Blending Assessment into Instruction: Practical Applications and Meaningful Results

The standards and benchmarks set forth by the National Association for Sport and Physical Education (NASPE, 1995) and the Surgeon General’s report on physical activity and health (United States Department of Health and Human Services, 1996) have placed authentic assessment at the center of national efforts to improve the processes for demonstrating student learning. These landmark publications also emphasized the importance of making physical activity an integral part of physical education and of daily living. Together, they form an important foundation for physical education professionals in terms of what to assess and how to go about it. Since engagement in physical activity is now identified as an important outcome for students, teachers need to assess their students in ways that measure that behavior. However, traditional assessments, such as scores on isolated fitness tests, provide little information on students’ actual participation in the process of being physically active.

Consequently, physical educators need to develop techniques that will allow them to assess authentically the full range of student engagement and learning during physical education. This article focuses on some procedures that will help them do so.

Assessment and Accountability

According to Doyle (1977, 1986), educational tasks (what students are asked to do) and the accountability with which they are presented (how they are held responsible for completing the task), represent the basic framework of how a class operates. All too often, students in physical education classes, most noticeably in secondary schools, are held accountable only for managerial and social tasks such as attendance, dressing out, and maintaining positive behavior. Because of this focus, any formal assessment done on students in physical education often addresses only these components. Formal assessment on student performance, and the accountability that comes with it, is largely a missing component in physical education. For instance, if a teacher assigns a group of students a task to complete, such as passing a soccer ball with the inside of their foot, it is likely that the students will use the inside of their foot only if there is a strong accountability mechanism (e.g., formal assessment) in place. If absent, the students’ performance is governed by what Siedentop and Tannehill (2000) described as the student-teacher interaction. Through this interaction there exists a negotiation between the students and the teacher that will determine the actual outcome of the originally stated learning task.

Siedentop and Tannehill (2000) have identified four factors that influence a student’s response to a stated task. These factors include (1) the clarity and ambiguity involved with the statement of the task, (2) the risk involved in the completion of the task, (3) the requirements for task completion called task boundaries, and (4) the accountability practices that teachers use to establish and maintain student task engagement. Assessment and grading is an integral portion of this last category, however, assessment and grading in physical education is hardly performed while students are engaged in the content of the lesson.

Engaging Students

Siedentop and Tannehill (2000) pointed out that without accountability, a class is suspended and what actually occurs is attributed solely to the interests of the students. The main accountability system established in classroom settings is the performance-grade exchange. This can be demonstrated by the difference in student behavior on typical days of instruction and days when testing occurs. However, this mechanism is less clearly defined for physical education. In physical education, students rarely produce permanent products (e.g., written exams) as evidence of their subject matter engagement, and physical educators find it extremely difficult to use a performance assessment for subject matter as a means of accountability.

In physical education, students often negotiate tasks during practice by modifying the task. Thus, if physical educators want to better engage students in content, they need to become skilled at employing various informal accountability mechanisms that can ensure sustained and successful engagement in physical education learning tasks. Taking it one step further, to shift the accountability focus to real subject matter learning, teachers also need to become skilled and willing to employ assessment techniques that will allow them the maximum opportunity to hold students formally accountable for what they do in class.
Promising data have emerged from work previously done in this area. The testing of different accountability systems has shown various levels of student performance (Crouch, Ward, & Patrick, 1997; Griffin, Siedentop, & Tannehill, 1998; Patrick, Ward, & Crouch, 1998; Ward, Smith, & Sharp, 1997). Using this evidence as a foundation, it is clear that the presence of various forms of accountability directly influences student performance in physical education.

The Difficulty of Assessment in Physical Education

Along with student accountability, the development of accurate and easy-to-use assessment techniques is another area of concern for physical education teachers. However, there has recently been a more concentrated look into the assessment practices of teachers and those who teach them about assessment (Desrosiers, Genet-Volet, & Godbout, 1997; Veal, Russell, & Brown, 1996; Veal & Taylor, 1995). Assessment experts have developed new ways of more authentically assessing students that rival the traditional pre-test/post-test practices (Abendroth-Smith, Kras, & Strand, 1996; Block, lieberman, & Connor-Kuntz, 1998; Hill & Miller, 1997; Lacy, 1995; Oslin, Mitchell, & Griffin, 1998; Schincariol & Radford, 1998).

