Guidelines for the Administration of Educational Programs for Students who are Deaf/Hard of Hearing, Visually Impaired, or Deafblind

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Abstract

This paper presents the essential programming components resulting from a systematic review of research studies, legislation, and policy documents on the topic of administration issues in educational programming for students who are deaf/hard of hearing, visually impaired, or deafblind. It is recommended that educational teams should include a member whose educational preparation and credential matches the disability of the student who is deaf/hard of hearing, visually impaired, or deafblind to support assessment and instructional programming. Additional recommendations including limiting the caseloads of itinerant teachers of students with visual impairment to 8-20 and limiting the size of groupings that include children who are deafblind to support access and engagement. With the exception of the caseload recommendation, which is at the limited evidence level, all other essential programming components were determined to have an emerging level of evidence. The heterogeneity, low prevalence, and geographic disbursement of these disability groups create challenges for conducting educational research.

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A hearing loss, visual impairment or deafblindness (the combination of hearing loss and visual impairment of any type or degree) potentially interferes with typical ways of interacting and learning. Students with these sensory disabilities comprise less than two percent of all children and youth with disabilities and only two-tenths of one percent of the entire school-age population (U.S. Department of Education, National Center on Education Statistics (NCES), 2012). Such a low prevalence results in some districts having very little experience with students who have sensory impairments. This lack of experience may lead to misunderstandings, lower expectations, and a lack of knowledge about evidence-based practices.

The authors of this paper reviewed the research literature in their respective fields of deaf/hard of hearing, visual impairment (including blindness), and deafblindness for high quality research that met the standards of evidence established by the *Collaboration for Effective Educator Development, Accountability, and Reform* (CEEDAR) Center, University of Florida. This Center was funded to provide technical assistance to state education agencies (SEAs), institutions of higher education (IHEs), and local education agencies (LEAs) to increase alignment in professional learning systems (i.e., certification/license, preparation, program evaluations) to enhance learning opportunities for teachers and leaders. This work was developed as part of the Center's knowledge development activities (see www.ceedar.org for more information). Our review process led to the identification of essential programming components across twelve topic areas. When research did not exist on a specific aspect of a topic, non-peer reviewed literature, such as legislation, policy documents, and textbooks were reviewed to complete our analysis.

In this paper we describe our method for determining the levels of evidence and then present, by disability area (deaf/hard of hearing, visual impairment, and deafblind), a general orientation to the disability, followed by the essential programming components and corresponding identified levels of evidence. Table 1 is a reference guide that includes these components and our recommendations for knowledge held by administrators, generalist special educators, and special educators in the areas of deaf/hard of hearing, visual impairment, and deafblindness, specific to program administration. This document can be used as an advocacy tool to support effective administration of educational programs for students with these types of sensory disabilities.

Table 1
Essential Components of Evidence-Based Practices in Sensory Impairments

Essential Components: Deaf/Hard of Hearing	Special Education	DHH Specialist	SEA & LEA	Level of Evidence
Administration				
Students who are deaf or hard of hearing receive services from professionals knowledgeable about the potential impact of a hearing loss on their development and on the family.	X	X	X	Emerging
Students who are deaf or hard of hearing receive services from professionals knowledgeable about their cultural and linguistic needs.	X	X	X	Emerging
Students who are deaf or hard of hearing with additional disabilities receive services from professionals knowledgeable about their educational needs.	X	X	X	Emerging

Essential Components: Deaf/Hard of Hearing	Special Education	DHH Specialist	SEA & LEA	Level of Evidence
Students who are deaf or hard of hearing receive services from professionals who respect the preferences of parents/caregivers regarding placement.	X	X	X	Emerging
Students who are deaf or hard of hearing receive services from licensed/certified professionals including individuals who are deaf or hard of hearing and individuals who are from diverse ethnic, cultural, and linguistic backgrounds.	X	X	X	Emerging
The communication, academic, and social performance of students who are deaf or hard of hearing is systematically monitored.			X	Emerging

