

# Assessing Physical Education Student Learning in All Three Domains

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# Why Assess in Physical Education?

- ✦ Document student learning & instructional quality
  - ✦ In support of physical education programs
  - ✦ Teacher retention
    - ✦ Illinois will use student learning as part of decision-making process for teacher retention starting Fall 2016
- ✦ Improve instruction & student learning
  - ✦ Instruction – Assessment – Curriculum
  - ✦ Assess what you teach
  - ✦ Assessment is more than assigning grades

# Assessment Tools



- ✦ NASPE book series
  - ✦ *PE Metrics* for Elementary (2010) and Secondary (2011)
  - ✦ Assessment Series, K-12 Physical Education
    - ✦ Assessing Motor Skills in Elementary Physical Education (1999)
    - ✦ Assessing Concepts: Secondary Biomechanics (2004)
- ✦ College textbooks
  - ✦ e.g., Morrow et al.; Baumgartner et al.; Safrit & Wood; Tritschler
- ✦ Specialized books
  - ✦ Strand & Wilson. (1993). *Assessing Sports Skills*. Human Kinetics.
  - ✦ McGee & Farrow. (1987). *Test Questions for Physical Education Activities*. Human Kinetics.

# Assessment Tools (cont.)



- ✦ Journal articles
  - ✦ *MPEES*
- ✦ Web sources (e.g., PE Central)
- ✦ Conference handouts / electronic documents
- ✦ Develop your own assessment tools
  - ✦ Modify an existing tool
  - ✦ Create a new tool
    - ✦ Administer the tool to sample students and “test” your new test /tool!

# Why use *PE Metrics*?

- ✦ 1. Assessments are valid and reliable
- ✦ 2. Scores are exchangeable
- ✦ 3. Progression across grade levels
- ✦ 4. Understanding the results
  - ✦ Weblink: <http://iweb.ahperd.org/naspe/pemetrics>
- ✦ 5. Instructional evaluation and policy
  - ✦ Assessments developed to motivate positive instructional and policy change, not penalize students or teachers for low scores

✦ Fisette, et al., (2009). *Strategies*, 35.

# Planning and Assessing



- ✦ Assessments should be aligned with goals/objectives for the lessons presented
  - ✦ Six NASPE national standards
  - ✦ State standards/goals aligned with NASPE standards
    - ✦ e.g., Illinois Learning Standards
- ✦ Develop a curriculum to teach to each standard
  - ✦ Team and individual sport skills, fitness, outdoor adventure, cooperative learning, dance, gymnastics, swimming, weight training, martial arts, etc.

# NASPE

## National Standards

A “physically education person” is one who:

- ✦ 1. demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities.
- ✦ 2. demonstrates understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities.
- ✦ 3. participates regularly in physical activity.

...

# NASPE

## National Standards (cont.)

A “physically education person” is one who:

- ✦ 4. achieves and maintains a health-enhancing level of physical fitness.
- ✦ 5. exhibits responsible personal and social behavior that respects self and others in physical activity settings.
- ✦ 6. values physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

(NASPE, 2004)



# *PE Metrics*

- ✦ Developed by physical education professionals in collaboration w/ administrators and measurement specialists
- ✦ Published by NASPE for two age-levels
  - ✦ *Assessing National Standards 1-6 in Elementary School (2010)*
  - ✦ *Assessing National Standards 1-6 in Secondary School (2011)*
- ✦ Performance-based assessments to assess a variety of psychomotor skills to align with Standard 1
  - ✦ Assesses common activities but may not assess all activities in your curriculum
- ✦ Sample test questions to align with Standards 2-6

# Today's Objectives



Threefold:

- ✦ 1. Provide guidelines /tools to assess Standards 2-6 more authentically than through written test questions
- ✦ 2. Provide guidelines /tools for modifying assessments to fit your unique school situation(s)
- ✦ 3. Provide guidelines /tools to develop your own assessments for Standard 1 for those skills not included in the *PE Metrics* books

# Assessing Standard 2



- ✦ *Develop an understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities.*
- ✦ Evidence to demonstrate Standard 2
  - ✦ Traditional written tests
  - ✦ “Authentic” assessments in which “knowing” is assumed by ability to “do”
- ✦ Assessment examples
  - ✦ Sport Education model for team sports and other activities
  - ✦ Game Play – included in some of rubrics for secondary grades