Tousignant and Siedentop (1983) have categorized assessment in physical education as both formal and informal. Unfortunately, most of the formal assessment (assessment that influences grades directly) is determined by the previously mentioned events of compliance (e.g., dressing out, tardies, etc.). There is little formal assessment in physical education that targets student performance (Lund, 1993; Matanin & Tannehill, 1994). Furthermore, Zhu (1997) and Greenwood and Maheady (1997) stated that for assessment to be authentic, it must be performed in an ongoing fashion within the setting where skills were intended to be performed. This is often a challenging task due to the nature of the physical education environment (Hastie, Sanders, & Rowland, 1998). For this to take place, physical education teachers must perform these assessments during the application of student learning. This usually occurs in activities that most nearly represent real world tasks, such as game play, dance performances, choreographed routines, or sustained engagement in physical activity. If assessment is not taking place during these events, it becomes more difficult to argue its authentic value. Unfortunately, traditional assessment techniques in physical education were not designed for such events.

Why Formal Assessments?

One of the more promising components of ongoing, inclass assessment is how the actions of a teacher can be the catalyst of change for how students behave during class. Greenwood, Delquardi, and Hall (1984) pointed out that behavior is a result of the interaction between its antecedents (e.g., in a school setting this would include the teacher’s instruction style, class climate, physical arrangement, teacher behaviors, etc.) and its consequences. Unfortunately, most teachers focus on consequences as the means of changing the behavior of students. This is important because consequences may or may not have meaning or influence for all students in a class. Arranging the antecedent conditions is a more controllable means by which teachers can change the behavior of their students.

Having decided to use teachers’ actions, as well as outcome rewards or punishments, as the mechanism for changing student behavior, it is necessary to identify the teacher behaviors known to have influence over students (Lacy, LaTeXMaster, & Tommaney, 1996). It has been shown that formal assessment (an antecedent) and grading (a consequence) have an effect on the performance of students in class (Grehaigne & Godbout, 1998; Grehaigne, Godbout, & Bouthier, 1997; Kleinman, 1997; Matanin & Tannehill, 1994; Siegel, 1997). Other teacher behaviors shown to affect student behavior include teachers’ active supervision patterns, verbal promotion through prompts, encouragement, praise, corrective feedback, and modeling of learning tasks (Rink, 2002; Schuldheisz & van der Mars, 2001; Siedentop & Tannehill, 2000; van der Mars, Vogler, Darst, & Cusimano, 1994, 1998). These behaviors, classified as informal assessments, play a role in influencing student performance. Thus, it stands to reason that the combination of these and formal assessment will strengthen the effect of each.

It has been suggested that the most important evidence of effective teaching, whether beginning or expert, is student learning (Gusthart & Sprigings, 1989). However, Greenwood and Maheady (1997) argued that measurable change in student performance has become a lost benchmark in the development of teachers. That is, although teachers may not be able to implement sophisticated assessment strategies, they should
recognize the need for frequently measuring student performance as the basis for adapting and gauging the impact of their teaching. Also, they can use collected student-assessment data to guide the design and implementation of their curriculum in order to provide students with the most appropriate experiences possible (Sharpe, Spies, Newman, & Spickelmier-Vallin, 1996).

Implementing Ongoing, In-class Assessment

Because many formal assessment practices in physical education fail to prioritize actual student performance, Matanin and Tannehill (1994) suggested the use of ongoing, daily assessment to obtain measures that reliably reflect student performance and learning. Within the field of physical education, assessment is an area of varying difficulty. Classes are bigger than traditional classroom settings, the area covered is more expansive, and unlike written examples of work in an English class, physical education produces few permanent products for teachers to take home and thoroughly assess for quality (at least in the psychomotor domain of learning). With these types of obstacles, what can physical educators do that will allow them to produce a quality assessment routine for students?

Wood (1996) advocated the use of authentic assessment that is woven throughout the instruction process. This suggestion has many potential benefits for the practicing teacher. First, the assessment process becomes an integral dimension of teachers' routines rather than being viewed as an "addon" responsibility. Second, the results of this type of assessment provide teachers with hard evidence of students' performance when engaging in real subject matter. Being able to provide information about actual student performance would enable teachers to minimize the subjective nature of assessment in physical education. Third, this type of assessment might prove to be an excellent mechanism for holding students accountable for performance since it has been shown that assessment and grading influences the performance of students in class (Grehaigne & Godbout, 1998; Grehaigne, Godbout, & Bouthier, 1997; Kleinman, 1997; Matanin & Tannehill, 1994; Siegel, 1997).

Getting Started

The idea of using an ongoing, in-class assessment program can be a daunting one for any teacher. This specific accountability system involves the assessment and recording of student performance based on their engagement in subject matter. When implementing this assessment procedure, there are certain things that must be planned in advanced. The following steps will help anyone interested in employing this beneficial teaching tool (van der Mars, 1989).

* First, identify key components of your curriculum on which you would like to assess your students (e.g., engagement in moderate to vigorous physical activity [MVPA], appropriate skill attempts, positive social interactions). The NASPE (2004) content standards and benchmarks can help guide the selection of desired program outcomes.

