# From Eye Anatomy to Empowerment

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Knowledge of eye anatomy, the eye condition, and its impact on functioning are aspects of self-awareness. Self-awareness is an essential part of self-determination (Cmar, 2019; Wehmeyer, 1998) and a valuable employability skill (Crudden, Sansing & Butler, 2005; McDonnall & Crudden, 2009) for students with visual impairments. Having the ability and opportunity to manage one's life when a disability is present is a core component of self-determination theory; choosing how to represent or speak about that unique part of the self falls within the theory's psychological construct (Ryan & Deci, 2000; Wehmeyer, 1999). Students need time and practice with supportive adults to form the ideas for shaping a self-identity that includes having a visual impairment. Being prepared to comfortably explain one's eye condition when appropriate is an important skill as questions routinely come up in social and work settings.

Limited research has noted that many students have a poor understanding of their eye condition. In two studies, researchers (Corn & Sacks, 1996; Guerette, Lewis & Mattingly, 2011) stated that just over one-third of participants could name their eye condition and less than 20% could name the part of the visual system that was affected. In consideration of these factors, the authors provide an overview of lessons they have conducted with students across grade levels (ages 6-22), degree of visual impairment, and functional abilities to (1) learn about their eye condition, (2) recognize strategies for visual access and (3) feel a positive sense of self-esteem. The order of the three sections (knowledge of eye anatomy, access to visual tasks, and social-emotional learning) described here is purposeful though not rigid. Starting with basic human eye anatomy allows the instructor and student to become familiar with each other and to set a foundation of key vocabulary and concepts. The second section is also practical in nature as it focuses on a range of tools and strategies that can be applied across tasks and settings (e.g., home, school, and community). The third and final section that covers social-emotional learning (SEL) is more personal in nature and time is needed to build a level of trust for students to share concerns and feelings. This

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**Photo 1.** A young students sits on the floor in a group Eye-Q activity. He is holding an inflated eyeball beach ball.

series of lessons can support students as they journey towards self-acceptance as an individual with a visual impairment.

## Eye Anatomy

Learning about eye anatomy can be an entry point for students who are resistant to acknowledging their eye condition. These lessons help build foundational concepts about the visual system and build rapport between the student and teacher. Knowing the name and being able to give a simple explanation of the eye condition is a start to developing positive self-identity. Instruction can be one-on-one or with a small group, in a public-school setting, or a summer program. The activities are very adaptable to student interests, settings and time available. Refer to Table 1. Eye Anatomy Lesson Activities. Click here for lesson documents.

**Table 1.** Eye Anatomy Lesson Activities.

| Activity Title | Description |
|---|---|
| Basic Eye Anatomy | Explore eye diagram and 3-D eye model (Refer to Photo 2.) |
| Eye Vocabulary | Match the part syllables and the eye part with its function |
| The Visual System | Watch and discuss videos on the visual processing system |
| Life-sized Eye Model | Use household objects to represent different parts of the eye and build a model with students reading script cards that give simple definitions |
| Edible Eyeball | Build an edible model of an eye using candy, fruit, or vegetables |
| Cow's Eye Dissection | Lead a dissection lab using a preserved cow eye kit |
| My Eye Condition Worksheet | Write responses to basic questions about the eye condition |
| Raise Your Eye-Q | Play a game passing a ball where students share what they've learned about the eye and their eye condition (Refer to Photo 1.) |

## Access to Visual Tasks

Increasing ownership of their individualized collection of tools and strategies and developing effective means of access builds empowerment and fuller participation in peer activities. We want to hear students say, "I'm not catching up, I'm charging ahead!" It is critical for instruction to help students develop a habit of task analysis and to use problem-solving to confront challenges and determine which tool is right

