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Lecture Title

Evaluation - Needs and Techniques

Introduction

Hello and welcome to yet another module on physical education. Today we are talking about assessment and evaluation.

Evaluations determine the value of a particular activity. Instructors should integrate the continuous process of evaluation into the teaching-learning experience. The goal of an evaluation should not be limited to the school setting and the students' experiences. Rather, we should also think of it in terms of a community's progress. Measurements for evaluation provide other valuable services that instructors can use to classify students, determine students' status for grading, and aid in the diagnosis of the students' weaknesses in relation to fitness and skill development.

A renowned guide for educators includes the following three principles:

Students should accept evaluations as an integral part of the teaching process.

Instructors should use evaluations to assist students in achieving terminal competencies (psychomotor, cognitive, and affective).

Instructors should base evaluations on the status of the individual student.

The Office of Instructional Services enumerates achievement standards for the children in elementary school. An individualized, well-executed physical education program should enable a student to:

- Walk 500 yards without stopping.
- Run 30 yards dash in six seconds or less.
- Jump a standing broad jump a distance of approximately their height plus three inches.
- Bounce a ball to 2/4 or 4/4 music count.

Portfolio assessments are evaluations of the learning that happens in a natural setting. They can capitalize on student work, enhance both teacher and student involvement in evaluation,

and satisfy the accountability needed to prompt school reform. Portfolio assessment includes active diaries, attitude inventories, entry level skill test, and teacher/peer rating forms.

Interactive health CD-ROMs allow students and instructors to enter personal fitness data and evaluation results and receive immediate feedbacks and suggestions for improvement.

Central tendency and variability determine where a range of scores cluster on the assessment scale and whether they are all highly localized around one point on the scale, or spread out over a range.

Standard scores and norms allow us to evaluate where assessment results stand in relation to the 'normal' expected achievement level.

Correlations allow us to evaluate the frequency at which two assessment trends appear in conjunction. Note that correlation does not imply causation. Techniques for selecting, constructing, adapting, and implementing formal and informal assessments.

Constructing Assessment standards

Physical educators should construct assessments that evaluate all three domains of physical education: psychomotor, cognitive, and affective. Teachers should divide assessments in the psychomotor domain into two groups: skill-related fitness and sport-specific skills. The physical education teacher can objectively measure skill-related fitness utilizing assessments specifically designed to evaluate each component. Speed, agility, coordination, balance, and reaction time are the components of skill-related fitness. Teachers may choose to use standardized tests developed to assess each of these components. Most of these tests also include normative data. Similarly, many standardized tests are also available as an objective assessment of sport-specific skills. Many of these tests also include normative data.

Teachers should thoroughly evaluate an assessment before choosing to utilize it, as some of the existing tests are quite complicated and burdensome to implement. If a teacher chooses not to use an existing assessment, adaptation of an existing assessment is always an option. To adapt an existing assessment, the physical educator can evaluate the assessment and determine which components of the assessment are responsible to implement and provide a valid assessment of the specified skill. The teacher would delete the remaining components from the assessment prior to implementation. In addition to the option of deleting segments of the existing assessment, the teacher might choose to make general modifications to the overall assessment. The physical educator can measure both skill-related fitness and sport-specific skills subjectively through informal assessments. Examples of informal assessments include student interviews, student self-evaluation, and checklists.

In addition to psychomotor skills, the physical educator also assesses development of the cognitive domain. Evaluation of the cognitive domain which includes formal written assessments. When constructing a written assessment, the physical educator should design the assessment at an age appropriate level, include all written instructions on the test, and arrange similarly formatted questions together. Sample types of written test questions include matching, multiple choice, true-false, fill-in-the-blank, short answer, and essay. When

possible, the physical educator should administer written assessments in a classroom setting, rather than on the gymnasium floor. Assessment of both the psychomotor and cognitive domains will occur at the end of each unit of instruction.

Finally, the physical educator should assess development in the affective domain. Informal assessment of the affective domain might include checklists similar to the informal checklists utilized to assess development in the psychomotor domain. Utilizing these affective checklists clarifies behavioral expectations. Additionally, standardized attitude scales are also available to physical educators. Instructors should measure development in the affective domain at various intervals throughout the school year.

Assessment in the various Domains

The affective domain includes interests, appreciations, attitudes, values, and adjustments inherent in the acquisition of physical activities. To measure in the affective domain, the teacher can observe the student and keep a record of those observations. Alternatively, the instructor can use opinion polls or surveys. To measure the social progress of an individual, use a sociogram. It plots the associations an individual student has with his peers.

The following is a list of appropriate tools for the assessment of affective development.

Social Measures (behavior, leadership, acceptance, and personality/character):

- Harrocks Prosocial Behavior Inventory (HPBI) – measures prosocial play behavior of 5th and 6th graders in recreational play.
- Adams Prosocial Inventory – measures high school students' prosocial behaviors in physical education classes.
- Nelson Leadership Questionnaire – determines leaders as perceived by instructors, coaches, classmates, and teammates.
- Cowell Personal Distance Scale – measures congruity of a student within a group and his/her yearly development.
- Blanchard Behavior Rating Scale – measures student personality and character.

Attitude Measures (predisposition to certain actions):

- McKethan Student Attitude Inventory-Instructional Processes in Secondary Physical Education (SAI-IPSPE) – measures attitudes of students toward instructional processes (e.g. teacher's verbal behavior, nature of activities, patterns of class organization, and regulations and policies in conceptual physical education environment).
- Toulmin Elementary Physical Education Attitude Scale (TEPEAS) – measures attitudes of the physical education program of elementary school students.
- Feelings About Physical Activity – measures commitment to activity.
- Children's Attitudes Toward Physical Activity -Revised (CATPA) – measures significance students place on physical activity.