Essential Components: Visual Impairment	Special Education	VI Specialist	SEA & LEA	Level of Evidence
Administration				
Personnel certified or licensed in visual impairment are supervised by individuals with knowledge of children and youth with visual impairment.		X	X	Emerging
Specialists in visual impairment serve a caseload of 8-20 students, depending on student needs for instruction in braille and technology and travel time between students.		X	X	Limited
Educational personnel serving students with visual impairment are certified/licensed in visual impairment and/or orientation and mobility.			X	Limited
Students who are visually impaired receive instructional materials at the same time as their peers without disabilities.	X	X	X	Emerging
Paraeducators are assigned to students with visual impairment to supplement and not supplant direct instruction from qualified personnel.	X	X	X	Emerging

Essential Components: Deafblind	Special Education	Deafblind Specialist	SEA & LEA	Level of Evidence

Essential Components: Deafblind	Special Education	Deafblind Specialist	SEA & LEA	Level of Evidence
Administration				
Each educational team includes one member who is knowledgeable about effective assessment and instructional approaches for students who are deafblind.	X	X	X	Emerging
Small instructional groups are provided to ensure access, engagement, and sufficient instructional feedback.	X	X	X	Emerging

Determining the Level of Evidence

The following levels of evidence were identified in this full review in accordance with the requirements of the CEEDAR Project (www.ceedar.org): strong, moderate, limited, and emerging. Among the intervention studies, only those with positive effects were considered. A practice was considered to have *strong evidence* if it met any of these four criteria: (a) two or more experimental or quasi-experimental designs with random assignment or a control group conducted by two independent research teams, (b) five or more single-subject design studies (with a total of 20 or more participants) conducted by at least three independent research teams, or (c) five correlational studies with correlation <.30 conducted by three independent research teams. *Moderate evidence* was identified under any of these conditions: (a) three reasonably strong group experimental or quasi-experimental design studies by two independent research teams, (b) three single-subject design studies (with a total of 20 or more participants) conducted by two independent research teams, (c) three correlational studies conducted by two research teams, or (d) two meta-analyses by different teams with details on strengths and weaknesses of practice. *Limited evidence* was determined under any of these evidentiary conditions: (a) one causal design study, (b) one single-subject design study, (c) one correlational design study, or (d) one meta-analysis or synthesis with thick description. A practice was coded as having *emerging evidence* of its effectiveness when there were no research studies, but the peer-reviewed literature provided support for the practice on the basis of professional experience, or it was recommended by professional organizations or state or federal agencies.

Deaf/Hard of Hearing

The term "hearing impairment" is often used as legislative terminology to refer to the primary disability category for students who receive Individuals with Disabilities Education Act (IDEA) services through an individualized education program (IEP) for a hearing loss. However, professionals in the field and individuals with a hearing loss prefer to use the terms deaf or hard of hearing.

The population of students who are deaf or hard of hearing is diverse across a wide variety of variables. The following variables affect educational outcomes and are directly related to the

hearing loss and services provided: (a) degree of hearing loss; (b) type of hearing loss; (c) when the hearing loss occurred; (d) when the hearing loss was identified; (e) whether or not early intervention services were provided; (f) if early intervention services were provided, the quality and quantity of the services; (g) use/benefit from hearing assistive technology (i.e., hearing aids, cochlear implants, frequency modulation (FM) systems or communication boards; (h) home language of the family (i.e., American Sign Language, spoken English, other spoken languages); (i) family attitude about hearing loss; (j) existence or not of an additional disability; (k) quality of home intervention and preschool services; (l) cultural identity (i.e., Deaf, hearing, or hard of hearing, and the interaction with other aspects such as race, ethnicity, linguistic, and religion); (m) primary mode of communication preferred (i.e., spoken English, American Sign Language, Contact signing/Pidgin Sign English, Signing Exact English, Cued Speech; and (n) type of educational services and placement.