# Assess Game Play



- ✦ **Offensive Game Play – Invasion Games (e.g., Basketball)**
  
- ✦ **A. Adjusts to Movement of Others**
  - ✦ **Level 3** – Adjusts to movement of other players on offense. Is aware of changes and moves made by an opponent. Anticipates opponent's movements. Weight is forward and on the balls of the feet, making the player ready to move.
  - ✦ **Level 2** – Makes adjustments to movement of other players on offense. Weight is often forward, making the player ready to move.
  - ✦ **Level 1** – Tends to wait to move until after a teammate has completed a shot or play. Slow in reacting to movement of teammates or opponents.

# Game Play (cont.)

## ✦ B. Appropriate Choices

- ✦ **Level 3** – Makes appropriate choices about what to do with the ball. No hesitation or latency is apparent when getting ready to make a play. Decision about how to make the play is based on response from opponent and seems to be automatic. Seems to anticipate opponent's response.
- ✦ **Level 2** – Makes appropriate choices about what to do with the ball. Decision on how to play the ball or projectile is made shortly before the object arrives, making the player appear to scramble at times.
- ✦ **Level 1** – Makes a play on the ball, but it may not be appropriate considering court position, position of the opponent, or game strategy. May have some hesitation or delay in play or shot selection.

# Game Play (cont.)

## ✦ Defensive Game Play

### ✦ A. “On the Ball” Defense

- ✦ **Level 3** – Is in position to guard player to prevent a pass or score. Maintains a position between an opponent and the basket when in control of the ball. If the guarded opponent has the ball, the player is in position to intercept any passes attempted. Maintains a wide base of support to move in any direction, keeping a lowered center of gravity. Usually maintains defensive position, staying with the opponent.
- ✦ **Level 2** – Attempts to cover the player being guarded to prevent a pass or score. When loses position on player being guarded, attempts to regain it.
- ✦ **Level 1** – Is often behind the opponent, unable to intercept a pass or keep player from scoring. May know correct position, but opponent is usually able to move quickly, putting the person guarding the opponent out of position.

# Game Play (cont.)

## ✦ B. “Off the Ball” Defense

- ✦ **Level 3** – Provides defensive help for a player making a play on the ball or moving toward the ball. Support for teammate is apparent and facilitates the play. Teammate is usually able to make intended play because of this support.
- ✦ **Level 2** – Attempts to provide defensive help for a player making a play on the ball or moving toward the ball. Support for teammate is noticeable.
- ✦ **Level 1** – May attempt to provide defensive help for a player making a play on the ball or moving the ball, but actually impedes the play or progress. Positioning is not timely and may be inappropriate.

Modified from Lund & Kirk (2010), pp. 57-58.

# Assessing Standard 3

- ✦ *Participates regularly in physical activity.*
  - ✦ Evidence to demonstrate Standard 3
    - ✦ Participation in before/after school activities.
    - ✦ Intramural participation numbers.
  - ✦ Assessment examples
    - ✦ Use student logs to record activities
      - ✦ e.g., steps walked; distance walked/run; number of different activities completed in a week/month; fitness activities as homework
      - ✦ Develop rubric checklist to assess completeness of entries



# Assessing Standard 4



- ✦ *Achieves and maintains a health-enhancing level of physical fitness.*
- ✦ Evidence to demonstrate Standard 4
  - ✦ Health-related fitness test batteries
  - ✦ Other tests of cardiorespiratory endurance; muscular strength & endurance; muscular flexibility; &/or body composition
- ✦ Assessment examples
  - ✦ Standardized fitness assessments
    - ✦ e.g., President's Council; Physical Best
  - ✦ Normative scores vs. criterion-referenced scores

# Assessing Standard 5



- ✦ *Exhibits responsible personal and social behavior that respects self and others in physical activity settings.*
  - ✦ Evidence to demonstrate Standard 5
    - ✦ Observational data
  - ✦ Assessment example
    - ✦ Rubric for class participation points that reflects class rules and/or teacher's values.

