote instruction along with in-person services to better meet the needs of all students and families. Remote teaching offers flexibility for snow days, children with complex medical needs, and students who live in remote locations as well as coverage for potential gaps in programming and reduction in teacher travel times. While we know the importance of in-person instruction, the past year has taught us that when children are learning at home, teachers can successfully provide purposeful instruction and engagement with students and families.
References


Social interaction is fused into numerous aspects of education. Students learn alongside their peers, participate in a myriad of discussions, and collaborate with classmates. Conversations and connections are made before, after, and between transitions that occur throughout the school day. Students’ social skills shape these social interactions and can impact their academic experiences (Bukowski et al., 2020). Indeed, stakeholders in the field of visual impairment (VI) have embedded the importance of addressing students’ social needs in the Expanded Core Curriculum (Hatlen, 1996). Still, professionals report being unable to address their students’ social needs due to limited instructional time (Wolffe et al., 2002). Thus, peer-mediated interventions are an attractive solution for feasibly integrating social interventions into inclusive academic settings (e.g., Jindal-Snape, 2005; Sacks & Gaylord-Ross, 1989). This paper discusses peer support
arrangements, a form of peer-mediated intervention, as an approach for socially engaging students with VI more meaningfully and maintaining academic success.

**Peer Support Arrangements**

Peer support arrangements involve the recruitment of peers, preparing the peers to provide academic and social support for students with a disability during class activities, peers implementing supports, and adults monitoring the peer support arrangement (Carter et al., 2011). Tuttle and Carter (2020) found that peer support arrangements are a promising strategy for increasing the interactions between students with VI and their sighted peers while maintaining academic engagement. This article will describe each component of peer support arrangements (i.e., peer recruitment, peer training, and implementing the peer support arrangement).

**Peer Recruitment**

To form a peer support arrangement, educators must first recruit one or more peers from the same classroom as a student with VI. Educators in Tuttle and Carter (2020) initially relied heavily on academic achievement. However, teachers should also weigh several other factors when recruiting peer partners, including students with VIs’ preferences and support needs, as well as the peer partner’s interest.

**Peer Training**

Peer training sessions prepare peers to provide the supports students with VI
need to access the general curriculum. An adult facilitator conducts trainings (e.g., TVI or paraprofessional) to develop a written support plan that guides classroom support, interaction, and learning. Ideally, trainings are conducted in the presence and with the contributions of the participating student with VI. Specifically, facilitators cover the following topics during meetings: (a) introductions, (b) rationale for peer support arrangements, (c) background information about the focus student, (d) general goals of peer support arrangements, (g) confidentiality and respectful language, (e) ideas for supporting the focus student, (f) when peers should seek assistance, and (h) questions from students about peer support arrangements. While discussing support ideas, facilitators first orient students to everyday class routines (e.g., class lectures and collaborative projects). TVIs can bolster this discussion by soliciting information from general educators about instructional routines and materials, common activities, and concerns about the student with VI before the training. If students with VI are present, they can also share how their VI impacts their learning routines. Second, the facilitator provides students with examples of academic and social support strategies (e.g., asking if visual preferences are met, describing visual information during class videos/presentations, and inviting each other to join conversations with other peers) before asking students to identify appropriate supports for each class routine or activities. If students with VI are present, they should participate in identifying
strategies with peers collaboratively. While students identify supports, the facilitator should be generating a written support plan that documents appropriate supports across different instructional times and formats (e.g., when arriving at class, whole-group instruction, small-group activities, independent work, and end of the class). After the written support plan is finalized, the facilitator should condense the plan into a reference sheet to be used during class. Figure 1 provides an example of a condensed reference sheet from Tuttle and Carter (2020). The figure depicts a one-page document with two columns. One column lists different instructional times and formats situated next to a second column listing appropriate, corresponding instructional or social supports.

**Implementing Peer Support Arrangements**

After a support plan is developed, peer partners and students with VI are seated together and encouraged to collaborate and support one another. Facilitators should monitor the peer support arrangement while prompting and modeling supports to promote collaboration among students. Supports may include paraphrasing lectures, reading information off the board, clarifying instructions, asking comprehension questions, modifying class materials, prompting assistive technology use, and supporting participation in group activities. As students begin to form a working relationship and confidence in the arrangement, adult support can be faded. Moreover, monitoring of peer supports is ongoing, and peers should
receive feedback and necessary assistance from TVIs or other educators. The end goal is that peers assume a primary support role while direct reliance on adults is reduced.

