

BEST PRACTICES FOR COGNITIVE EVALUATION OF STUDENTS WITH VI

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OBJECTIVES OF WORKSHOP

1. Identify 3 pieces of information found in clinical eye exams which impact cognitive testing.
2. Identify 3 pieces of information found in functional eye reports which impact cognitive testing.
3. Describe 3 cognitive areas in which students with vision loss develop differently than sighted peers.
4. Examine the development of students with visual impairment in regard to communication, cognition, and social development
5. Specify 3 characteristics of instruments appropriate when evaluating students with VI

OBJECTIVES (CONTINUED)

6. Name 3 environmental variables which need to be considered when planning an evaluation
7. Specify 3 cautions when interpreting data from instruments administered to students with VI
8. Discuss how the best practice guidelines for intelligence testing would change the way you evaluate children with VI. Discuss reasons that this might be true.

VI IS NOT A SINGLE CONDITION

Visual Impairments may be:

- ▶ Congenital or Acquired
- ▶ Total Blindness or Low Vision
- ▶ Neurological or Ocular in origin

INCIDENCE RATE IN US IN 2020

- ▶ National Center for Education Statistics
- ▶ (under US DOE) reported in 2021 in the group of students ages 3–21 in all states:
 - 14.1 % of students are special education
 - Increase has been from 8.3% since 1976
 - VI has been stable at .1%

POPULATION IS CHANGING!

- ▶ Increasing complexity of Retinopathy of Prematurity
- ▶ Dramatic increase in Cortical Visual Impairment
- ▶ Dramatic increase in Optic Nerve Hypoplasia

WHY DO WE EVALUATE INDIVIDUALS WITH VI?

- ▶ Eligibility for services
- ▶ New difficulties emerge
- ▶ Escalation of behavior problems
- ▶ Specific request or parent or individual

PREPARING FOR THE EVALUATION: REVIEW OF DATA

STEPS IN THE REVIEW OF DATA

- ▶ 1. REVIEW THE CLINICAL EYE EXAMS AND FUNCTIONAL VISION REPORTS
- ▶ 2. UNDERSTAND THE DEVELOPMENTAL PROCESS AND IMPLICATIONS ON LEARNING
- ▶ 3. UNDERSTAND THE COMPLEXITY OF LOW VISION
- ▶ 4. REVIEW THE DATA FROM RECORDS

GUIDELINE 1: REVIEW FUNCTIONAL AND CLINICAL DOCUMENTS

- ▶ Always include a thorough review of the clinical eye exam FV/LMA prior to evaluation
- ▶ Complete evaluation using the recommendations in the documents
- ▶ Develop psychological recommendations based upon these recommendations

Eligibility Defined by IDEA

Visual impairment including blindness means an impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes both partial sight and blindness.

Sec 300.8(c)(13)

Any impairment in vision, regardless of significance or severity... provided that such impairment, even with correction, adversely affects a child's educational performance.

OSEP May 2017 memorandum

SOURCES OF ELIGIBILITY DATA

- ▶ Eye exam by optometrist or ophthalmologist documenting visual impairment.
- ▶ Functional Vision/Learning Media Assessment by TVI or COMS documenting educational and functional implications of vision loss.

CLINICAL EYE EXAM

- ▶ The eye exam that is completed by the medical professional provides information about etiology, acuities, and field restrictions.
- ▶ It typically provides limited information about functional implications.
- ▶ A low vision evaluation supplements the clinical eye exam and is completed by medical professionals.

FV/LMA PROVIDES INFORMATION:

- ▶ Etiology and prognosis
- ▶ Near and distance acuities
- ▶ Any field restrictions
- ▶ Information about optimal lighting, impact of clutter, eye fatigue, positioning, eccentric viewing patterns
- ▶ Type and size of font
- ▶ Appropriate adaptive devices
- ▶ Reading media for different tasks

GUIDELINE 2: REVIEW DEVELOPMENT IN CONTEXT OF VI

- ▶ 1. Review variables that may impact development such as age of onset, intervention, and other conditions.
- ▶ 2. Review development in areas of motor, language, social, and cognition.
- ▶ 3. Interpret discrepancies with understanding of these differences.