<b>Indicator</b>	<b>Unacceptable (0)</b>	<b>Acceptable (1)</b>
Attendance	Student is absent, arrives 15 or more minutes late to class, and/or is not dressed appropriately for full participation in class activities.	Student is present in class when roll is taken or arrives shortly after and notifies the teacher of his/her presence.
Cooperation	Student is absent from class or is asked to leave class because of inappropriate behavior (e.g., swearing, using racial/cultural/gender slurs, insults, and/or cut downs).	Student is dressed appropriately for full participation in class activities and treats his/her classmates and/or equipment with respect.
Attitude/Hustle	Student is absent from class or participates in some or all class activities at a minimal level.	Student participates in all class activities fully.

# Assessing Standard 6



- ✦ *Values physical activity for health, enjoyment, challenge, self-expression and/or social interaction.*
- ✦ Evidence to demonstrate Standard 6
  - ✦ Verbal and/or written expressions
- ✦ Assessment examples
  - ✦ Journal writing – cooperate with classroom teachers in elementary schools, language arts teachers in middle schools, current events in high schools
  - ✦ Rubric – Checklist for completeness based on meeting/not meeting the criteria of the assessment (e.g., making an entry for the day, minimum length, etc.)

# Assessing Standard 1

- ✦ *Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities.*
  - ✦ But not all sports / PAs are included in the PE Metrics books, so what do you do?
- ✦ OPTIONS...
  - ✦ Modify a PE Metrics assessment tool that is similar!
    - ✦ *“Consider the Standard 1 rubrics to be templates. For example, you could modify the soccer or team handball rubric to assess floor hockey or any other invasion game, because many of the essential criteria are similar” (p. 45)*
  - ✦ Create a new assessment tool!

# Modify Assessment Tools



- ✦ EXAMPLE... Modify **Canoeing Assessment** found in *PE Metrics ... Secondary School (2011)* to create a **Kayaking Assessment!**
  - ✦ Standard 1: Competency in motor skills – NO CHANGE
  - ✦ Performance Indicator: Competency in adventure / outdoor activities – NO CHANGE
  - ✦ Assessment Task: Paddle a ~~canoe~~ **kayak** through a 25 yard course

# Modify Assessments (cont.)

- ✦ Criteria for Competence (Level 3)
  - ✦ Enters and exits ~~canoe~~ **kayak** using appropriate techniques and safety procedures, with no more than one error.
  - ✦ Paddles ~~canoe~~ **kayak** in a straight line, with ~~no more than 1~~ **only a small deviation** in each direction in ~~bow and stern position and on each side that is approximately equal on both sides of the~~ **kayak**.
  - ✦ Makes U-turn around buoy, staying within ~~6~~ **3** feet of the buoy.
  - ✦ Demonstrates 3 of the 4 essential elements for good technique: (a) Proper grip **and orientation of the paddle**; (b) Proper angle of paddle entry; (c) ~~Blade perpendicular to direction of pull~~; **Proper blade depth**; (d) Proper feathering in and out of the water.
  - ✦ ~~Usually coordinates efforts with partner to complete the course.~~ **(Assume a single-person kayak.)**

# Modify Assessments (cont.)



- ✦ Similarly, also modify the following as needed...
  - ✦ Assessment Rubric
  - ✦ Assessment Protocols
  - ✦ Directions for Teachers
    - ✦ Preparations
    - ✦ Safety
    - ✦ Equipment / Materials
  - ✦ Diagram of Space / Distances
  - ✦ Camera Location / Operation



# Develop New Assessments



- ✦ *PE Metrics ... Secondary School (2011)*
  - ✦ Grade 8 assessments (n=12)
    - ✦ archery; badminton; floor hockey; folk dance; pickleball; soccer; softball; team handball; traverse climbing; ultimate frisbee; volleyball
  - ✦ High School assessments (n=11)
    - ✦ basketball; bowling; canoeing; flag football; golf; soccer; swimming; tennis; volleyball; wall climbing; weight training
- ✦ What else do you teach?

