

Using Instructional Rubrics in Physical Education

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Using rubrics to assess learning outcomes has been popular in education for over a decade. Rubrics have been identified as an important tool for assessing student performance, teacher effectiveness, and quality of the programs. Teachers in different subject disciplines have successfully used rubrics to achieve educational goals. For example, English teachers often use rubrics to evaluate students' writing and reading abilities (e.g., Goodrich, 1996; Schirme & Bailey, 2000).

Recently, physical educators have become interested in using rubrics in their teaching. Rubrics have been used for student evaluation and grading in physical education (Mohnsen, 1998) and physical education program assessment (Rink et al., 2002). In fact, there are endless opportunities for physical educators to use rubrics.

An instructional rubric is defined as "a one-or two-page document that describes varying levels of quality, from excellent to poor, for a specific assignment" (Andrade, 2000, p.13). There are different formats of instructional rubrics. For instance, a checklist consists of critical elements of a performance or assignment. A rating scale is a tool used to compare a performance or task with predetermined criteria and give it a numerical rating (e.g., 1, 2, 3, or 4). A typical instructional rubric includes a fixed scale that lists characteristics of a performance or task for each point on the scale.

Using instructional rubrics promotes student learning and improves the quality of teaching. Developing and using instructional rubrics gives physical educators access to valuable information about student performance that cannot be obtained from traditional assessment approaches; and the performance feedback provided to children is more accurate and useful. As a communication tool, rubrics help children understand what they are expected to achieve. Sharing a rubric along with the task helps them stay focused on relevant aspects of the task. Furthermore, rubrics allow the teacher to accurately assess student performance that might otherwise be difficult to measure or score.

Research indicates that physical educators are capable of using rubrics in physical activity and sports settings with minimal training (Williams & Rink, 2003). Once physical educators know how to develop instructional rubrics, they will find them to be quick, convenient, and effective tools.

How to Develop Instructional Rubrics

Instructional rubrics can be developed based on learning objectives, student skill levels, and assignments in all three domains (psychomotor, cognitive, and affective). They can also be individualized and task oriented.

Generally, there are several steps to developing instructional rubrics. Prior to constructing a rubric, it is important to determine the content that will be taught, with content objectives based on state and national standards. The first step in developing a rubric is to identify essential and critical elements of the performance or task. Then, describe performance indicators for each of those elements. This step greatly affects the quality of the rubric. If elements critical to the performance or task cannot be identified, performance assessment will not be successful and accurate. Physical educators must develop a deep understanding of performance characteristics and know not just what a good performance looks like, but what should be assessed. They should also be aware of their students' developmental levels and learning abilities in order to have reasonable expectations for what students can accomplish and the highest levels they may reach.

The second step is to articulate criteria and levels of quality. A clear description clarifies the quality of the performance at different levels. The criteria for each level must be lucid and concise. The performance levels may be listed from low to high or high to low, but there will typically be no more than five levels. If developing a checklist, identify the critical elements; then, define performance levels for each one to eliminate subjectivity in observation and increase consistency.

For the third step, apply the rubric while teaching. Trying the rubric out in a class helps the teacher see whether it will work well. If it becomes evident that the rubric cannot accurately measure student performance, the teacher must identify the flaws and make appropriate modifications.

Those revisions become the fourth step. Think about questions such as these: Are the performance indicators appropriate to the task? Are the criteria for the levels clearly described? Are the criteria proper to the

developmental levels and learning ability of the students? Sometimes, several revisions are needed before the rubric works well.

Teaching specific elements of the rubric is essential to helping students become successful. Prepare them ahead of time for what is expected. This increases the opportunity to understand, practice effectively, and set goals for mastering the content.

Psychomotor Domain

Development of motor skills is a primary objective in physical education, specifically Standard 1 (NASPE, 2004; Rink, 2002). Research indicates that essential motor skills and confidence in physical abilities considerably influence the enjoyment of physical activity among young people (CDC, 2000). In elementary physical education, teachers must spend a great deal of time to help children develop fundamental motor skills. Mastery of the fundamental motor skills builds a strong foundation for children to learn more complex and specialized sport skills later.