DEVELOPMENTAL PROCESS FOR CHILDREN WITH VI

- ▶ Developmental process is different for children with normal vision
- ▶ Degree of difference is largely dependent upon degree of vision loss as well as age at time of loss
- ▶ Little research is actually available on topic

INDIVIDUAL VARIATIONS

- ▶ Remember that we will be talking about an extremely diverse group of individuals.
- ▶ Tremendous differences will exist between the developmental patterns and achievement levels of persons with VI.
- ▶ Always rely upon your knowledge of individual rather than “rules for groups”

MOTOR DEVELOPMENT

- ▶ Generally delayed developmental milestones
- ▶ Lack of purposeful movement
- ▶ Self stimulatory behavior
- ▶ Minimal physical and outdoor activities

SOCIAL DEVELOPMENT

- ▶ Early bonding and smiling behaviors
- ▶ Hesitancy in exploration and initiation
- ▶ Lack of imitative and pretend play
- ▶ Egocentric approach
- ▶ Overidentification with adults
- ▶ Problems understanding peer culture
- ▶ Difficulty in maintaining peer relationships

LANGUAGE DEVELOPMENT

- ▶ Delayed babbling
- ▶ Echolalic speech
- ▶ Misuse of pronouns
- ▶ Use of words without understanding
- ▶ Tangential or egocentric conversations
- ▶ Limited ability to maintain age-appropriate discussions

COGNITIVE DEVELOPMENT

- ▶ Difficulty with generalizing to new situations
- ▶ Tendency to rely on rote memory
- ▶ Inability to focus upon multiple elements of a concept
- ▶ Complications in estimating abilities because of large vocabularies and rote memory

GUIDELINE 3: UNDERSTAND COMPLEXITY OF LOW VISION

- ▶ Explore the different ways in which low vision may impact the ability of individual to complete a task.
- ▶ Develop ways in which you can combat these difficulties in tasks that you will present.
- ▶ Develop recommendations that will help develop self-advocacy skills for individual.

COMPLEXITY OF LOW VISION

- ▶ Impact of low vision is often underestimated and misunderstood by evaluator.
- ▶ It impacts fatigue as well as efficiency in problem solving.
- ▶ It creates more difficulty in interpreting results than does blindness.

GUIDELINE 4: REVIEW THE RECORD

- ▶ 1. Conduct usual review of records prior to an evaluation
- ▶ 2. Supplement with careful review of VI-specific issues

REVIEW THE RECORD

- ▶ Level and frequency of VI instruction
- ▶ Regular attendance in school
- ▶ Adequate health to focus
- ▶ Access to recommended materials as well as adaptive devices

BEGINNING THE EVALUATION: COLLABORATION

STEPS IN COLLABORATION

- ▶ Collaborate with TVI
- ▶ Use information in FV/LMA to prepare materials, site, and adaptive devices
- ▶ Choose your testing site carefully
- ▶ Allow additional time for evaluation, interpreting data and writing report

GUIDELINE 6: COLLABORATE WITH TVI BEFORE AND AFTER EVAL

- ▶ Review etiology and implications
- ▶ Clarify specific issues of concern
- ▶ Clarify intervention and results
- ▶ Determine consistency of instruction
- ▶ Discuss evaluation process

GUIDELINE 6: REVIEW FV/LMA TO DETERMINE ACCOMMODATIONS

- ▶ Availability of any needed equipment
- ▶ Information regarding font
- ▶ Remember “bigger is not always better.”
- ▶ Understand basic operation of equipment
- ▶ Review testing materials with TVI

GUIDELINE 7: CHOOSE TEST SITE CAREFULLY

- ▶ Avoid sites with high levels of noise
- ▶ Observe carefully to be sure that unobtrusive noises are not present
- ▶ Avoid sites with visual clutter
- ▶ Be certain that appropriate positioning of materials can occur

GUIDELINE 8: CHOOSE INSTRUMENTS FOR EVALUATION

- ▶ No single best instrument exists at this time
- ▶ Attempts to develop instruments specifically for students with VI have had mixed results
- ▶ Evaluator will need to choose based upon knowledge of student and eye condition
- ▶ Evaluator will need to consider aspects of the individual instruments

GUIDELINE 9: ALLOW ADDITIONAL TIME

- ▶ Evaluation may require up to three times more time than usual evaluation
- ▶ Collaboration with TVI will be an ongoing process from beginning to end
- ▶ Observation will be a significant factor in the process

CAUTIONARY STATEMENTS

Results will always be an estimate without the validity and reliability of an instrument that is administered as specified.

AND

Reports should always state that it is an estimate but that it is consistent with other observations.

COGNITIVE EVALUATIONS

COGNITIVE EVALUATIONS

- ▶ No single instrument for students with VI
- ▶ Consider use of multiple instruments to measure following areas:
 - 1. General intelligence
 - 2. Working memory
 - 3. Executive function
- ▶ Always supplement with observations

CHOOSING THE RIGHT INSTRUMENT FOR EVALUATION

- ▶ What is the question?
- ▶ What do you already know?
- ▶ What instruments are available for that purpose?
- ▶ How do necessary accommodations impact the results?