* Second, create a clear definition of the behavior that is to be assessed. Definition components need to be observable (all components of the behavior will be measured through teacher observation and thus must be displayed physically or verbally by the students), meaningful (as in step one, the components of the measured behavior need to have credibility in regard to appropriate physical education), and replicable (defined behaviors need to provide students multiple opportunities for trial and error).

* Third, select the most appropriate observation tactic and find an established observation system (e.g., Siedentop & Tannehill [2000], chapter 16) or create one to fit your needs (figures 1 and 2). To determine the most appropriate tactic, one needs to decide whether the behavior is best categorized by its frequency of occurrence (e.g., skill trials) or the duration of its occurrence (e.g., time spent on-task).

* Fourth, establish reliability. Test your assessment tool out in order to gain confidence in its use. Try it multiple times and reflect on the results. Have a colleague try it with you and see how close the two of you were to agreeing on your observation. Give yourself time to work out any kinks and have a clear understanding of your behavioral definitions.
* Fifth, make the observation. Present the information about the assessments to your students and allow them to know how and what you are doing and how it will affect the protocols of the class. Most important, make your students very aware of your chosen definitions. If they know the targets that you are shooting for, it gives them guidance in their performances. Remember to start small. Identify one or two things to assess and choose an observation tool that can be used during your normal instructional procedures.

* Sixth, summarize and interpret the collected information. If accurate, the information that you collect can serve you in many ways. First and foremost, it should provide important information about student performance and allow for assessment and even evaluation of such performance. Furthermore, the information collected might serve to guide your instruction, to evaluate the quality of lessons, and to help in the development of new curriculum items. Also, the hard copy records can serve as references for parents, administrators, and community and aid in the validation of your program.

Using Assessment Tools

Figure 1, an example of event recording (Siedentop & Tannehill, 2000), is a tool that might be used for the assessment of frequent behaviors such as the performance of skill tasks (e.g., spiking a Volleyball, performing an in-step trap in soccer), positive social interactions (e.g., "High 5s"), quick displays of cognitive knowledge (e.g., game-play decisions), or any other behavior that can be assessed with a simple yes/no decision. The yes/no decision is based on established criteria for the task and is assessed by the teacher as students are engaged in any portion of a lesson. Tally marks are made in appropriate columns, and at the end of the lesson or unit, the teacher could use this information for assessment, evaluations, or even grading purposes.

Figure 2, an example of momentary time sampling (van der Mars, Cusimano, & Darst, 1994; Siedentop & Tannehill, 2000), is a tool that might be used for the assessment of long-lasting behaviors, such as engagement in physical activity, highly repetitive skills like swimming or dribbling, or cognitive processes that require lengthy episodes of time. Before instruction, the teacher chooses individual students or groups of students to assess. Using a predetermined signal such as a beeping watch, paced at consistent intervals as a cue, the teacher scans the class on the cue and performs a yes/no decision based on target student(s) performance of the criteria. The time between assessments can be set to a longer period to become accustomed to the procedure and can be adjusted to shorter intervals as the teacher becomes adept in using the technique. This methodology requires practice and a cueing mechanism to perform accurately. In each column, the yes/no decision is made with a quick circle and the information is calculated to best meet the needs of the teacher.

Emerging Technology

The authors of this article recognize the recent emergence of handheld computer technology aimed at helping teachers with assessment (Juniu, 2002). Although the promise of this technology is truly exciting, this article does not address this trend for two primary reasons. First, such technology is not yet widely used by teachers, and second, most of this handheld technology still focuses on bookkeeping procedures such as attendance, dressing out, and point values for testing. The methods described in this article focus on the recording of student behaviors as they occur during the instruction of physical education classes. It is this procedure that will give teachers the most accurate information about how well they are teaching and how much their students are learning.

Conclusion

Assessment serves many purposes in an educational setting. It can provide feedback, drive instructional needs, and evaluate outcomes of both students and programs. If done regularly and performed in an ongoing, in-class fashion, the assessment process can also produce a higher level of appropriate student engagement. This maximizes the students' ability to acquire knowledge and skills in physical education and minimizes the need to motivate students all unit long only to watch them perform well on "testing days." Drawing from this conclusion, we can begin to recognize the benefits of this strategy to the practice of teaching in physical education. Teachers who use assessment that is woven throughout already existing patterns of high quality
instruction will be able to provide meaningful feedback to students, parents, and administrators regarding individual student performances and curricular outcomes. This can be recognized as a critical step toward developing programs that affect students’ learning experiences in positive ways and can be regarded as truly legitimate within the total school experience.