Teachers at the elementary level should emphasize qualitative changes within fundamental motor skills and assess those changes over time. The qualitative changes reveal the incremental process of mastering motor skills. Physical education teachers often use two different approaches to assess children's overhand throwing. These approaches reveal different aspects of motor skill development: process and product.

Having children throw a softball for distance is a *product* measure. A weakness related to this approach is that the distance of the throw may not totally be explained by mastery of the skill itself. Other factors, like body height and muscular strength, can also affect the result.

One alternative is to use a rubric to assess qualitative characteristics of the overhand throw. This is a *process* measure. The rubric provides more valuable information regarding mastery of the skill and the movement's quality. From the perspective of helping children develop fundamental motor skills, examination of the qualitative changes is more important and beneficial.

Instructional rubrics that measure qualitative characteristics can also be used to promote the process of developing motor skills over time. A well-constructed rubric helps the teacher identify where children are, in terms of mastery, and what they need to work on next. So, the rubric can be used as a means of instruction and to guide students' goal setting.

Other suggestions to think about when developing and implementing instructional rubrics for fundamental motor skills include the following: Criteria within a rubric should reflect critical elements and focus on main phases of a motor skill. Identify critical elements by thinking about common cues used

Table 1—Instructional Rubric for Assessing Overhand

Criteria	Trials	
	1	2
Side to target	<input type="checkbox"/>	<input type="checkbox"/>
Arm back swing	<input type="checkbox"/>	<input type="checkbox"/>
Step with opposite foot	<input type="checkbox"/>	<input type="checkbox"/>
Follow through	<input type="checkbox"/>	<input type="checkbox"/>

to reinforce aspects of the skill. The critical elements (or cues) determine what to be assessed. For instance, Table 1 shows a checklist that might be used to assess children's overhand throwing.

Design rubrics to accommodate children at different skill levels. There is often a large range of skill levels within a single physical education class. While some children are at a *precontrol* level of fundamental skill development, others may be at the *utilization* level (Graham, Holt/Hale, & Parker, 2004). In order to help every child be successful and have a positive experience, it is recommended that teachers assign students a range of tasks. This might require different rubrics to assess performance for children at different skill levels. Or, the criteria within a single rubric might be modified to accommodate those different difficulty levels for the task.

Rubrics may be used for self and/or peer assessment. Self and peer assessment are widely used in physical education to conserve limited instruction time. When developing such a rubric, consider the children's reading and intellectual ability. The rubric should be simple and easy to use. Teachers need to give students adequate instruction on how to utilize the rubric, so the students will be able to collect reliable information. The rubric in Table 1 can also be used for self and/or peer assessment.

Design rubrics to assess performance in complex settings. At the elementary level, teachers can use rubrics not only to assess motor skill in isolated situations, but also in dynamic situations. For example, assign a task that requires a group of four children to create a gymnastics routine. The routine is to include (a) a starting balance, (b) two different locomotor skills, (c) one rolling movement, and (d) end with a different balance. The rubric to assess such a routine is presented in Table 2 on the next page.

Use rubrics as a resource for providing appropriate feedback. Children need specific and congruent feedback to help them develop motor skills (Rink, 2002). Rubrics help teachers focus on critical elements as they

Table 2—Instructional Rubric for Assessing Gymnastics Routine

Criteria	Rarely (1)	Occasionally (2)	Frequently (3)	Consistently (4)
Demonstrates good forms including starts, balances, and ends				
Movements flow smoothly and show natural transitions between movements				
Included necessary movements (two different locomotor skills and one rolling movement)				
Performs creatively and aesthetically pleasing routine				

give children feedback. This, then, directs students to practice and reinforce pertinent performance criteria.

Consider using video cameras for assessment. With large class sizes, limited instruction time, varying skill levels, and a wide scope of content to be covered and practiced, it is often difficult to accurately assess all students in a reasonable amount of time. Recording children’s movement allows the teacher to come back at a later time and devote more attention to each child’s performance. A comprehensive analysis might even utilize slow motion, freeze frame, rewind, and still shots.

