Assessment of skill and performance

- assessment of skill and performance
  - characteristics of skilled performers, eg kinaesthetic sense, anticipation, consistency, technique
  - objective and subjective performance measures
  - validity and reliability of tests
  - personal versus prescribed judging criteria
- develop and evaluate objective and subjective performance measures to appraise performance

Validity and reliability of tests

- Validity and reliability are two characteristics that establish the credibility of an assessment.
- If these characteristics are lacking, the results could be inaccurate or misleading.

Validity

- The validity of the test is defined by its ability to measure what it intends to.
- For example, a sit-and-reach test is a valid test of hamstring flexibility. If the sit-and-reach test were used to measure shoulder flexibility, it would be an invalid test.
- While a beep test is a valid measure of cardiorespiratory fitness in a runner, it would be an invalid test of strength.

- http://www.topendsports.com/testing/tests/
- Select 5 different fitness tests:
- What do they actually test?
- What sports would they be a valid assessment for?

Beep test – cardiovascular endurance – 1500m athletics event.

Sit and reach – lower back and hamstring stretch – gymnastics/diving

Vertical Jump – leg muscle power – basketball/afl

Push up test – upper body strength and endurance – kayaking or dragon boating

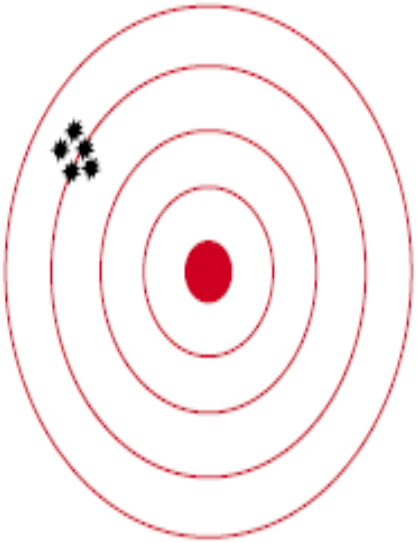
Sit up test – abdominal strength/endurance – gym routine on rings/sports that require strong core muscles (most sports!)

Agility test – running agility – netball, touch football

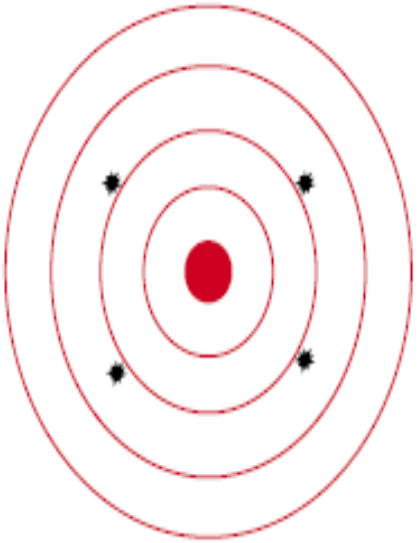
Reliability

- Reliability is a measure of consistency ie Can the test achieve the same result if repeated?
- For example, if the sit-and-reach test is repeated again and again on the same subject, does that person achieve the same or similar results?
- In the case of sporting tests, the variables may include weather, opponents, equipment or even surface. Eg a beep test done on grass may produce different results if done in the gym.
- If the test is to be regarded as reliable, it is important that these variables are controlled.
- For example, if a rowing athlete wanted to test their power output, they would be best to use a rowing ergometer. The ergometer would be set up inside, and variables like temperature, wind resistance and water conditions could thus be controlled.

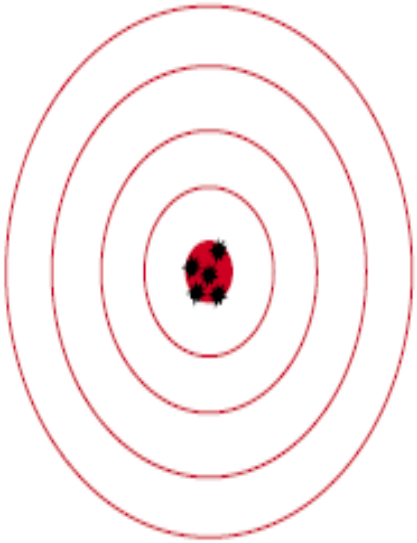
- Tests MUST be valid and reliable.
- Validity refers to how well a test measures the purpose of the test!
- Reliability ensures each time the test is given it is done under the same conditions.



1. Good reliability, poor validity



2. Poor reliability, better validity (on average)



3. Good reliability, good validity

Figure 8.30: Validity has more to do with accuracy, while reliability has more to do with precision.

IMPORTANT!

- A test can be reliable but not valid
- A test can be valid but not reliable
- The aim is to have a test that is BOTH reliable and valid.

1. Define and provide an example of:

(a)Test validity

(b)Test reliability

2. Analyse two physical components necessary to be an international field hockey goalkeeper (or sport of your choice) and outline a skill-related test that would be valid and reliable for each of these components.

(a) Test validity refers to the degree to which the test actually measures what it claims to measure. Test validity is also the extent to which the results, conclusions, and decisions made on the basis of test scores are appropriate and meaningful. A valid test for cardiovascular fitness would be the beep test.

(b) Test reliability refers to the degree to which a test is consistent and stable in measuring what it is intended to measure. In other words, if the test were to be replicated under similar circumstances, would the results be the same or similar? A reliable test would be the 40m sprint test held under the same conditions each time.

2. Component 1: Agility

Agility is the ability to alter direction with speed and accuracy. It is essential for hockey goalkeeper due to the speed of the ball and players and the rapid changes they make. The field hockey goalkeeper must handle these quickly.

The Illinois agility test is both valid and reliable and specifically focuses on the goalkeeper's ability to change direction.

The hexagonal obstacle course test may be even more valid as it is over shorter distances and deals with quicker and more repetitive changes in direction, a common occurrence for hockey goalkeepers.

Component 2: Reaction time

Fast reaction times are essential for field hockey players/goalkeepers.

You can assess the speed of reactions by doing the ruler drop test. A partner holds the top of a metre ruler with the thumb and index finger. As it is dropped the subject reacts and grips the ruler, giving an instant measure of movement time.

Perhaps a better and more valid test for the keeper would involve reacting to a stick hit or flick and actual ball movement, and then recording movement, time, or successful saves in response to each hit.