Administration: Essential Programming Components

The recommendations shared here are intended to support educational decisions that are in the best interest of students who are deaf or hard of hearing (including those who have additional disabilities) and their families. Administrators need a basic understanding of the impact of hearing loss on language, academic, cognitive, and social-emotional development, as well as its impact on the family. A team member with knowledge of the specific cultural and linguistic needs of students who are deaf and hard of hearing is essential for making appropriate placement decisions and in developing effective programming. In considering placements for students who are deaf or heard of hearing, any one of the alternatives on the continuum of placements might constitute a Least Restrictive Environment. A system must be in place to monitor the academic progress of students who are deaf or hard of hearing and have delayed communication or language. Districts should actively recruit qualified individuals who are deaf or hard of hearing and individuals who are from diverse ethnic, cultural and linguistic backgrounds to serve in professional and support capacities within programs for students who are deaf or hard of hearing. Post graduation surveys and interviews are essential to determining the educational outcomes of students who are deaf and hard of hearing in higher education, employment, residential life, family life, citizenship, and personal well-being (Conference of Educational Administrators of Schools & Programs for the Deaf, 2013; National Association of State Directors of Special Education, 2006; Szymanski, Lutz, Shahan, & Gala, 2013; The National Agenda: Moving forward on achieving educational equality for deaf and hard of hearing students, 2005; U.S. Department of Education, 1992; U.S. Government Accountability Office, 2011).

Because teachers of students who are deaf or hard of hearing provide services via a variety of models (e.g., direct service to students, collaboration with general educators, co-teaching, consulting with families) in an assortment of settings (e.g., general education classrooms, specialized schools for students who are deaf or hard of hearing, resource rooms, self-contained classrooms, homes), and with children and youth ranging in ages from 0 – 21, no professional guidelines exist for the size of caseloads. However, it is recommended that professionals who have been certified or licensed by the state education department in the area of education of students who are deaf or hard of hearing be integral members of the educational team for each student who is deaf or hard of hearing.

Regulations implementing the Individuals with Disabilities Education Act (2004) define "visual impairment, including blindness" as "an impairment in vision that, even with correction, adversely affects a child's educational performance. The term "visual impairment" includes both partial sight and blindness" (34 C.F.R. §300.8(c)(13)). The considerable heterogeneity among students classified as "visually impaired" highlights the need for educators to look beyond "the label" and tailor instruction, accommodations, services, and supports to meet students' individual needs (Marder, 2006, p. 25). Students with low vision are more likely to access the curriculum through large print or optical devices. Their IEP goals generally focus on academics, and they have little difficulty with orientation and mobility. In contrast, students who are blind will access the curriculum through braille, braille notetakers, braillewriters, books on tape, or screen access software. Students who are blind require a curriculum that focuses not only on academics, but also on functional skills with intensive orientation and mobility instruction in indoor and outdoor environments (Marder, 2006).

Administration: Essential Programming Components
Issues around administration of educational programs serving students with visual impairment focus on credentialed personnel, supervision, workload, and access. The Individuals with Disabilities Education Act (2004) clearly requires that students with visual impairments be served by licensed or credentialed teachers with training and experience in visual impairment, who are involved in assessment and writing of individualized educational programs, as well as in direct teaching according to the individual student's needs (U.S. Department of Education, 2000). The two types of personnel most appropriate are (a) teachers of students with visual impairments (certified or licensed by the state education department) and (b) orientation and mobility (O&M) instructors (certified by the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP; some states also license O&M professionals through their own systems) (U.S. Department of Education, 2000). These licensing procedures guarantee that students with visual impairments will receive instruction from qualified personnel, and that other educational personnel will have access to such professionals for consultation and problem solving. Guidelines for providing services to students with visual impairments and for supervision of personnel have been developed by the National Association of State Directors of Special Education (Pugh & Erin, 1999).

Personnel serving students with visual impairments generally apply an itinerant model, traveling among several schools within a district or across multiple districts that comprise a region. Driving time thus becomes part of the workday and is one consideration in determining caseload size. Other considerations include student needs for direct instruction in reading and writing braille, use of technology, classroom instructional materials that require translation into accessible formats, and teacher conferencing time (Michigan Department of Education, 2013; Olmstead, 2005; Spungin & Ferrell, 2007; U.S. Department of Education, 2000). While research indicates that mean caseload size ranges from 14 to 20 students (Correa-Torres & Durando, 2011; Correa-Torres & Howell, 2004; Murphy, Hatton, & Erickson, 2008; Olmstead, 1995; Suvak, 1999), the *National Plan To Train Personnel* recommends a caseload of 8 students (Mason, Davidson, & McNerney, 2000); other sources recommend 8 to 12 students (Hazekamp

& Huebner, 1989; Koenig & Holbrook, 2000a), depending on the types of supports the students need.

