Autism and Physical Education: Strategies for Success

JUSTIN A. HAEGELE, PHD, CAPE
OLD DOMINION UNIVERSITY
When preparing an activity for children with autism, a “teacher should plan to use twice as much time, to cover half as much material”

Rocco Aiello
2007 National APE Teacher of the Year
Outline

• Characteristics of Autism
• Effective Communication Strategies
• Structuring your Classroom for Success
Characteristics of Autism

Prior to 2013

• Autism spectrum disorders were a collection of five disabilities that shared a common diagnosis.

• Differences in how core characteristics were manifested.
Characteristics of Autism

- Under the DSM-5, the five subtypes of autism have been merged under the umbrella term *Autism Spectrum Disorder*. 
Characteristics of Autism

- Persistent deficits in social communication and social interaction across multiple contexts.
  - Misreading nonverbal interactions
  - Speaking in fragmented sentences
  - Echolalia
  - A lack of eye contact
  - Responding inappropriately to conversations
Characteristics of Autism

- Restricted, repetitive patterns of behavior, interests, or activities.
  - Overdependence on routines
  - Being highly sensitive to changes in the environment
  - Stereotypic behaviors
    - Repetitive, does not appear to serve a purpose, may be inappropriate for setting.
    - E.g., hand flapping.
AUTISM

Persons with autism may possess the following characteristics in various combinations and in varying degrees of severity.

- Inappropriate laughing or giggling
- No real fear of dangers
- Apparent insensitivity to pain
- May not want cuddling
- Sustained unusual or repetitive play; Uneven physical or verbal skills
- May avoid eye contact
- May prefer to be alone
- Difficulty in expressing needs; May use gestures
- Inappropriate attachments to objects
- Insistence on sameness
- Echoes words or phrases
- Inappropriate response or no response to sound
- Spins objects or self
- Difficulty in interacting with others

The signs of Autism...

- Inappropriate playing with toys
- Inappropriate laughing or crying
- Hyperactivity or Passiveness
- Oversensitive or undersensitive to sound
- Strange attachment to objects
- Poor speech or lack of speech
- Difficulty dealing with changes to routine
- Lack of awareness of danger
Characteristics of Autism

- Symptoms must be present in the early developmental period.
- Symptoms cause clinically significant impairment in social, occupational, or other important areas of functioning.
- Symptoms are not better explained by intellectual disabilities or global developmental delay.
  - Note: ID and Autism frequently co-occur, to make comorbid diagnoses, social communication should be below that expected for general developmental level.
Characteristics of Autism

• Children with Autism Spectrum Disorder MAY also display:
  • Behavioral problems
  • Motoric Delays
  • Sensory Issues
Characteristics of Autism

- DSM-V suggests three levels of severity for ASD based on social communication limits and repetitive and/or restricted patterns of behaviors and interests.
  - Level 1: Require support
  - Level 2: Require substantial support
  - Level 3: Require very substantial support
<table>
<thead>
<tr>
<th>Severity Level</th>
<th>Social Communication</th>
<th>Restricted Interests and Repetitive Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 3</strong></td>
<td>Severe limits in verbal and nonverbal social communication skills cause severe impairments in functioning; very limited initiation of social interactions and minimal response to social overture from others.</td>
<td>Preoccupations, fixated rituals and/or repetitive behaviors markedly interfere with functioning in all spheres. Marked distress when rituals or routines are interrupted; very difficult to redirect from fixated interests or returns to it quickly.</td>
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<tr>
<td><strong>Level 2</strong></td>
<td>Marked limits in verbal and nonverbal social communication skills; social impairments apparent even with supports in place; limited initiation of social interactions and reduced or abnormal response to social overtures from others.</td>
<td>Rituals and repetitive behaviors and/or preoccupations or fixated interests appear frequently enough to be obvious to the casual observer and interfere with functioning in a variety of contexts. Distress or frustration is apparent when rituals and repetitive behaviors are interrupted; difficult to redirect from fixated interests.</td>
</tr>
<tr>
<td><strong>Level 1</strong></td>
<td>Without supports in place, limits in social communication cause noticeable impairments. Has difficulty initiating social interactions and demonstrates clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions.</td>
<td>Rituals and repetitive behaviors cause significant interferences with functioning in one or more contexts. Resists attempts by others to interrupt repetitive behavior or to be redirected from fixated interests.</td>
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</tbody>
</table>
Characteristics of Autism

• A different look at a spectrum.
Characteristics of Autism

• While commonly associated with one another, intellectual impairment is not within the definition of ASD.
  • Approximately 40% of people with ASD have average or above average intelligence.
  • Approximately 10% display savantism, or extraordinary cognitive ability in a specific area.
According to the Centers for Disease Control and Prevention (CDC), today 1 in 88 children in the United States has autism.
Communication
Basic Communication Suggestions

- Provide short, clear, and precise directions
- Tell students what to do, rather than what not to do
- Require communication
- Give directions in low, firm voice
- Offer visual cues in addition to spoken words
- Know the communication style of the student
PECS / Mayer Johnson Symbols

