APSEA | Atlantic Provinces Special Education Authority

Considerations When Using Assessment Tools with Learners with Blindness and Low Vision

2025

Introduction

Learners with blindness and low vision are a heterogeneous population. In Atlantic Canada, these learners are supported by a variety of APSEA services throughout their educational pathway, and through collaboration with school and district teams.

Depending on learners' visual diagnosis, and subsequent learning needs, considerations for adaptations are necessary when engaging in assessment processes. When examining assessment considerations for these learners, an intentional and collaborative approach needs to be initiated from the outset.

Adaptions for assessment are required for learners with blindness and low vision, and the impact of blindness, low vision, and/or cortical/cerebral visual impairment needs to be considered when determining the adaptations for assessment of individual learners. The following information outlines areas to keep in mind when conducting classroom, school-wide, district, and specialized assessments with these learners. Specialized assessments can include those completed by psychologists, speech and language pathologists, and others.

Functionally Blind

Learners who have no usable vision are considered functionally blind. These learners may have some light perception or projection; however, they use their other senses for learning and accessing information in their environment.

Legally Blind

Legal blindness is defined as having a visual acuity of 6/60 or less in the better with best correction or a field of vision no greater than 20 degrees. Legal blindness is a legal term more than a term that refers to a learner's use of vision in a functional/educational setting.

Impact of Blindness on Assessment

Learners who are blind, or have no functional vision, need to use their tactile and auditory access modalities to gather and process information.

Learners who are congenitally blind may:

- Follow a different developmental pattern from typically sighted learners.
- Present with delays in motor and language development and their understanding of vocabulary may be different from what is intention and understood by typically sighted individuals.
- Have decreased opportunities for incidental learning and learning through visual imitation, thus impacting communication, self-help, and social skill development.
- Demonstrate varied understanding of concepts based on their participation in early intervention opportunities and may require experiential learning to build their concept

understanding. Using authentic tasks to build their concept understanding will provide more reliable information than verbal questioning.
- Need additional time to process auditory and tactile information.

For learners with recent vision loss, or as the result of a progressive vision condition, the above areas of development will be experienced differently.

Low Vision

Learners with low vision have permanent loss of vision that cannot be correct with glasses/contact lenses. Low vision can be the result of reduced visual acuity (clarity of visual image), reduced visual field (central or peripheral), or both. Many learners with low vision use vision as their primary access channel, with print being their learning media; however, some learners may also use braille as their learning media. These learners may have both print and braille as their learning media (dual media).

Impact of Low Vision on Assessment

Learners with low vision are visual learners who will need material adaptations, such as large print or audio recordings to gather and process information. They may also use access technology that allows for magnification and contrast adjustments when presented with visual materials. The impact of low vision may be difficult to understand and is more than just what a learner can see and cannot see. Learners with low vision may experience acuity loss, peripheral and/or central field loss, colour blindness, contrast issues, and light sensitivity (too much or not enough light). Vision loss is measured on a continuum of mild to severe, and the functional impact of vision loss will depend on their eye condition, time of onset, severity, and prognosis.

Learners with low vision may:
- Demonstrate difficulties in their ability to discriminate print and/or see details in images, charts, and illustrations.
- Have eye conditions that impact visual efficiency and experience visual fatigue and/or have visual stamina concerns.

Impact of Cortical/Cerebral Visual Impairment (CVI) on Assessment

Learners who have experienced an uncorrectable disruption to visual sensory input caused by damage to the neurological structures responsible for encoding, transmitting, decoding, and interpreting visual information may have cortical/cerebral visual impairment. This diagnosis is a brain-based visual impairment impacting how visual information is understood and interpreted by the brain and resulting in unique and specific access needs. Learners with cortical/cerebral visual impairment will vary in how they use their functional vision across different environments. They may also have additional eye conditions, such as strabismus, nystagmus, and low visual acuity. CVI is the most common cause of visual impairment in children in the economically developed world (Engle, Nguyen, & Wilton, 2024).

Learners with cortical/cerebral visual impairments may:

- Have difficulty with visual attention, integrating vision with movement, and sensitivity to visual clutter (Engle, Nguyen, & Wilton, 2024).
- Require assessment materials to be simplified because of difficulties with visual complexity.
- Need a sensory-reduced environment to access visual information. In the presence of additional sensory information, learners with CVI may have difficulty using their vision.
- Demonstrate visual latency and need additional time to respond to assessment stimuli.

There is no single assessment tool or approach that works for all learners who have blindness and low vision. This document outlines the importance of a collaborative team approach to assessment practices, while also providing considerations pertinent to the unique needs of learners with blindness and low vision.

Assessment Continuum

Learners with blindness and low vision may need material adaptations (i.e., braille, large print, magnification, audio) and environmental adaptations (i.e., additional time and/or assessment location).