There is conflicting evidence about the relationship between student achievement and amount of instruction. Ferrell (1993) determined that greater student competence in braille reading and writing, academic subjects, and orientation and mobility were associated with longer periods of instructional time; but Wall Emerson, Sitar, Erin, Wormsley, and Herlich (2009) reported that lower achieving students had more instructional time, smaller class sizes, and more available materials. This difference in conclusions may be attributable to increased attention to students with disabilities in addition to visual impairment since 1993, and/or to the fact that lower achieving students in the Wall Emerson et al. (2009) study were educated in specialized settings, while the Ferrell participants were predominantly in inclusive settings. In both studies, placement and achievement appear to be factors in the delivery of services. Other considerations for caseload size include delivery of the expanded core curriculum (Hatlen, 1996, 2003) and the need for instruction in areas not traditionally part of the school curriculum, but which are critical for children who do not learn by observation and visual imitation (Corn, Hatlen, Huebner, Ryan, & Siller, 1995; DuBose, 1976; Ferrell, 1997; Huebner, Merk-Adam, Stryker, & Wolffe, 2004). Such instruction has been acknowledged in a *Policy Guidance* issued by the U.S. Department of Education (2000) and a *Dear Colleague* letter issued in 2013 (Musgrove & Yudin, 2013). The *Policy Guidance* also acknowledges that instruction extends beyond the boundaries of the school setting and typical school day to include services in the home and community during before or after school hours. For example, orientation and mobility instruction must be offered in settings outside the school and under different environmental conditions.

Education of students with visual impairment has been greatly enhanced by the 2004 creation of the National Instructional Materials Accessibility Standard (NIMAS) and the National Instructional Materials Accessibility Center (NIMAC) at the American Printing House for the Blind, which now make the goal of providing instructional materials to students with visual impairments at the same time as to students without disabilities a real possibility (AER Division 16, 2013; Pugh & Erin, 1999). Authorized by the IDEA amendments of 2004, NIMAC is a technical standard used by publishers that can in turn be used to create multiple formats (braille, large print, audio) for books and instructional materials, greatly reducing the amount of time required to create adapted materials.

Paraeducators have in recent years increasingly been assigned to students with visual impairments enrolled in general education classrooms (Forster & Holbrook, 2005; Lewis & McKenzie, 2010), but not without some controversy. While a paraeducator can be a valuable asset to the educational team, the literature cautions against supplanting direct instruction from the teacher of students with visual impairment (TSVI) with the services of personnel without training in visual impairment, accommodations, or braille reading and writing (Conroy, 2007; Ferrell, 2007; Forster & Holbrook, 2005; Griffin-Shirley & Matlock, 2004; Koenig & Holbrook, 2000d; Lewis & McKenzie, 2010; McKenzie & Lewis, 2008). The concerns about an over-reliance on paraprofessionals are particularly focused on (a) lack of preparation, and (b) interference with the student's independence and interaction with the classroom teacher and peers (Conroy, 2007; Forster & Holbrook, 2005; Giangreco, Edelman, Luiselli, & MacFarland, 1997; Giangreco, Halvorsen, Doyle, & Broer, 2004; Giangreco, Yuan, McKenzie, Cameron, &

Fialka, 2005; Harris, 2011; Lewis & McKenzie, 2010; Marks, Schrader, & Levine, 1999; McKenzie & Lewis, 2008; Russotti & Shaw, 2001). Research supporting these assertions, however, is just emerging (*see* Harris, 2011, which found more interaction between students and their teachers and peers when paraeducators were at a distance).

Deafblind

Deafblindness is the smallest disability group and also the most heterogeneous of three groups discussed. Children and young adults differ by type and level of hearing and vision loss, age of onset of vision and hearing loss, physical and health issues, cognitive functioning, expressive and receptive communication forms, and educational histories. Like all learners, students who are deafblind also are diverse by race, ethnicity, culture, family (including language of the family), community characteristics, and socioeconomic status.

