

The Performance Standard of Students' Learning based on Assessment Instruments in Physical Education

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Abstract

The aim of this study was to identify the achievement standard of students' learning performance based on learning assessment instruments for category invasion games in Year 4 Physical Education and compare the performance between urban school students and rural school students. The design of the study is pre-experimental one-shot case study. The study used assessment for learning, assessment as learning and assessment of learning instruments. Teacher assessment and self-assessment methods were used to collect data that measure the achievement standard of students' learning performance in psychomotor, cognitive and affective learning aspects among primary schools students in Hulu Selangor, Malaysia. The study found that the performance standard of students' learning achievement of urban school students and rural school students were at "Good" performance standard for assessment for learning, assessment as learning and assessment of learning. The results also showed that there is no significant difference in the level of students' learning performance standard among urban school students and rural school students in assessment for learning, assessment as learning and assessment of learning. It is concluded that the learning assessment instruments can be used by all teachers and students in assessing the achievement standard of students' learning performance for category invasion games in Physical Education.

Keywords: Physical Education, Learning Assessment, Category Invasion Games

1. Introduction

Malaysia Education Blueprint 2013-2025 has outlined several major changes in terms of students' learning, which includes improving the assessment framework to add items and test higher-order thinking skills, and moving towards the use of standards in School-Based Assessment (Ministry of Education Malaysia, 2012).

School Based Assessment (SBA) is a continuous assessment throughout the process of learning and teaching. The assessment takes into account all aspects of intellectual and personality development of students and it does not focus on performance in tests solely.

Hence, SBA is the catalyst for the consolidation of the national education system in the development of students human capital in order to realize the goal of Primary School Standard Curriculum, Malaysia Education Blueprint and the National Education Philosophy.

2. Literature Review

Assessment for learning is categorized in formative assessment that occurs during the process of learning and teaching with its main focus to improve student learning (Crooks, 2002; Shepard, 2000). Harlen (2000) describes assessment for learning as "*the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there*".

Teachers who implement assessment for learning using assessment activities in the classroom by involve all the students directly and allow them to think deeply to boost motivation and self-confidence (Davies, 2011; Stiggins, 1999). Assessment for learning also refers to all the activities performed by teachers and students to get feedback that aims to modify the learning and teaching (William Lee, Harrison, & Black, 2004). Assessment for learning can provide feedback about learning and teaching for students. Therefore, assessment for learning gives autonomy to students and promotes self-directed learning (Latta, Buck, & Beckenhauer, 2007). Feedback from teachers also can increase the opportunities for students to learn more effectively (William et al., 2004). Hence, the students will be more active in promoting self-improvement through assessments (Atkin, Black, & Coffey, 2001).

Assessment for learning can help improve the quality of students' learning (William et al., 2004). Research has shown that assessment for learning assists in improving students' achievement (Black & William, 1998; Rodriguez, 2004). The teachers who implement assessment for learning using classroom assessment activities involve all the students directly involved and this allows them to think deeply to boost motivation and self-confidence (Davies, 2011; R. J. Stiggins, 1999). With respect to it, Desrosiers, Genet-Volet, and Godbout (1997) reported a significant relationship between the use of formative assessment and instruments. Teachers stated that when formative assessment methods are integrated into learning and teaching, students can share information on assessments performed in or outside the classroom.

Assessment as learning is an aspect of assessment for learning (Earl & Katz, 2006). It is related to how students perform self-adaptation by self-learning. It also explains how students use the feedback related to learning preferences in the classroom. According to Earl and Katz (2006), there are three concepts of assessment as learning, namely: 1) understand the feedback 2) understand the gap in learning 3) review the assessment.

Assessment as learning focuses on students and emphasizes assessment as a meta-cognition (knowledge about self-thinking process) process to students. Assessment as learning comes from the idea that learning is not only a matter of transferring ideas from someone knowledgeable to someone who is not, but is an active process of cognitive restructuring that happens when someone interact with new ideas.

In the process of assessment as learning, students link assessment to learning critically (Earl & Katz, 2006). According to Earl (2013), in assessment as learning, students are actively involved in order to create their understanding of learning concepts or skills, students also learn to become an appraiser who is critical in understanding information, linking it with prior knowledge and using it for learning. This is the monitoring process in meta-cognition; namely, students become proficient in monitoring what they learn, and use whatever they found from

monitoring to make adjustments, adaptations, and also the most important changes in their thinking (Earl, 1998).