Classroom Assessments

Learners who have blindness and vision loss and who are following provincial curriculum should be included in classroom and district-based assessments, with appropriate adaptations. Adaptations, including access technology, used for daily learning activities should be allowed for assessments, and learners should not be expected to use unfamiliar adaptations, including unfamiliar access technology, in an assessment setting. The Functional Vision Learning Media Assessment provided by the APSEA Education Support Teachers – Blindness and Low Vision (EST-BLV) provide classroom and resource teachers with learner-specific information about adaptations in conjunction with how the learner uses their functional vision, their sensory access channels, and learning media(s). Standards for large print and braille production should be followed. The APSEA Education Support Teachers – BLV will collaborate with the school personnel in determining accessible assessment strategies and formats and will support in facilitating learner-specific access needs.

Provincial Standards Assessments

Learners who have blindness and low vision and who are following provincial curriculum will also write provincial standardized assessments with appropriate adaptations. Material and environmental adaptations, as well as the collaborative planning process followed for classroom assessments outlined above, should be followed. Because each province has a unique provincial assessment, collaboration between school personnel and APSEA Education Support Teachers – BLV is necessary.

Specialized Assessments

Standardized assessments are generally not normed for use with learners with blindness and vision loss. In collaboration with the APSEA Education Support Teacher – BLV, the assessor will need to consider the assessment tools and environments to ensure a fair assessment, and the assessment report must contain an explanation of changes in procedure, and adaptations of the materials and methods used to assess the learner's abilities (i.e., timed subtests, enhanced print, electronic text, braille, auditory materials, or combination of formats). Assessment results need to be interpreted with consideration given to the learner's vision. Collaboration with the learner's school team and APSEA Education Support Teacher – BVL is essential. Criterion-referenced assessment may provide the most beneficial information for a learner's educational team.

For learners who are transitioning from print learning media to braille and/or with audio access, print-based assessments may need to be postponed until the learner is comfortable and proficient in their new learning media.

Professional Collaboration

A collaborative team including school team members, school or district assessor, APSEA Education Support Teachers (EST) – BVL, other APSEA team members, family members, and learner if appropriate, is essential to ensure that assessment practices are inclusive, fair, and compatible with the assessment purpose and question(s).

Common terminology found in the field of blindness and low vision includes, Teacher of the Visually Impaired (TVI), Teacher of Students with Visual Impairments (TSVI), and itinerant teacher, also referred to Education Support Teacher – Blind/Low Vision.

Roles and Responsibilities: Team of Professionals Working with Blind and Low Vision Learners

Education Support Teacher – BLV:

The APSEA Education Support Teacher – Blind and Low Vision is specifically trained in the field of blindness and low vision. In their role, they work collaboratively with the school team to ensure learners have access to classroom instruction and learning materials. The EST-BLV also provides instruction in specific areas of learning that are unique to learners with blindness and low vision and conducts specialized assessments to support the learner's team in understanding the functional implications of their visual condition, sensory profile, and learning/literacy media (Engle, Nguyen, & Wilton, 2024). This assessment is referred to as a Functional Vision Learning Media Assessment. This assessment provides information about how a learner uses vision in their daily life in familiar and unfamiliar settings at different times of the day and supports decisions around the use of, and need for, access technology, adaptations, interventions, and instructional strategies. Additionally, this assessment

provides information on how learners gather information through sensory channels and determines the most appropriate learning media (i.e., print and/or braille) for accessing learning.

As part of the assessment process, the APSEA Education Support Teacher – Blind/Low Vision can support in the following ways:

- Provide the assessment team/assessor with the following information:
    - Review of records and implications of vision loss:
        - Vision diagnosis and prognosis
        - Visual acuity (near and distance)
        - Central and peripheral field restrictions
        - Contrast sensitivity
        - Lighting and glare concerns
        - Treatments to date (i.e., cataract surgery)
        - Possible upcoming treatments
        - Interventions and supports to date
- Discuss Functional Vision Learning Media Assessment, if applicable.
- Discuss CVI Range Assessment, if applicable.
- Demonstrate use of access technology and low vision devices regularly used by the learner and provide information about the learner's level of proficiency with these tools.
- Discuss materials and environmental adaptations.
- Share information on timing and intensity of braille instruction and low vision adaptations, the use of different learner media over time, educational goals related to vision, classroom and testing considerations, and use of access technology (Engle, Nguyen, & Wilton, 2024).

<u>APSEA Education Support Teacher - Access Technology</u>

The APSEA Education Support Teacher – Access Technology (EST-AT) is an educator who is trained in the field of blindness and low vision, as well as has extensive knowledge about access technology to support learners with blindness and low vision, specifically in access learning materials in an educational setting.