COGNITIVE MEASURES PROVIDE BEST ESTIMATE WHEN:

- ▶ Multiple measures of memory are included
- ▶ Executive functioning is evaluated as reported by parents and school staff
- ▶ Adaptive behavior skills are included

COGNITIVE EVALUATIONS THAT MIGHT BE INAPPROPRIATE:

- ▶ Emphasize language and vocabulary
- ▶ Focus on rote memory and recitation
- ▶ Provide no opportunities for demonstration
- ▶ Emphasize speed of response
- ▶ Use small manipulatives

COGNITIVE EVALUATIONS CHOSEN SHOULD HAVE:

- ▶ Provide multiple measures of working memory
- ▶ Require least amount of accommodations
- ▶ Allow guided practice with multiple demonstrations
- ▶ Provide subtests that measure social judgment

ARE IQ TESTS USEFUL FOR STUDENTS WITH VI

- ▶ Initial question addressed by APH to psychologists working with students with VI
- ▶ Answer was that information represent an important “piece of information” in predicting academic success for students
- ▶ But...caution needed to be exercised

APH POSITION PAPER ON INTELLIGENCE TESTING

- ▶ APH effort to develop best practice guidelines
- ▶ Understanding of what IQ tests do and do not provide
- ▶ Specify issues unique to population of VI individuals
- ▶ Referenced in both the WJ Cognitive as well as WISC manuals as guidelines for testing students with VI

POSITION STATEMENT

When appropriate practices are followed, cognitive or intelligence testing of individuals who are blind or VI provides useful and valuable information to test-takers, their families, instructors, and other decision makers.

TEN POINTS TO GUIDE BEST PRACTICE

- ▶ Point 1: Intelligence test results yield valuable information about an individual and increase the usefulness of the overall evaluation.
- ▶ Point 2: Administrators of tests need training in theory of assessment and test construction as well as child development and communication of individuals who are blind or VI

CONTINUED (2)

- ▶ Point 3: The reason for the evaluation and specific clinical judgments and recommendations should be clearly documented.
- ▶ Point 4: The TVI, classroom teacher, family, and individual must be involved during planning, evaluation and report writing

CONTINUED (3)

Point 5: Evaluators should be aware of the individual's medical and developmental history, as well as the implications of the eye condition on the tasks to be performed (and implementation of recommendations).

CONTINUED (4)

Point 6: Adaptations, which include accommodations that do not change the concept nor the difficulty level of the test materials should be planned in advance in collaboration with the visual impairment and/or rehabilitation professional and the test developer, and be well-documented in the final report.

CONTINUED (5)

Point 7: Symbols, tactile graphics, and miniature objects must be carefully considered and used with caution to represent pictorial or graphical information. Real objects must be used whenever possible.

Point 8: Evaluation should include direct observation in multiple situations.

CONTINUED (6)

Point 9: When visual-spatial items or tests are administered, these results should be used only for clinical purposes and to identify appropriate modifications of educational or vocational materials and instructional methods. Results obtained from visual-spatial evaluations must never be reported as scores or used to determine other eligibilities.

CONTINUED (7)

Point 10: Reports of assessments of individuals with visual impairments need to be expanded to include an explanation of the procedures followed, changes in standardized administration, and the description of performance observed.

WHAT! NO SCORE!

- ▶ Revisions in the DSM V support looking at cognitive functioning as an amalgam of abilities rather than a single score
- ▶ Cross-battery assessments also support broadening source of information beyond a single core through examining multiple abilities

PATTERNS OF SCORES ON IQ TESTS ARE ELEVATED WHEN SUBTESTS

- ▶ Require only repetition of single pieces of information
- ▶ Measure word knowledge of real-life objects
- ▶ Require verbal abstract reasoning of real-life objects

PATTERNS OF SCORES ON IQ TESTS ARE LOWER WHEN SUBTESTS:

- ▶ Require repetition of multiple and/or longer pieces of information
- ▶ Request information that requires social judgment or knowledge of social mores
- ▶ Involve novel problem-solving skills or taking perspective of others
- ▶ Require knowledge of abstract concepts

GENERAL CAUTIONS IN COGNITIVE EVALUATIONS:

- ▶ Multiple measures are always most helpful
- ▶ Experts agree that cognitive measures likely underestimate abilities of individuals with VI
- ▶ You will always have only an estimate of abilities. Interpret cautiously.
- ▶ Assess if measures seem to assess what others are observing with this student.

WRITING REPORTS

- ▶ Always include the accommodations and modifications in the various reports by VI specialists.
- ▶ Always include the accommodation you made as well as those you did not make. Explain the reason that some were not made.
- ▶ Include a statement regarding your perception of validity of results.