Visualize Adadaptions: Students with Visual Impairment and Physical Education

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RESEARCH ON VISUAL IMPAIRMENT

People with visual impairments regularly report:

- Being on the sidelines just sitting
- Being put to the side
- Being excluded because the PE Teacher isn't prepared with proper equipment for the student to use
- Teacher uses Video without audio so the student has no idea what they should be doing
- Gym becomes frustrating because there are a lot of activities where the student is not included

Presentation Overview

What is a visual impairment?

Basics of visual impairment.

Teaching strategies.

Activity modifications.

Game Ideas.

Resources.

Visual Impairments Including Deaf/Blind

• Visual impairments, including blindness, means an impairment in vision that, even with corrections, adversely affects a child's educational performance.
• This term includes total blindness and partially sighted (IDEA, 1997)

Deaf/Blind

- Is a dual sensory loss with significant vision and hearing impairments
- Occurs on a spectrum so each person's situation is unique
  - May have some hearing or vision
  - May accompany other disabilities

Description of Visual Impairment Classifications

Partial Sight can read and write using Large Print Magnification/Contrast

Blind unable to use Magnification for reading and writing so instead braille is used for reading and writing as well as having variations of light perception present

Legal Blindness Visual acuity of 20/200 or less in the better-seeing eye with the best conventional correction (meaning with regular glasses or contact lenses) OR a visual field (the total area an individual can see without moving the eyes from side to side) of 20 degrees or less (also called tunnel vision) in the better-seeing eye.

Travel Vision Able to see 5-10 feet away when the normal eye can see at 200 feet

Light Perception Able to distinguish a strong light from a distance of 3 feet away but not able to see movement or see actual object without feeling it. Basically able to see something is there in the space like a shadow figure.

Total Blindness Complete total darkness

VISUAL IMPAIRMENT | PREVALENCE

- Students with visual impairments (aged 6-21) make up less than 1% of student-aged populations in the United States.

Visual Simulations with leading causes of visual impairment

https://www.youtube.com/watch?v=oY9JOEByuD0&t=1s

https://www.youtube.com/watch?v=yNmXEJ6EwJU

VISUAL IMPAIRMENT BASICS

What should you do when you meet a person with a visual impairment?

- Identify yourself
- If there are others present, address each person by name so there is no mistake as to whom you are talking to.
- Talk directly to the person.
- Tell the person when you leave so they are not left talking to an empty space.

VISUAL IMPAIRMENT BASICS

Before planning for a class with a student with a visual impairment, there are several things you should know about the student:

- Learn about the student's type of vision loss.
- Find out if the student has any other disabilities.
- Inquire about the student's previous physical activity experiences.
- Leave doors either fully opened or fully closed.
- Try to leave the gymnasium set up the same way each day.
- If you choose to rearrange equipment, allow the student with a visual impairment to explore and understand the new arrangement before class.
- Do not leave equipment or weights on the floor.

TEACHING STRATEGIES

Verbalizing Instruction

For children with visual impairments, visual models are less effective. In order to accommodate all students, teachers should verbalize each movement as they visually show it.

For example: push up

- Lay flat on your stomach, hands on your sides with palms down next to your chest.
- Extend arms, pushing body upward until elbows are fully extended.
- Flex elbows, lower body back to the ground.

PHYSICAL GUIDANCE

Only touch a student who is visually impaired with their permission as well as always verbally announce each step before you touch them.

Physically manipulating the students body in the direction that you want the student to move.

- This should be done at the same time the teacher is verbalizing instructions.

TACTILE MODELING

• Tactile modeling, also known as hand-under-hand instruction, includes demonstrating an activity and allowing a student to feel what you (the instructor) is doing.

• This allows the student to feel the form of a movement that the teacher is describing verbally.

• Recommended for dynamic movements.

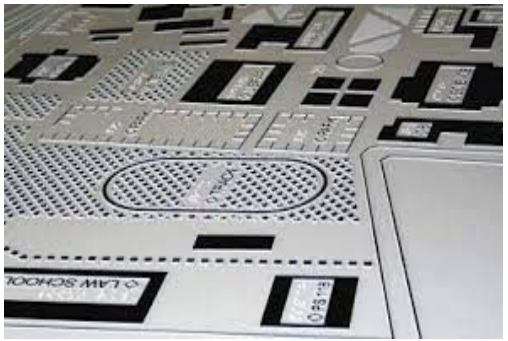
TACTILE BOARDS

- Tactile boards, or tactile maps, provide the physical layout of a playing area using raised lines and figures.
- Students explore the board, and navigate through the actual court with a teacher to gain an understanding of a playing area.