# Develop New Assessments (cont.)



- ✦ If no assessment for a sport area that you believe to be similar enough to modify, what do you do?
- ✦ DEVELOP YOUR OWN!!!
  - ✦ ...but don't "re-invent the wheel"
  - ✦ Instead, borrow the basic "template" from *PE Metrics*
    - ✦ *"The examples ...provide templates of good assessments that can serve to guide teachers...in developing additional assessments"* (p.5)
  - ✦ And, draw ideas from existing sport skill and measurement texts!

# Example of Student Project: Swimming Front Crawl

- ✦ Students will be split into 6 groups of 4 students each
- ✦ The 1<sup>st</sup> group will swim 100 yards each (4 laps), while in their own lane
  - ✦ Assess each swimmer while they swim one lap, then focus on next swimmer so that all 4 swimmers in the group have been observed by the time that group finishes their 4 laps
- ✦ Students in groups that are not being evaluated will practice their strokes in unused lanes
- ✦ Once first group has been assessed, the second group will be assessed, continuing until each group has been assessed..
- ✦ This assessment is designed to be a formative assessment

# Swimming Example (cont.)

## ✦ **Body Component: Head**

- ✦ **Level 3:** Head is aligned with the body and facing towards the bottom of the pool. When student's need to breath they rotate the head to the side in a smooth movement and breath in through their mouth in the air pocket that is created, then returning the head back to the starting position
- ✦ **Level 2:** Head stays facing forward and down until swimmer needs to breathe, then they pull the head out of the water using jerky movements instead of rotating it to the side
- ✦ **Level 1:** Head is out of the water the majority of the stroke, also uses very jerky movements

# Swimming Example (cont.)

## ✦ **Body Component: Arms**

- ✦ **Level 3:** Arms move in a rotating pattern entering the water like a paddle and then pushing downward to create movement; elbows are bent at a 90 degree angle when arms exit the water and then enter and extend fully forward, before they are pushing downward again
- ✦ **Level 2:** Arms sometimes move in a rotating pattern but elbows are not being bent properly and swimmers are not extending their arms forward
- ✦ **Level 1:** Arms do not move in a rotating pattern, there is little control and they are moving the arm forward in a sideways motion, like they're sweeping their hand over the water; uses very jerky and stiff movements with little forward progress

# Swimming Example (cont.)

## ✦ **Body Component: Legs**

- ✦ **Level 3:** Legs are close together, using small controlled movements; feet move in a back and forth pattern with toes pointed forward; knees are slightly bend and the majority of the force of the movement is generated by the thighs
- ✦ **Level 2:** Legs are close together, but they are using a smaller back and forth pattern; they are not using the thighs to generate the movement but the knees instead
- ✦ **Level 1:** Legs are spread wide apart, using a very sloppy and large back and forth movement; feet are flat or pointed outward and knees are locked with legs completely straight or knees are bent too much

# “Testing” the New Tool

- ✦ ***VALIDITY... How might you determine whether your new assessment tool accurately assesses the motor skill competence of your students?***
- ✦ Select a group of students who you believe to already possess a high level of skill competence – e.g., members of a sport team – AND also select another group of students who you know to be true “beginners”
- ✦ Videotape and score each group using your tool
- ✦ Compare the “accuracy” of the classifications!
  - ✦ In other words, did the new tool that you developed do a good job of accurately identifying the “experts” (high scores) vs. the “beginners” (low scores)?

# “Testing” the New Tool (cont.)

- ✦ ***RELIABILITY... How might you determine whether your new tool can be used to consistently assess the motor skill competence of your students?***
  - ✦ Videotaping and scoring from the videotape ensures that the student performance is “captured” and will not vary from one day to another
  - ✦ But if you choose to score “live” performances, then you can determine reliability by “testing” the assessment tool on small group of students on two days that are close in time (so no real change in skill level has occurred)
    - ✦ Compare the scores! Are most the same?



# Wrap-Up

- ✦ All six of the NASPE standards for a “physically educated person” should be assessed – including motor, cognitive, and affective student learning!
- ✦ We encourage use of *PE Metrics* – a real “step up” and model of excellence in the field of physical education assessment!
- ✦ ...but if existing assessments are not available, try your hand at modifying / developing new tools that model the approach of *PE Metrics*!
- ✦ ...and please feel free to use the examples of tools included here today!