

POSITION PAPER ON LOW VISION: PART I FACILITATING VISUAL EFFICIENCY AND ACCESS TO LEARNING FOR STUDENTS WITH LOW VISION

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Position

Students with low vision, including those with multiple disabilities, are entitled to a comprehensive educational program that includes services from professionals in visual impairment. This should encompass a range of individualized techniques and services that enable a child to complete current and future tasks in the school, home, workplace, and community. In particular, students with low vision require appropriate assessment, instruction, and adaptations to facilitate visual efficiency.

Introduction

While students with low vision represent the largest subgroup of students with visual impairments (Kirchner & Diamant, 1999), their intensive instructional needs have not been clearly understood until recently. As a consequence, comprehensive instructional strategies geared toward this specific population are only now emerging (Corn, DePriest, & Erin, 2000; Corn & Koenig, 1996; D'Andrea & Farrenkopf, 2000; Erin, 1996; Erin & Paul, 1996; Lueck, 2004b). Students with low vision exhibit a range of visual impairments from mild to severe visual impairment that may impede educational performance (Huebner, 2000). A large percentage (65 percent) of students with low vision are those with visual and multiple disabilities (Kirchner & Diamant, 1999). This includes an increasing number of students who have cortical (cerebral) visual impairment who require specialized intervention approaches (Dutton et al. 1996; Groenveld, Jan, & Leader, 1990).

All students require instruction in the full range of visual environmental modifications appropriate to their needs. In addition, all students require assessment and intervention related to the optimization of vision use in functional tasks. Assessment and instruction to improve orientation and mobility performance by students with low vision is also required across all ages. Finally, students of all ages require systematic evaluation for the use of optical and electronic devices for reading and distance tasks as well as systematic instruction in the use of these devices.

Key Points

All students, regardless of additional disabilities, are entitled to appropriate evaluation and instruction related to their low vision. It is imperative that school districts make a full array of evaluation and intervention services available to low vision students.

1. *Students with low vision in the schools can range in age from birth to 22, and they must receive supportive instruction related to low vision at every age level.* Intervention is critical for children birth to 5 whose vision is developing and who are learning to use their available senses (Lueck, Chen, & Kekelis, 1997). It is also essential to support students in elementary, middle, and high school who must access

instructional materials using special techniques and adaptations and who must learn to use their vision in increasingly demanding tasks (Topor, Lueck, & Smith, 2004). Finally, support to students transitioning from school to work or higher education can make the difference between success or failure upon graduation from high school (Wolffe, 2000).

2. *Determination of types of instruction related to low vision should be an ongoing process throughout a student's school years.*

A student's vision can change or task demands can change. Evaluations must be current and specific for students with low vision, and they should be regularly updated to meet any changes in vision function or schoolwork (Lueck, 2004). It is especially important to monitor the status of students whose visual impairment is progressive and who initially require instruction in sight enhancement techniques and who will ultimately require instruction sight substitution techniques.

3. *Evaluations related to a student's low vision, which include general eye examinations and low vision evaluations by ophthalmologists or optometrists, functional vision evaluations, environmental analyses, learning media assessments, and assessments pertaining to orientation and mobility should provide comprehensive information about a student's visual abilities, visual environment, and the visual demands of critical tasks that are functional or meaningful for the student, both academic and non-academic (D'Andrea & Farrenkopf, 2000; Lueck, 2004).*

This includes a determination of:

- a student's level of vision functioning in various areas of visual ability,
 - a student's ability to use vision to complete usual tasks in school, home, pre-vocational/vocational, and community settings,
 - analyses of a student's typical visual environments to determine visual needs in each setting,
 - the availability and use of a student's other sensory systems in addition to vision,
 - a student's need and potential to use non-optical, optical, and electronic techniques and devices,
 - a student's motivation to use his or her vision and other senses as well as motivation to use adaptive devices to complete specific critical tasks.
4. *Low vision instruction should include the use of techniques to improve the acquisition and use of visual skills and also promote the application of visual and non-visual techniques to facilitate access to information in the environment (Corn, DePriest, & Erin, 2000, Lueck, 2004).*

