

The Game Performance Assessment Instrument: Achievements and Challenges

Steve Mitchell

Associate Dean and Professor of Physical Education Pedagogy

College of Education, Health and Human Services

Kent State University, Ohio, USA

smitchel@kent.edu



What was the original need for instrumentation to measure Game Performance?

- **Series of research studies in mid-1990s**

Oslin, J.L., Mitchell, S.A. & Griffin, L.L. (1998). The Game Performance Assessment Instrument (GPAI): Development and preliminary validation. *Journal of Teaching in Physical Education*, 17(2), 231-243.

- **Studies looking at relative effectiveness of tactical versus technical teaching on game playing ability of 6th grade boys and girls in:**

- Soccer
- Basketball
- Volleyball

- **Limitations of existing game performance measures**

Mid-1990s Assessment in Games Teaching

- **Assessment in games teaching has traditionally focused on skill and knowledge performance**
 - Skill tests to measure performance and written tests to measure knowledge.
 - Assumption that results would correlate with game performance.
- **Limitations**
 - Skill tests only measure one aspect of game performance....players are doing much more than executing skills during a game:
 - For example, take a 30-minute game of 6v6 soccer and consider how much contact each outfield player has with the ball.....
 - Written tests do not measure a student's ability to apply their knowledge to benefit performance.
- **So.....we decided we needed a new game performance assessment!!!**

The Game Performance Assessment Instrument (GPAI)

▣ GPAI

- Originally a research instrument
- Evolved into a live assessment tool
- Single assessment tool that can be adapted for different games

▣ A broader definition of game performance, using the following components:

- Base
- Adjustment
- Decision making
- Skill execution
- Support
- Marking
- Cover

GPAI Components

Base	Appropriate return of performer to a recovery (base) position between skill attempts
Decision Making	Making appropriate decisions about what to do with the ball (or projectile) during a game
Skill Execution	Efficient execution of selected skills
Support	Provides appropriate support for a teammate with ball (or projectile) by being in position to receive a pass.
Guard/Mark	Appropriate guarding/marking of an opponent who may or may not have the ball (or projectile)
Cover	Provides appropriate defensive cover, help, backup for a player making a challenge for the ball (or projectile)
Adjust	Movement of performer, either offensively or defensively, as necessitated by the flow of the game

Validation

- **Face validity**

- Undergraduate PE major survey asking about appropriateness and fairness
- Favorability rate of 95%

- **Content validity**

- Consultation with a panel of six teacher/coaches, each with 10-30 years experience
- Revision of component definitions

- **Construct validity**

- Analysis to determine extent to which the GPAI differentiated between students rated high or low in game playing ability (by the teachers)
- Most clear differentiations were in soccer and volleyball

- **Reliability**

- Inter-observer agreement across three research studies
- Coefficients ranging from .84 to .99

Ecological Validity

GPAI is “Authentic Assessment”

- More complete definition of game performance than traditional assessments in games.
- Gives credit for ALL facets of performance which benefits the lower skilled student.
- GPAI is flexible in that teachers can select the components of performance to assess.
- Selected components and performance criteria are based on what has been taught.

GPAI Scoring Systems

- **Tally system (research oriented)**

- Striking/fielding games
- Target games
- Some invasion and net/wall games (e.g. flag football and volleyball)

- **Rubric format (practice oriented)**

- Most invasion games
- Most net/wall games

Tally System Scoring (Softball – fielding peer evaluation)

Class: _____ Evaluator: _____ Team: _____ Game: _____

Observation Dates: (a) _____ (b) _____ (c) _____ (d) _____

Components/Criteria:

- **Skill Execution**--Students fields ball cleanly.
- **Decision Making**—Students make the appropriate play, considering the situation.
- **Base**—Students are in appropriate starting position.

Recording procedures: Use a tally to mark the observed category. Mark each player's responses during the game. If the student you are evaluating fields the ball, be sure to mark whether or not she/he made an appropriate (A) or inappropriate (I) decision and whether the fielding was executed efficiently (E) or inefficiently (I).

Name	Skill Execution	Decision Making	Base
	E I	A I	A I

Rubric/rating scale scoring (Invasion game evaluation)

Class: _____ Evaluator: _____ Team: _____ Game: _____

Observation Dates: (a) _____ (b) _____ (c) _____ (d) _____

Scoring Key: 10 = Very effective performance
8 = Effective performance
6 = Moderately effective performance
4 = Weak performance
2 = Very weak performance

Components/Criteria

1. **Skill Execution**--Students pass the ball accurately, reaching the intended receiver
2. **Decision Making**--Students make appropriate choices when passing (i.e., passing to unguarded teammates to set up a scoring opportunity)
3. **Support**--Students attempt to move into position to receive a pass from teammate (i.e., forward toward the goal)

Name	Skill Execution	Decision Making	Support

Achievements and Challenges

- **Achievements**

- Consideration of game performance as being something more than components that are easily measured
- Broader definition of game performance to include decision making, movement without the ball, and defensive play
- Provides researchers and teachers with a flexible and authentic tool to measure player performance in game situations.

- **Challenges (and solutions)**

- Time and large class size
 - Limit the number of students and game performance components assessed at one time
 - Plan for assessment time in every lesson and assess on an ongoing basis
 - Use peer assessment as formative assessment
- Expertise
 - Limit the scope of the criteria to what has been taught
 - Assess every student more than once to ensure equitable opportunity for success

Thank You!

Steve Mitchell
smitchel@kent.edu



College of Education, Health and Human Services
Offering 25+ (post) graduate programs in the fields of Education,
Health and Human Services
Learn more at [www. https://www.kent.edu/ehhs/graduate-programs](https://www.kent.edu/ehhs/graduate-programs)