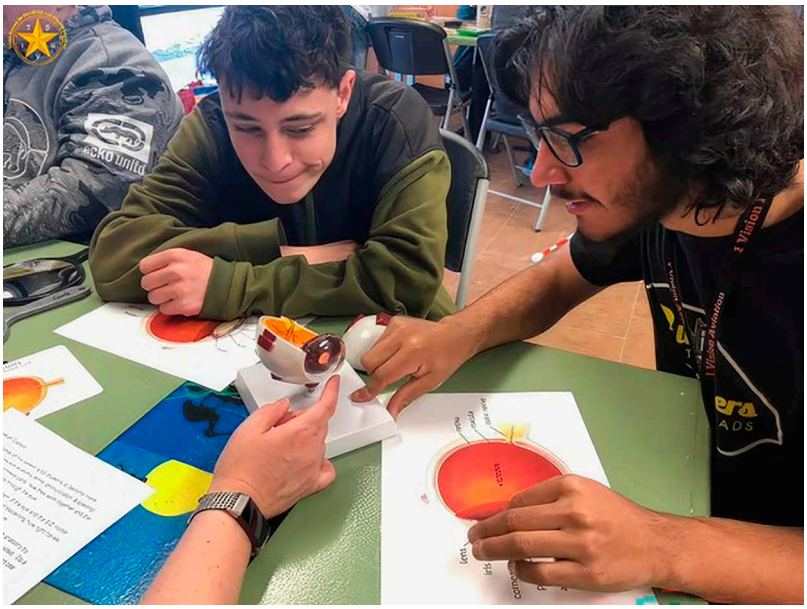

**Photo 2.** Two students examine a 3-D model of the eye.

**Table 2.** Access to Visual Tasks Lesson Activities.

| Activity Title | Description |
|---|---|
| Access to Visual Tasks | Build a concept web to identify the range of daily tasks, near and distance, that involve use of vision |
| Visual Access Self Survey | Construct a chart that matches the level of support needed ("see on my own," "with help," "not able to see") to complete daily visual tasks across environments |
| Current Access Book | Create a book to share with teachers that identifies the tools and strategies used to access instruction |
| Visual Access Charts | Presented with a visual task, identify challenges and possible solutions in chart format for access across environments, Refer to Photo 3. |
| Optical Device Practice | Use magnifiers and monoculars to view items of interest (e.g., objects from nature, game cards, information on food packages) |

for the job. The practice of critical thinking must start early so that children recognize their emerging competence in identifying and customizing their own access needs. For example, use of a magnifier that helps one see math equations is also helpful in reading a microwave panel to make popcorn. As they progress in their school years, grabbing the right tool for the task can become instinctual.

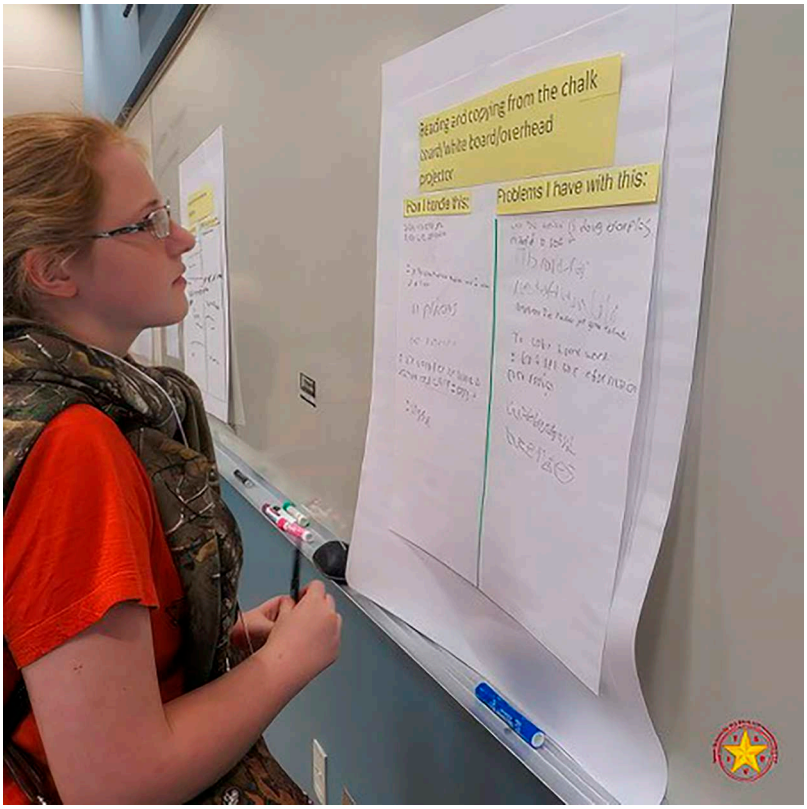


**Photo 3.** Teenage student completes visual access chart activity.

Support students to task-analyze their day to determine the ideal tool for completing a variety of tasks across settings. Repetition helps to solidify student understanding of accessing both near and distance targets. The internal statement could be "I know what I need to do, and I know what tool and strategy I will use." Refer to Table 2. Access to Visual Tasks Lesson Activities. Click here for lesson documents.