Vision is often the most efficient method for accessing information, but it may not be the most efficient way for students to complete all tasks. Instruction related to low vision can address instruction in the following areas (Lueck, 2004), depending upon each student's assessed needs:

- instruction in visual skills and use, including promoting the development of visual skills or the application of existing visual skills for efficient completion of specific tasks (e.g., Downing & Bailey, 1990; Farrenkopf, McGregor, Nes, & Koenig, 1997; Lueck, Dornbusch, & Hart, 1999; Mamer, 1999; Smith & Cote, 1984),

- instruction in the selection and use of visual environmental modifications, including altering visual features in a typical environment so that a student can use his or her available vision to complete specific tasks with efficiency in that environment, (e.g., Holbrook & Koenig, 2000),
- instruction in the selection and use of assistive devices, including facilitating the use of non-optical, optical, and electronic assistive devices to complete specific tasks efficiently (e.g., Corn, Wall, & Bell, 2000; Corn et al, 2002; Smith, Huebner, & Leigh, 2002, Smith & Erin, 2002),
- instruction in the selection and use of sensory substitutions, including promoting the use of alternative sensory systems, such as audition or touch, when non-visual methods result in more efficient task completion than non-visual methods (e.g., Corn & Koenig, 2002),
- instruction in methods to integrate information from all sensory systems, including encouraging awareness and coordinated use of all available sensory systems in ways unique to each student (Lueck & Heinze, 2004),
- instruction in low vision requires the implementation of systematic intervention techniques by the full team of professionals working with a student as well as the student's family so that instruction is reinforced within usual daily activities in school and in the home (Lueck, 2004).

Recommended Practices

Eligibility for special education services from a teacher of students with visual impairments and orientation and mobility (O&M) instructors requires that a student has a visual impairment, which, even with correction, adversely affects a student's educational performance (Individuals with Disabilities Education Improvement Act, 2004). Teachers of the students with visual impairments (TVIs) and certified orientation and mobility specialists (COMS) provide guidance in determining and implementing appropriate educational services related to low vision as part of a team that can include school staff, medical personnel, caregivers, and the student. Based upon the results of a general eye examination by an ophthalmologist or optometrist, a low vision evaluation by an ophthalmologist or optometrist, and functional vision evaluations by TVIs and certified O&M specialists, TVIs and certified O&M specialists assist the Individualized Education Program (IEP) team in determining which techniques related to vision use as well as techniques associated with other sensory systems best match the assessed needs of individual students. They provide guidance in establishing optimal techniques related to low vision to promote the achievement of benchmarks and objectives in more general IEP instructional areas. They also provide input in determining benchmarks and objectives specifically addressing low vision instruction for each student's education plan (including the expanded core curriculum for students with visual impairments), and determine ways to infuse this instruction into more general IEP goals whenever possible. This ensures that instruction related to low vision can be implemented by a variety of personnel and occurs regularly and repeatedly in functional activities throughout the day.

Conclusion

Comprehensive interventions in low vision include the promotion of visual skills and use, the selection and use of assistive devices, the selection and use of visual

environmental modifications, the use of alternative sensory systems, and the integration of information from available sensory systems. Intervention strategies to facilitate visual efficiency and access to learning for students with low vision must be implemented for all students with low vision including those with multiple disabilities. Promising practices are determined on a case-by-case basis for each student through information obtained from a general eye examination and a low vision evaluation by ophthalmologists and optometrists, and ongoing functional vision evaluations that includes formal and informal testing, observation, and interviews with the student and the student's family. Relevant instructional benchmarks and objectives are identified by the IFSP or IEP team which includes key professionals as well as the student and the student's family. The goal of instruction is to improve the use of alternative learning strategies within daily routines for children birth to 3 years and to promote the successful performance of functional and meaningful tasks for school-age students in their school, home, and community.

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