Feedback is very important in assessment as learning in which learning achievement will be enhanced when students see the effects of what they have tried, and they also can imagine alternative strategies to understand a concept. When feedback helps to improve understanding and enable them to learn independently, the students will be more likely to be more diligent and active in the assessment process of teaching and learning (Earl, 2012; Earl, 2003; Hopper, 2007).

According to Earl and Katz (2006), although assessment as learning designed involves learning and self-assessment, students cannot solve them without the guidance, instruction and detailed feedback from the teacher. Therefore, students need feedback to help them in developing autonomy and efficiency complex skills. Monitoring and self-regulation skills become routine only when there is constant feedback, practice on the use of skills and effective feedbacks to challenge ideas. Assessment as learning is also able to introduce additional information and create opportunities and space for student self-reflection (Torrance, 2007).

Meanwhile, assessment of learning is also known as summative assessment (Stiggins, 2002). Assessment of learning involves evidences that allow teachers and other community members to review the progress of students and use the assessment information for various purposes. Summative assessment information is used to determine what the students know and how well they meet the curriculum guidelines (Earl, 2003; Stiggins, 2005). Summative assessment aims to provide students' performance summary at a specific time. It is also the dominant assessment in the classroom and occurs after a unit of learning is completed (Earl, 2003; Harlen, 2000). Summative assessment is used to assess the extent of students' performance in a particular time. According to Earl (2003) in summative assessment, students' performance will be recorded using a grading system of letters and numbers and these performance records will be the main basis for the students' report to parents, teachers, students themselves and other parties who need it.

Furthermore, the learning and teaching of Physical Education should be evaluated based on certain procedures and criteria (Collier & O'Sullivan, 1997; Mosston, M., & Ashworth, 2008). This is important in giving feedback on students' achievement and the effectiveness of teaching (Mercier & Doolittle, 2013). Stiggins, (2004) concluded that the evaluation and assessment should be part of the daily activities in learning and teaching. Therefore, in Physical Education context, the simultaneous use evaluation and assessment in learning and teaching increase the effectiveness of learning and teaching process.

Thus, the use of a variety of assessment methods is better to receive feedback on the quality of the implementation of teaching and learning (Earl, 2003). Penney, Brooker, Hay, and Gillespie, (2009) stated that other than curriculum and pedagogy dimensions, assessment is one of the fundamental dimensions in quality Physical Education. Consequently, the learning and teaching of Physical Education should also be assessed continuously from psychomotor, cognitive and affective aspects (Doolittle, 1996; Gallo, 2003; Worrell, Evans, Fletcher, and Kovar, 2002).

In the context of the assessment in Malaysia, referring to the Examination Board Circular No. 1/2014, dated 31 March 2014, (Malaysia Ministry of Education, 2014), the Examination Board has stated that assessment should include assessment for learning, assessment as learning and assessment of learning. Furthermore, the Handbook of School Based Assessment Management (Malaysia Ministry of Education, 2014) recommends and

justifies various assessment instrument methods to be applied in assessing the level of students' achievement. Teachers' observation instruments, self-assessment and peer assessment are among the methods proposed (Ministry of Education, 2014).

Besides, the findings of Matanin and Tannehill, (1994) has addressed the question of Physical Education teachers' perceptions towards the process and the role of teachers in assessment. The results showed that all Physical Education teachers from 11 schools involved in the study agreed that assessment process is important in learning Physical Education and assessment instruments should be systematic and objective.

Therefore, this study introduces learning assessment instrument which consists of three assessment contexts, namely assessment for learning, assessment as learning and assessment of learning. Consequently, the learning assessment instrument used two assessment methods, which are teacher assessment and self-assessment in obtaining data on students' achievement performance standard for formative and summative category for psychomotor, cognitive and affective learning aspects. This learning assessment instrument is used by the Physical Education teachers and primary school Year 4 students. Figure 1 illustrates the framework of learning assessment instrument used in this study.