- The PECS program is a form of augmented and alternative communication that uses pictures or “icons” instead of words to help children communicate.
- Mayer Johnson symbols are the icons used in the PECS program and can be used outside of the program.
PECS/ Mayer Johnson Symbols

• Sign In Boards (Transition)
• Schedule Boards
• Free Choice Boards
• First / Then
• Working for…. (Token Economy)
• Break Card
• Super Symbols
## PECS/ Mayer Johnson Symbols

| Pros | Allows students an easy way to effectively communicate.  
Provides a uniform communication method that is easy to learn for the user and requires little training for newcomers.  
Can be used for a large variety of phrases and words. Can be updated regularly.  
Assists students in learning when to move on to another activity after completing a task. Promotes student independence within the classroom. |

| Cons | If not planned well, it will create breaks in physical activity.  
Does not allow for spontaneous conversations. Slows pace of physical education class.  
Icon needed at a specific time may not be on hand. |
Electronic Communication Devices

Used by non-verbal students in order to communicate.

Two basic types:

• Static:
  • Has a fixed display which represents something of desire for the student.
  • Student presses the display and a stored message for that item will sound.

• Dynamic:
  • Usually a touch screen device which runs specially designed software which provides multiple layouts and can be specifically designed for the users.
  • Each cell can represent a word, phrase, or symbol which is generated as the cell is touched.
Unfortunately, these devices are not always brought to PE
Electronic Communication Devices

• “It is dangerous for our students to have such hard objects in such a free environment like physical education”

• “Electronic devices are expensive, and if students bring them to the gym they will break them!”

• “I put a lot of time into making those PECs books, and it isn’t important for them to be brought to the gym”.
# Electronic Communication Devices

<table>
<thead>
<tr>
<th><strong>Pros</strong></th>
<th><strong>Cons</strong></th>
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</thead>
<tbody>
<tr>
<td>Gives nonverbal students a voice.</td>
<td>Devices may be very expensive.</td>
</tr>
<tr>
<td>Adult users can be independent.</td>
<td>Requires patience from students during learning curve. Users must be trained in the technology of device.</td>
</tr>
<tr>
<td>Students gain the ability to listen to sounds in order to learn to speak. Devices can be self-programmed.</td>
<td>Additional expenses may present themselves in technology updates.</td>
</tr>
</tbody>
</table>
Social Stories

• Social stories describe a situation, skill, or concept, in terms of relevant social cues, perspectives, and common responses in a specifically defined style and format.

• The goal of social situations is to allow students to be more comfortable and understanding of a social situation.

• Must be planned out.
Social Stories

• Steps to creating social stories (Sandt, 2008)
  • **Planning:** The instructor will determine which student will be using the social story and which behavior she wants to target.
  • **Developing:** The instructor will create the story and decide how to present it.
  • **Implementation:** Instructor uses the story in the classroom.
Social Stories

• More things to keep in mind:
  • Avoid inflexible language (I will)
  • Try to make stories similar to other stories child comes across at school and at home.
  • Stories should be written in present tense.
  • Usually written in first person narrative.
Social Stories

What is the purpose of Social Stories in Physical Education?

• Highlight positive behaviors

• Teach routine (John sits on his spot when he enters the gym)

• Play skills

• Teach about sports/activities.
Most students at school go to PE.

PE class is usually in the gym.

Usually in PE, students play sports or do exercises.

The teacher decides what we are going to do in PE. Some of the activities we might do in PE are:

- basketball
- dancing
- soccer
- running
- group activities

These are just some of the activities that happen in PE.
### Social Stories

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<th><strong>Pros</strong></th>
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<tr>
<td>Students learn from non-direct teaching method.</td>
<td>Preparation of social story may be time consuming.</td>
</tr>
<tr>
<td>Students may learn multiple social cues from one story.</td>
<td>Teacher must follow guidelines in order to use the method successfully. Not all students will</td>
</tr>
<tr>
<td>Social stories provide an alternative to traditional behavior</td>
<td>respond to the same social story.</td>
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<tr>
<td>management techniques. Students learn social cues from different</td>
<td></td>
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<tr>
<td>media avenues.</td>
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Communication

Most Important Message:

• Make sure that the communication method that is most comfortable and successful for the student is what you use!
Selecting Activities

Gross Motor Skills and the Development of Play
Selecting Activities

- Most important consideration is taking into account the needs and interests of learners and families.
- Typically, children with autism have a higher probability of success in individual sports/activities.
  - But, it should not be assumed that they cannot be successful in team sports.
Selecting Activities

- Age-appropriateness must also be considered.
  - While motor skills are important to cover in elementary school, they would be inappropriate to teach in a high school setting.
Structure

MAKE LIFE PREDICTABLE FOR CHILDREN WITH AUTISM
Structure – 1st Three Steps

1. Observe
   a) Watch how the student interacts with other teachers and students.
   b) See how the student interacts with equipment, what they can do, what they like or dislike.