Vision and hearing are important senses for learning and they reinforce each other. Thus, one cannot understand the impact of deafblindness by adding up the effects of the vision loss and the effects of the hearing loss because the two distance senses support each other. Deafblindness may be congenital or it may be adventitious. Many individuals who are congenitally deafblind will struggle to become linguistic, while most individuals who are adventitiously deafblind will be linguistic. Individuals who are adventitiously deafblind will require extensive supports when learning new communication and literacy forms (such as sign language and braille). Deafblindness creates serious challenges to not only access, but to engagement in the educational setting. Little incidental learning will occur due to the loss of distance senses and touch will be an important sense for learning (Silberman, Bruce, & Nelson, 2004). There is evidence for the effectiveness of both child-guided and systematic instructional approaches with students who are congenitally deafblind.

Administration: Essential Programming Components
Each educational team should include a member who is knowledgeable about the impact of deafblindness and also about specialized communication methods and instructional approaches to assist with assessment, instructional planning, and program implementation (Parker, McGinnity & Bruce, 2012: Riggio, 2009; Riggio & McLetchie, 2008). Because deafblindness is the lowest incidence disability, most educational professionals receive little if any information about how to instruct students who are deafblind. It is insufficient to have only team members with expertise in visual impairment and hard of hearing/deafness because the impact of deafblindness is far greater than one can surmise from adding the effects of vision and hearing loss. This is because deafblindness involves both distance senses, thus greatly limiting access to others and to information, as well as limiting opportunities for observation and incidental learning. When a district has no individual with deafblind expertise, the individual state deafblind project may provide information about technical assistance and professional developmental opportunities. For information on the competencies required by teachers and paraprofessionals serving students who are deafblind, please see McLetchie and Riggio (1997) and Riggio and McLetchie (2001).

Instructional groups must be small enough to allow the student who is deafblind to fully access information, engage in the lesson, and receive feedback (Parker et al., 2012; Riggio, 2009;

Riggio & McLetchie, 2008). Even if the student has significant residual vision and/or hearing, small group instructional arrangements can help support the learner in locating the speaker or communication partner. Furthermore, it is necessary to keep background sounds and visual clutter to a minimum. Students who rely primarily on tactual input for learning may require one to one instructional arrangements for most of their lessons to support access, engagement, and to allow for frequent tactual feedback.

Conclusion

All but one of the recommended essential programming components in administration, across disability areas, was determined to be at the emerging level. This means that these recommendations are based on expert opinion, legislation, and policy documents rather than on empirical evidence. The recommendation for caseload size for itinerant teachers serving students with visual impairment is at the limited evidence level because while it has not been directly tested, there have been multiple studies documenting the number of students served by these teachers.

The disability areas of deaf/hard of hearing, visual impairment, and deafblindness share the same research challenges. These are low prevalence disabilities of great heterogeneity. This heterogeneity stems from different types and levels of sensory loss, varying age of onset, and, in some children, the presence of additional disabilities. The geographic disbursement of students with these low prevalence disabilities increases the cost and time required to conduct research. The low prevalence, heterogeneity, and geographic disbursement also may result in flawed and inadequate comparison groups or inappropriate comparisons to students without disabilities. Additionally, some of the essential components examined in this research are either unethical to study or difficult to study using research designs with group assignments due to the low incidence and heterogeneity of these three disability groups.

Students who are deaf/hard of hearing, visually impaired, or deafblind are in need of administrators and educators who are familiar with their diverse learning needs. Within the area of administration we have emerging or limited evidence of the importance of appropriately prepared and licensed teachers and other school professionals, the mindful use of pareducators (who do not supplant the need for teachers licensed in deaf/hard of hearing, visual impairment, or deafblind), the need for staffing patterns, caseloads, and groupings that support active engagement, and student progress and program monitoring that support positive educational outcomes. The establishment of effective program administration is a shared responsibility of administrators and educators. This document suggests effective practices in administration with the recognition that additional research is needed. Administrators and educators are referred to the CEEDAR Center website (www.ceedar.org) for information on the identified essential programming components (including recommended instructional approaches and strategies) and their corresponding levels of evidence in the additional areas of assessment, early identification and intervention, assistive technology, communication and literacy, life skills, math, science, social-emotional, transition, and placement.

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