<u>APSEA Orientation and Mobility Specialist</u>

The Orientation and Mobility (O&M) Specialist work with learners who are blind and have low vision to support their ability to move through their environment as safely and independently/interdependently as possible. O&M Specialists are specially credentialed professionals.

<u>Roles and Responsibilities: School Personnel</u>

School Personnel

- Discuss the purpose of the assessment and the assessment question(s) being considered.
- Share interventions that have already been put in place:

    - Tier 1: Universal interventions
    - Tier 2: Specific, targeted short-term (6-8 weeks) interventions with data collection
    - Tier 3: Intensive, individualized, and targeted short-term (6-8 weeks) interventions with data collection
- Provide multiple sources of formative and summative assessment information.

Assessor

- In collaboration with APSEA Education Support Teacher – BLV, gather information about the impact of the learner's vision on their individual development, test administration, and test interpretation (Engle, Nguyen, & Wilton, 2024).
- Review assessment materials with the APSEA Education Support Teacher – BLV to determine accessibility and possible necessary material and environmental adaptations.
- Seek consultation and/or professional development to work outside their current competency, if not experienced in assessing learners with blindness and vision loss. Colleagues in the specific assessment field who have experience and expertise can assist in applying the information provided by the APSEA Education Support Teacher – BLV to the specific referral question (Engle, Nguyen, & Wilton, 2024).
- Use multiple methods of gathering information. The use of multiple assessment methods and sources of information is essential when assessing learners with blindness and vision loss given the limitations and inaccessible parts of standardized tests and impact of vision loss on development and test performance (Engle, Nguyen, & Wilton, 2024).
- Consider qualitative interpretation of test results with consideration of data from other sources to capture learner's abilities (Engle, Nguyen, & Wilton, 2024).
- Review reports from additional specialists (i.e., ophthalmologists, neurologists, etc.) for information on co-occurring diagnosis.

Test Administration

Understanding the factors impacting the development of learners with blindness and low vision is important when assessing this heterogeneous population of learners; however, there is very little formal research available on the development of learners who are blind and have low vision in comparison to their sighted peers (Engle, Nguyen, & Wilton, 2024). There are several differences in development for learners who are blind and have low vision when compared to their sighted peers. Differences may depend on several factors, including the following:

- Degree of vision loss
- Age of onset
- Early intervention
- Opportunities for experiential learning
- Co-occurring conditions (Engle, Nguyen, & Wilton, 2024).

Test Administration Considerations – Language and Social Development

There are some differences in language and social development for learners who are blind and have low vision when compared to their sighted peers. Some of the differences include:

- Less babbling than their sighted peers, although babbling begins at the same age.
- Potential for delayed speech sound development from lack of visual information available through observing lip movements.
- Frequent misuse of pronouns and more use of echolalic language.
- Use of words for which learners may lack understanding of their meaning (Engle, Nguyen, & Wilton, 2024).

Learners with blindness and low vision have fewer opportunities to observe the social behaviour of others, resulting in missed opportunities to access the visual aspects of communication. Learners may need support to initiate and maintain social communication. Additionally, learners with blindness and low vision may need social environments to be made accessible through direct instruction. Some differences in social development and communication that may be noted with learners who are blind and have low vision are:

- Engaging in passive forms of social engagement.
- Over reliance on adults to help facilitate social interactions and for socialization (Engle, Nguyen, & Wilton, 2024).

Test Administration Considerations – Concept Development

Concepts are abstract and building understanding of a concept requires comprehensive and extensive experiences (Engle, Nguyen, & Wilton, 2024). Vision plays an integral role in organizing and integrating information gathered through a multi-sensory experience into a unified concept for sighted learners. Much of a sighted learner's general knowledge comes from observing the world around them. Learners who are blind (particularly those learners who are blind from birth or from an early age) have had significantly less access to incidental learning opportunities. Without intentional and direct instruction that includes exploration using all senses, learners who are blind and have low vision will struggle to link language to objects, people, and experiences, and have substantial gaps in their concept development and understanding (Engle, Nguyen, & Wilton, 2024). Learners with blindness and low vision need purposeful and direct instruction, as well as rich experiences to build their concept understanding.

Assessors need to be aware of the possibility of the following challenges for learners:

- Fragmented understanding of concepts
- Applying knowledge to new situations and difficulties with overgeneralization
- Understanding concepts without direct experiences
- Reliance on rote memorization

- Difficulties focusing on multiple aspects of concepts
- Large vocabulary without understanding the corresponding meaning (Engle, Nguyen, & Wilton, 2024).

Collaboration with the APSEA Education Support Teacher – Blind and Low Vision is essential to gain an understanding of a learner's breadth and depth of concept development. The APSEA EST-BLV has the expertise and first-hand experience with the learner to be able to provide valuable insights into the learner's concept development strengths and areas of growth.