2. Interact
   a) Interact with the students in a ‘low stakes setting’.
   b) During lunch duty or recess, get to know your student.

3. Assess
   a) Evaluate the student’s motor, fitness, or physical activity baseline.
   b) Evaluate IEP goals.
   c) Preference evaluation.
Structure

- Physical structure
- Scheduling/Routine
- Work system
- Visual structure
Physical Structure

• Refers to the predictability of the actual layout or surroundings of a person’s environment.
  • Maintain a ‘home base’ with clearly defined places.
  • Have specific and clearly defined places for particular pieces of equipment or activities in the gymnasium.
    • Yoga mats for warm-up / exercise routines.
  • Use colors or numbers to guide students through the physical space.
Scheduling/ Routines

• A schedule or planner is set up which indicates what students are supposed to do and when it is supposed to happen.

• Consistent routines allow students to understand one’s schedule and expectations.
  • Use the same routine each day when entering/ exiting the gymnasium
  • Do not surprise students with new activities without forewarning.
  • Use a visual schedule that demonstrates what sequence activities will come in.
Work System

• The work system tells the person what is expected of him/her during activities (behavior wise, activity wise), how much is supposed to be accomplished, and what happens after the activity is completed.

• Organized in a way that students have little or no difficulty figuring out what to do.
One Example of a Token Economy

A chosen reinforcer is placed here

Earned tokens are placed into these spaces

I’m working for
Visual Structure

• Visually-based cues regarding organization, clarification, and instructions to assist in understanding what is expected.
  • Physical symbols that represent different activities.
  • A count down timer that tells students when they have completed an activity.
  • Visual ‘stop’ and ‘start’ signals.
Structuring Activities: Example

• Before performing an activity, communicate to students how long the activity will take.
  • Just stating that *this activity will take 2 minutes* will not work.
  • Instead:
    • Use a timer
    • Number of trials (e.g., throw a ball 5 times)
    • Limit the implements to the number of trials (set up 5 balls for 5 trials).
Structuring Activities: Example

• Provide a clear start and stop sign
  • Symbols
  • Signs
  • Whistle
• Use color, number, or name matched equipment for each student.
Structuring Activities: Example

- Instructional Sequences
  - Utilize visuals to communicate instructional sequences, when needed.
A quick aside: Behavior....
Some quick behavior tips

- Set a timer…. When the timer rings students will know the next activity is happening.
- Teach students how to request a break card.
- Speak calmly and factually after a disruption in a class activity.
- Focus on tasks that need to be accomplished, not the behavior.
- Teach the acceptance of others’ difference (to kids without ASD).
More quick tips....

• Minimize inappropriate behavior options
  • Removing objects such as bleachers, equipment bins, or water fountains from eyesight take away options for misbehaviors. Hang a sheet over larger objects to eliminate them from view.
  • Have a clean gym when students enter – Instead of having every implement that students will use throughout a class spread around a gym, wait to bring equipment out until it is needed.
Differentiating Instruction

CREATING LESSONS THAT ARE DEVELOPMENTALLY APPROPRIATE FOR EACH STUDENT IN THE CLASS WHILE ALSO CHALLENGING EACH STUDENT.
WHY DIFFERENTIATED INSTRUCTION?

Classrooms are filled with students who:

- have different needs
- come from different educational backgrounds
- have different attention spans and interests
- have different language abilities
- have different cultural backgrounds
Differentiating Instruction

An Example:

• Ms. Johnson teaches an integrated physical education class which includes three students with autism (one of which, has severe autism).

• In order to appropriately teach this class, she must create activities that challenge the students without disabilities that are also developmentally appropriate for students with severe autism.

• Ms. Johnson may choose from several types of communication techniques or classroom structuring ideas in order to do so.
Differentiating Instruction

• Ms. Johnson may decide to use a video modeling technique to teach a fitness unit. In doing so, she:
  • Has students without disabilities follow a video model for fitness routines.
  • Has students with autism also attempt to follow the video model, however, if they cannot she (or, a paraeducator) can provide 1 to 1 help.
  • One to one help would also then be available for other students, as well.
Differentiating Instruction

- Don’t forget!

Instruction includes communication, teachers must communicate in the appropriate method for the child, not the other way around.
Music

• Can act as a positive reinforcement.
  • For many students, listening to music is a strong motivator.

• Can provide concrete directions for activities
  • Many students enjoy recorded directions (that are predictable) than teacher-led directions.
  • Can help students focus on task.
  • Songs like the Cha Cha Slide or Cupid Shuffle.

BONUS: THESE LINE DANCES GENERALIZE WELL INTO SOCIAL SITUATIONS LIKE WEDDINGS OR SWEET 16s
Resources
Resources

PE Central's Frequently Asked Questions

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Resources

Online Resources

• Autism Society – www.autism-society.org
• Autism Speaks – www.autismspeaks.org
• National Autism Association – www.nationalautismassociation.org
Contact

Justin A. Haegele, PhD, CAPE
Old Dominion University
jhaegele@odu.edu
Twitter → @Justin_Haegele

Thank you