## Social Emotional Learning

Talking about what it's like to grow up with or to have a visual impairment at a young age may be an uncomfortable feeling. Often students do not have a community of peers with visual impairments to begin this conversation, and parents and family members may feel awkward in helping to process these thoughts. Building and maintaining friendships as a child grows requires a degree of social competence and emotional development that takes time and experience to acquire. Students may benefit from activities, for example, that help them identify their strengths and contributions to a friend group and acknowledge shared feelings of frustration with peers who are also visually impaired.

Components of SEL include establishment of peer friendships, a sense of mastery and self-worth, pro-social behavior, and emotional regulation (Aviles, Anderson & Davila, 2006; Roe, 2008). Students with disabilities may need additional intervention in developing these skills as they enter and advance in school. Consistent lesson time is needed to build rapport with a vision professional in order to recognize individuals and resources

**Table 3.** Social Emotional Learning Lesson Activities.

| Activity Title | Description |
|---|---|
| Affirmation Statements | Practice making positive statements of strengths in a mirror |
| It Bugs Me | Discuss challenging situations or create scenario cards and think of options for navigating these instances |
| Ask the Doc | Visit a Low Vision Specialist (in-person or virtual meeting) to learn more about eye exams, tools used to test vision, and specific eye conditions |
| Student or Young Adult Panel | Host an in-person or virtual panel of young adults who are visually impaired to share perspectives of their journey |
| Getting Together | Connect students with one another for Expanded Core Curriculum (ECC) activities or as a social event |
| Summing It Up | Encourage students to reflect (written, verbal, or video) on what they've learned about their eye condition and preferred tools, Refer to Photo 4. |

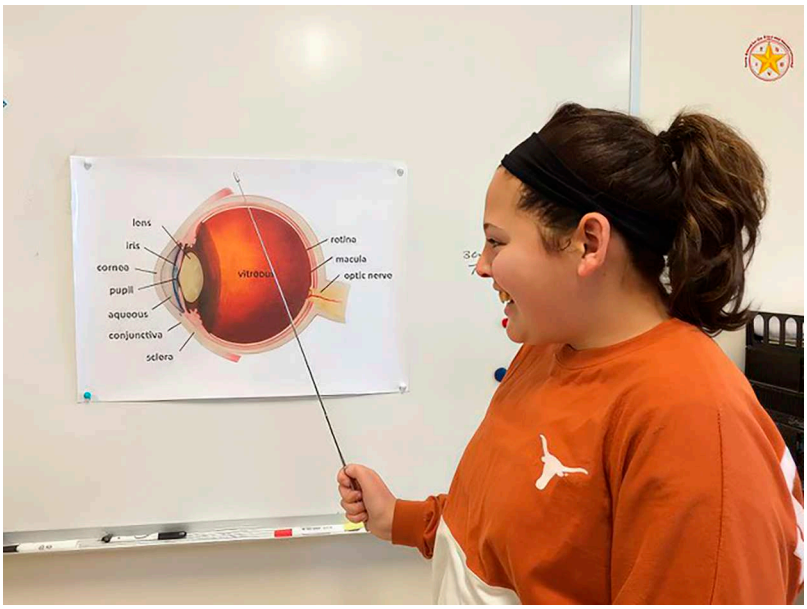


**Photo 4.** Young adult student sums up her eye condition using a large, colorful diagram of the eye.

that can be a support. Developing a positive self-concept is necessary before a student may be willing to use a tool or strategy that separates them from peers, even when that tool or strategy helps to meet a personal goal. Refer to Table 3. Social Emotional Learning Lesson Activities. Click here for lesson documents.

## Conclusion

Learning about the eye and implications of an eye condition is an ongoing process throughout the school years as a student's awareness of and interest in the topic changes and expands. Many students will take great measures to avoid looking different among classmates and so are hesitant to join lessons that push their comfort zone.

Plan for the wider, long-term scope, rather than as isolated lessons that cover these topics. Including time for these conversations yields unexpected rewards. These potential rewards include integrating the daily use of tools and strategies, advocating for their needs across settings and peer groups, and viewing their visual impairment as manageable. Addressing SEL topics in a safe, supported environment leads to student empowerment.

Dedicating as little as 10 to 15 minutes to these lessons sprinkled throughout the semester can have a profound impact on the student's world. Learning about eye anatomy, practicing access to visual tasks, and supporting SEL allows students to process the implications of their visual impairment and apply strategies in functional

ways. Imagine overhearing your student initiate the conversation about their visual impairment with a friend or teacher. That's learning in action!

Click here for lesson documents

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