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Figure 1

Example of a reference sheet used by peers to provide supports to focus students during the peer support arrangement

<table>
<thead>
<tr>
<th>Strategies:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell-work</td>
<td>Greet one another</td>
</tr>
<tr>
<td></td>
<td>Check with your partner about class materials</td>
</tr>
<tr>
<td></td>
<td>Read information from the board/projector</td>
</tr>
<tr>
<td>Lectures/ Videos</td>
<td>Read information from the board/projector</td>
</tr>
<tr>
<td></td>
<td>Review the main points from the lecture/video</td>
</tr>
<tr>
<td></td>
<td>Remind each other to use technology</td>
</tr>
<tr>
<td>Seatwork</td>
<td>Check with your partner about class materials</td>
</tr>
<tr>
<td></td>
<td>Motivate and encourage each other</td>
</tr>
<tr>
<td></td>
<td>Discuss roles for completing the assignment together</td>
</tr>
<tr>
<td></td>
<td>Review content together</td>
</tr>
<tr>
<td>Down time</td>
<td>Talk about each other’s interest</td>
</tr>
<tr>
<td></td>
<td>Invite each other to join conversations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When to ask for help:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Your partner doesn’t have adapted materials</td>
</tr>
<tr>
<td></td>
<td>Describing visual information is too complicated</td>
</tr>
<tr>
<td></td>
<td>You don’t know how/if you are allowed to collaborate on an activity</td>
</tr>
<tr>
<td></td>
<td>You feel overwhelmed</td>
</tr>
</tbody>
</table>
References


Service Determination for Students who are Blind/Visually Impaired

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Target Audience for Article: TVIs

The authors presented at the 2021 CEC National Convention on the topic of Service Determination for Students who are Blind/Visually Impaired. They were interested in gathering further information from a variety of teachers of the blind and/or visually impaired (TVI) about what tools are available and are most frequently used in determining service time for students with a wide variety of visual differences. This poster presentation shared results from a survey that was extended to TVIs across the country. Specific tools and effective practices that yielded a successful outcome in regards to service time determination were shared through this presentation.
Strategies

A Google Form survey was disseminated to TVIs across the country to complete regarding their experiences with service determination, strategies they have used in determining services, and information about tools they have used for determining services. After the responses from the Google Form survey were reviewed, the authors decided to take the responses and reflect on their experiences in service determination and find a way to guide TVIs to appropriately determine service time for their students. Not only is it imperative to understand how to determine service time, but through the responses from the Google Form survey it is clear that many TVIs are often questioned by parents and/or other team members about their service time proposal. The following recommendations were made on how to handle a meeting/situation when a parent or team member questions your service time:

- **Listen to the concerns of schools teams/families** - As educators, we value all parts of a student’s team. While we may feel that our recommendations are what is best, it is important to also be an active listener and make others feel heard.

- **Reiterate your role** - While in an IEP/IFSP/504 team meeting, it is important that school teams and families are aware of the role you play in their child’s education.
• **Be compassionate and flexible** - But also stand your ground in your decision that is data-driven and you are confident about.

• **Have data prepared** - When doing an assessment or gathering data on a student, be sure to use resources such as the Michigan Severity Rating Scale or the VISSIT. Data driven decisions are important.

• **Compromise** - We never want school teams and families to feel that their input is not valued, so be sure to compromise with the family and team members.

The authors also realized that many TVIs might need some questions to guide them in determining service time for students who are blind/visually impaired. The following questions were provided to the audience:

• Are any of the goals the student currently has affected by his/her vision?

• Can I support the student by providing a service time of a direct consult or direct service with a goal?

• What goals can the student have for their vision?

• Can I further assist individual team members with their goals?

• Are accommodations and modifications enough?

• Should I sit in on more lessons and provide a direct-consult to the staff?
In addition to the guiding questions provided above, the authors decided to generate questions that are geared directly towards the type of educational teams that TVIs may be a part of. Those questions are provided below:

- **IEP (Individualized Education Program)** - Can the TVI support the student and team with any additional goals or on current goals?
- **IFSP (Individualized Family Service Plan)** - Can the TVI support the family and student with any emerging vision skills/goals?
- **504 Plan** - Is the student properly accommodated with appropriate recommendations and accommodations?

In conclusion, the authors hope to have been able to provide additional resources/questions to effectively determine service time for their students and how to handle situations/meetings when their service time recommendations are questioned. The following takeaways were provided at the end of the presentation:

- Data driven decisions are of utmost importance when determining service time for students.
- Using tools such as the Michigan Severity Rating Scale, the VISSIT, The Delphi Study, etc. are great resources to backup decision making.
- Despite a large workload/caseload, it is important to recommend service
time based on data collected and not what works with your workload/caseload.

- There are ways you can support school teams and families without just a direct service. There is great value in a direct-consult service/a consultative role.
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