Cognitive Domain

Quality physical education helps children develop a knowledge base relative to physical activity. Cognitive learning is an important part of building physically active lifestyles (NASPE, 2004). More specifically, children at the primary grades should learn movement concepts and principles that can be applied to development of motor skills. They should be able to identify critical elements for fundamental skills and understand the concepts of space, effort, and relationship. Learning about application of critical elements will improve motor performance and identification of principles related to practice and conditioning as they progress to upper grade levels.

Instructional rubrics can also be used along with traditional assessment tools, such as written tests, to assess children’s cognitive understanding. For example, one might use children’s drawings to examine their understanding of movement concepts and principles.

To accurately assess cognitive understanding evident in a drawing, a well-developed instructional rubric can clarify what criteria the teacher should look at (see Table 3).

Ask children to keep a log or journal entries that demonstrates their understanding of motor skill cues, personal experiences in physical education, or physical activity outside school. Then, use an instructional rubric (such as in Table 4) to accurately and fairly evaluate the quality of those entries.

To help children value physical activity, especially at the upper grade levels, there are a variety of assignments that increase children’s awareness of health problems caused by physical inactivity. For instance, homework for children in fourth or fifth grade might require them to interview family members or relatives about their family history relative to heart disease, obesity, and diabetes; then, write a simple report based on that information. A rubric for assessing the reports

Table 3—Instructional Rubric for Children’s Drawing on Movement Concepts

Criteria	Incomplete		Exceptional	
Demonstrates all critical elements of the motor skills	1	2	3	4
Focuses on body parts critical to the motor skills	1	2	3	4
Presents appropriate colors, lines, and textures regarding the theme	1	2	3	4

Table 4—Instructional Rubric for Assessing Children’s Logs or Journals on Experience of Physical Education and Participation in Physical Activity Outside School

Criteria	Never (0%)	Sometimes (1%-49%)	Usually (50%-89%)	Always (90%-100%)
Records the dates and time of physical education class				
Records the dates and time of participating in physical activity outside of school				
Clearly describes cues of the motor skills taught in the classes				
Lists the types of physical activities and amount of the time engaged outside of school				
Describes enjoyment levels of the classes and physical activity participation outside of school				
Provides verification of out of class physical activity (Signature of a supervising adult)				

would indicate the types of knowledge the students are to include.

It is also possible to develop rubrics to assess a combination of psychomotor skills and cognitive decisions. For example, assess skill performance and strategy/tactics in a five-minute modified soccer game. Use a rubric, designed for that purpose, to see if students apply the desired skills and cognitive knowledge in a practical situation.

Affective Domain

The national standards for physical education clearly define that a physically educated person should dem-

onstrate responsible personal and social behaviors in physical activity settings as well as value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction (NASPE, 2004). Physical educators must cultivate children’s positive attitude toward physical education and physical activity and find ways to motivate them to be active both in PE classes and outside of school.

A significant challenge for physical educators is how to accurately assess children’s affective learning. Rubrics seem an obvious choice. A sample rubric for assessing children’s affective learning is presented in Table 5. This rubric emphasizes children’s behaviors in physical education class; however, teachers should be able to assess affective learning comprehensively

Table 5—Instructional Rubric for Comprehensive Assessment of Affective Learning

Criteria	Beginning 1	Developing 2	Focused 3	Exemplary 4
Abides by the rules and decisions made by the teacher				
Uses equipment and space safely and properly				
Plays and cooperates with other children regardless of personal differences (e.g., gender, races, disability)				
Demonstrates actively physical involvement in the practices				
Expresses enjoyment of practice activity				
Interacts with other children in classes				

as well. Hellison (2003) has defined affective behavior in terms of personal and social responsibility. His five levels start with 0 (Irresponsible) and end with 4 (Caring) to help students understand and develop responsible behaviors. Those levels are easily convertible to rubric form.

In short, instructional rubrics promote students' learning and enhance the instructional process in physical education. Physical educators may use rubrics to clarify their expectations of teaching and accurately assess children's performance in different domains. In addition, teachers can design a variety of rubrics to meet their own instructional needs and the overall needs of their students. This increases learning and moves closer to achieving state and national physical education standards.

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