Soccer Field

Soccer Field

Track



THE USE OF SOUND

• Creating a sound source at the location of a target can enable students to orient themselves and successfully participate in tasks.

• Teachers should tell students if the sound is before, after, or embedded into the target.

Sample sound sources:

• Clapping or tapping
• Portable sound sources
• Wireless doorbells
• Adapted Ball

Talking Pedometer

Beep Bases

Balls with Bells

MODIFYING IMPLEMENTS

- Use brighter, LARGER, or neon taped implements to better help students who are visually impaired locate them better.
- Using a larger ball
- Lower baskets or make goals larger
- Tie a plastic bag around a ball to add noise
- Using a softer ball
- Deflate a ball to slow it down
- Add a beeper or bells to the ball
- Use balloons or scarves that are light and will stay in the air longer
- Give sound cues to goals or baskets(hitting a cane or stick against basketball rim)

ACTIVITY MODIFICATIONS

- Many students with visual impairments or blindness may have difficulty with the general form of running.
- The motion of swinging arms back and forth while running is not easily understood by those with significant vision loss.
- Placing two hockey sticks or brooms in the student's hands with the instructor or a peer simulating the arm motion from behind the student can help the student comprehend the correct movement.

Modifications for RUNNING

White Cane: The runner uses their own cane to walk/jog around the track. This is effective when the runner can use the inside lane to feel where the track and grass are.

Tether: The runner and guide grasp a tether—a short string, towel, or shoelace. This allows the runner full range of motion of the arms, while remaining in close proximity to the sighted runner.

Guide wire: The runner holds onto a guide wire and runs independently for time or distance. A guide wire is a rope or wire pulled tightly across a gym or track. A rope loop, metal ring, or metal handle ensures that the individual will not receive a rope burn and allows for optimal performance. The runner holds onto the sliding device and runs for as long as she wishes independently. Guide wires can be set up permanently or temporarily.

Sound source from a distance: The runner runs to a sound source such as a clap or a bell. This can be done as a one-time sprint or continued for a distance run

Modifications for BICYCLING

Stationary bike: An individual with a visual impairment can ride a stationary bike with no modifications.

Tandem bike: A person with a visual impairment can ride a tandem bike with no modification. The sighted person can sit in front and give feedback and information to the rider with a visual impairment.

Side-by-side bike: These bikes can be ridden with both riders sitting next to each other. Balance and communication issues are eliminated.

Independently: A rider with low vision may be an independent rider. A rider with a significant vision loss could ride a traditional bike in a safe, open area with feedback.

Modifications for SWIMMING

Tapper: Some swimmers who are blind rely on a tapper, which is a long pole with a tennis ball or a piece of foam at the end. A sighted person taps the swimmer on their shoulder when he or she is about eight feet from the pool wall.

Counting strokes: Some swimmers with a visual impairment know how many strokes they typically take in a 25-meter pool. They keep track while they swim so they know exactly when to turn at the wall.

Swim on the side of the pool: The wall of the pool is a perfect position for a swimmer who is blind; she or he can swim straight by touching the wall or a lane line.

Sprinkler system: A sprinkler system can be set up about 8-10 feet in front of the end of the pool to signal to the swimmer who is blind when he or she should get ready to turn.

How to support a student that is Deaf/Blind in a PE/DAPE class

- Touch/hold/explore all equipment
- Hand UNDER hand/arm to teach how to interact with equipment
- Tactile sensations (phone/IPad on lap while playing music, bells around the wrists, drum on lap, tactile balls, scented balls, floor mat for squad spot)

Collaborating with the Intervener in PE

- Intervener should be the person to introduce equipment and guide
- the student under the DAPE/PE Teachers guidance and direction
- Intervener's main role is facilitating communication, make sure
- the Intervener knows the rules/procedures to the activity (preferably ahead of time)
- While the Intervener knows the student the best, you are responsible for their education/goals in PE/DAPE class

Game Ideas for inclusive PE

https://vimeo.com/201664824

Thank You
Questions?

Resources:

Gross Motor Curriculum for children with Visual Impairment from American Printing House for the Blind
https://sites.aph.org/files/manuals/GMDC/#78

International Blind Sports Association
https://ibsasport.org/

PE Products from American Printing House for the Blind (Your TBVI has a direct line to order from APH via MDE guidelines so please work with them as they might be able to order what you need.)
https://sites.aph.org/physical-education/products/

Forms to evaluate and assess functional vision specific to physical education
https://www.researchgate.net/publication/277664900_Physical_Education_and_Visual_Impairment_Collaborative_Communication_for_Effective_Inclusion