Test Administration Considerations – Sensory and Self-Stimulatory Behaviour

Learners may be sensitive to the sensory environment (sounds, touch, and additional sensory information). Some considerations include:

- Tactile defensiveness: The learner reacts adversely to touch.
- Sensory stimuli: The learner may have difficulty focusing when there is competing sensory stimuli.
- Learners who are blind and have low vision may seek additional sensory input through self-stimulatory behaviours. These may include repetitive behaviours such as:
    - Eye pressing and eye rubbing
    - Spinning, flapping hands, shaking the head, body rocking, jumping
    - Loud vocalizations (Engle, Nguyen, & Wilton, 2024).

Test Administration Considerations – Braille and Tactile Access

Braille is a tactile orthographic writing code used across the world. Braille can be written in uncontracted (direct letter to braille symbol correspondence) or contracted braille (braille symbol can represent words, parts of words, and word endings) (Engle, Nguyen, & Wilton, 2024).

When evaluating a learner who uses braille as their learning media, it is important to collaborate with the APSEA Education Support Teacher – Blind and Low Vision to understand the differences between print and braille and the knowledge a learner has as a brailler user.

Additionally, the APSEA Education Support Teacher – Blind and Low Vision has knowledge of a learner's experiences with and proficiency in reading tactile graphics. Some adapted test materials will contain tactile graphics, and the ability for a learner to be able to efficiently read these materials cannot be assumed.

Some considerations to be aware of:

- Reading braille will typically take learners longer to complete than sighted print readers. Braille readers may need additional time and accommodations to the amount of material presented.
- Learners may be reading uncontracted braille, contracted braille, or a combination of both.

Learners may also use an abacus to solve math problems. Using an abacus is the equivalent of a sighted learner using paper and pencil for math calculations (Engle, Nguyen, & Wilton, 2024).

Test Administration Considerations – Accessing Visual Information

For learners who use vision as one of their access modalities, the APSEA Education Support Teacher – Blind/Low Vision can offer suggestions for increasing visual access to test materials. These considerations may include:

- Learners may need to bring the materials closer, either holding them closer or by using a slant board.
- Some learners may benefit from a bold, black marker (typically a 20/20 marker) and bold lined paper.
- Enlargement and magnification may need to increase the size of the assessment materials. Learners need to already be familiar with these methods of enlargement and magnification.
- Learners may need to adjust the contrast, lighting, and color modes when using digital magnification.

Test Administration Considerations – Physical Environment

The collaborative team working with the learner who is blind and has low vision must ensure equitable testing that accurately reflects the learner's abilities. This requires consideration of test accessibility and the testing environment. Some considerations include:

- The testing space should be arranged to maximize the learner's visual access to the assessment tool(s) and test administrator.
- Note any possible glare and shadows on assessment materials.
- Ensure optimal lighting that matches the learner's needs (dim lighting, targeted light source, etc.).
- Offer a quiet setting with reduced 'visual clutter.'
- Allow learners to move materials to an accessible and comfortable viewing position.
- A black contrast mat may help a learner know where materials are located on the table.

Tool Selection & Normative Data

Standardized assessments were developed with sighted individuals. Collaboration with the APSEA Education Support Teacher – Blind/Low Vision is essential to determine appropriate accommodations. Standardized assessments are one part of a larger assessment process (Engle, Nguyen, & Wilton, 2024). Additional areas for information gathering include:

- Reviewing records
- Observing the learner

- Gathering information from parents and teachers

The following are important to consider when building a test battery:

- How does vision impact the learner's access to the specific test or part of the test?
- Considering the learner's vision, is the test evaluating the skill it was intended to measure?
- How does vision impact the development of the skill being assessed (i.e., concept development and lack of incidental learning)?
- Select tests that are accessible without adaptations or modifications, if possible and available.

For specific information regarding test selection, refer to Chapter 25-29 in Psycho-educational assessments of blind and low vision children (Engle et al, 2024).

References & Resources

Engle, J. A., Nguyen, M. T., Goodman, S. A., Evans, C., & Loftin, M. (2024). Comprehensive evaluations of individuals with visual impairments. American Printing House. CC-BY-NC-SA 4.0 https://sites.aph.org/wp-content/uploads/2024/04/2024-APH-Guidance-Document.docx

Engle, J. A., Nguyen, M., & Wilton, A. (2024). Psycho-educational assessments of blind and low vision children. BCcampus. http://pressbooks.bccampus.ca/vision/

Course of Interest

The National Association of School Psychologists (NASP) also offers a 1-hour webinar that provides information for psychologists to assess learners who are blind and have low vision. Bringing a Social Justice Lens to Evaluations of Individuals with Visual Impairments