- Willis Sports Attitudes Inventory - Form C - measures motives of competition in sports (achievement, power, success, avoiding failure).
- Sport Orientation Questionnaire - Form B - measures behaviors of achievement and competition during exercising and sports.
- McMahan Sportsmanship Questionnaire – measures high school students’ attitudes toward sportsmanship.
- Physical Estimation and Attraction Scale – measures motivation and interest.

Self-concept Measures (self-perception):

- Adaptation of Piers-Harris Self-Concept and Scale – measures/estimates student's’ own feelings about their appearance and skill performance abilities.
- Merkley Measure of Actual Physical Self – measures perception of physical self-relating to exercise and activity.
- Nelson-Allen Movement Satisfaction – measures satisfaction of movement.
- Tanner Movement Satisfaction Scale – measures students’ own level of satisfaction/dissatisfaction with their own movement.

Stress and Anxiety Measures:

- Stress Inventory (Miller and Allen) – measures level of stress according to stress indicators.
- Sport Competition Anxiety Tests – measures anxiety toward competition via one’s perception of the competition as threatening or nonthreatening.

Assessment in the Cognitive Domain

1. Standardized Tests – scientifically constructed test with established validity and reliability.
2. Teacher-made Tests – developed personally by the teacher.
3. Essay Tests/Written Assignments – tests the ability to organize information presented logically in written paragraphs.
4. Objective Tests – true/false, multiple choice, matching, diagrams, completion, or short written response.
5. Norm-Referenced Tests – compares individual’s score to the scores of others.
6. Criterion-Referenced Tests – Interpreting a score by comparing it to a predetermined standard.

The development of exercises prescriptions based on assessment results. Physical fitness assessments are an important tool for physical education instructors and students. Instructors must be careful not to overemphasize fitness assessments, as students that score poorly may become discouraged and students that perform well may become complacent. When used correctly, however, the results of fitness assessments are valuable tools in the development of exercise prescriptions. For example, an instructor can use the results of a multi-faceted fitness assessment to determine the fitness strengths and weaknesses of each student and the areas that each student needs to improve.

Simple exercises to improve aerobic endurance include walking, jogging, and bicycling. Exercises to improve muscular strength and endurance include push ups, pull-ups, sit-ups, and weightlifting. Exercises to improve flexibility are stretches for various parts of the body. The exercises that help improve aerobic endurance, muscular strength, and muscular endurance also help improve body composition.

The use of technology for analysis of student fitness and performance

The best sources for identifying current technological resources for accessing information on physical activity and health are the Internet and local district technology workshops. District workshops are an extremely valuable resource in obtaining additional knowledge of how to use technology to obtain more information on each teacher's specific subject matter, including physical education.

Internet resources form an important part of current technology, which helps in accessing information on physical activity and health. There are internet sources, which also enable educators, students, performers, parents, and athletes to stay aware of up-to-date information and programs about physical activity and health.

Numerous websites also exist that allow educators as well as performers to know about the developments in the physical education training systems. Use of technological resources also helps students to grasp more knowledge about physical activity and health-related issues.

Research also shows there are different types of devices that athletes can use to monitor physical activity and health. Such devices include virtual bicycles, rowing machines, and treadmills. Such technology helps plan and implement workouts and view workout results.

Instructors can use technology in a variety of ways to instruct the performers or athletes to improve or learn. We can summarize the use of technology under the following headings:

- Actual use of technology, in which the teacher and the students use the technology in a “hands-on” setting. For example, students use a video or digital camera in physical education to analyze their skills.
- Utilizing technology products, such as the use of products during instruction and learning. Products may include gathering information or resources from the Internet, imaging results for analyzing a motor skill, etc.
- The teacher can use the technology to present information or to provide examples and illustrations. Some of the offered examples currently available in technology mediated instruction as include:

- (1) audio technologies such as: radio, telephone, voice mail, and audio cassettes,
- (2) video technologies such as: television, teleconferencing, compressed videos, and prerecorded video CDs and video thumbdrives,
- (3) and information technologies such as: stand alone work stations, CD ROMs, prepackaged multimedia, e-mail, chat rooms and bulletin boards, and the World Wide Web.

Communication Assessment Results & Conclusion

An important element of a successful physical education program is proper communication of assessment results. Instructors should communicate assessment data differently to students, parents, and school board members.

- Assessment data communicated to students should be encouraging, and should be limited to a textual analysis of the child's progress and effort (it is not helpful or encouraging to remind a child that he is below grade level norms, especially if he has worked hard and made progress). The ultimate purpose of assessment data communicated to a child is to encourage further hard work.
- Assessment data communicated to parents should also be encouraging and should focus on the child's progress and effort. That said, it is also important that a parent receive an accurate picture of the child's status relative to grade level norms, especially if the child is in need of remedial assistance.
- Assessment data communicated to school board members is generally more summative in nature (a letter or number grade). Since school board members will generally see evaluations of entire classes at a time without knowing the individual children, it is not important for them to receive an encouraging picture of an individual child's progress. It is more important for them to see both current achievements level and rates of progress to properly assess curriculum design, lesson planning, and program evaluation.

Now we arrive at the conclusion of this module. So in this episode we have talked about the various assessment techniques in physical education and their importance. I hope this information will be useful to all of you. Thank you so much for watching.