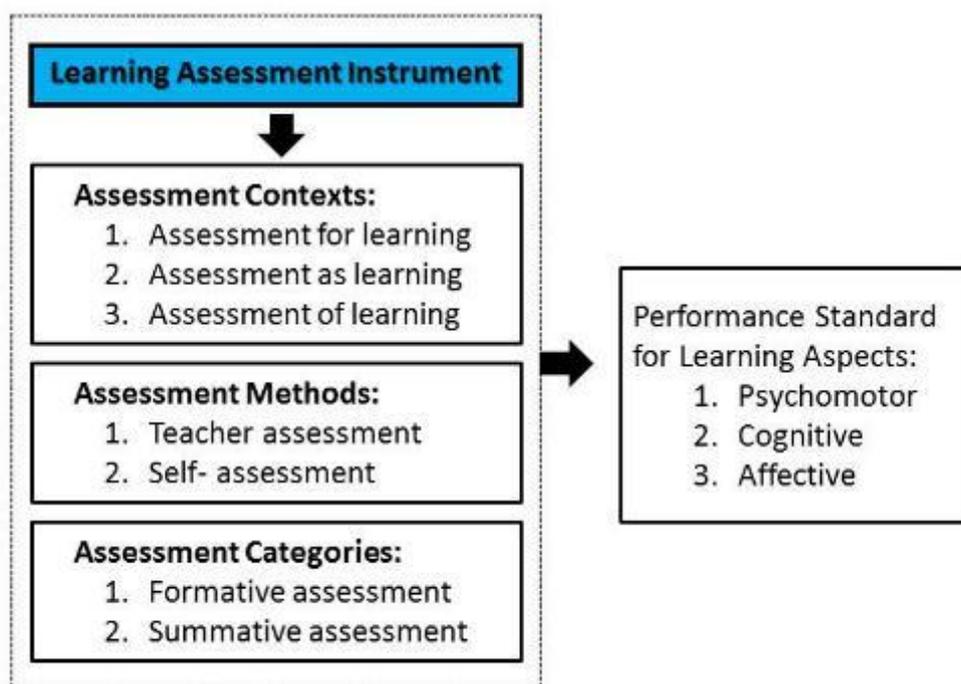


Figure 1. Learning Assessment Instrument

3.0 Methodology

The study design is a pre-experimental one-shot case study. In this study, the groups involved are exposed to a treatment and followed by measurement. The sample of the study includes 18 Physical Education teachers and 544 Year 4 primary school students of 10 schools.

Before using assessment instruments, the researcher held a briefing with teachers who are involved in this study. The teachers are given exposure and procedures for conducting a study using learning assessment instruments for category invasion games. After collecting data of students' assessment scores on the use of learning assessment instruments for the basic skills of the invasion category games in Physical Education, the researcher analyzed the data descriptively and inferentially using Statistical Package for the Social

Sciences (SPSS) version 20.0. Data were analyzed using descriptive statistics measuring instrument that were reported in percentage, mean and standard deviation.

The assessment of data for learning (formative assessment) is obtained by teacher assessment method via observation during small games in the learning and teaching of Physical Education. The assessment of data as learning (formative assessment) is obtained through self-assessment using the self-assessment form that are completed by students before the end of the process of learning and teaching each content standard unit. On the other hand, the assessment of data of learning (summative assessment) is obtained from the assessment of the 25 questions performance test of 2 answers (True or False: A or B). Assessment of learning is implemented after the completion of five-unit content standard teaching for category invasion games as a term test or mid-year examination.

Results and Discussion

Table 1 shows the achievement standard of students' learning performance based on three assessment contexts for invasion category games among the 544 Year 4 students in urban schools (n = 155) and rural schools (n = 389). The analysis of achievement standard of student learning performance based on assessment for learning in overall shows student achievement of urban schools is higher (M = 72.33; SD = 13.91) compared with the mean of rural schools (M = 71.82; SD = 12.60) is at Good performance standard. Next, the analysis based on learning aspect shows that urban school students achieve a higher mean for all three aspects of learning than the mean achievement standard of students' learning performance of rural school students. However, t-test results show no significant difference between the students of the urban school and rural school (mean difference = 0:51; t = 0:41; p > 0.05).

Next, the analysis of achievement standard of students' learning performance based on assessment as learning in overall found the performance standard of student learning achievement in urban school (M = 72.74; SD = 13:58) and rural schools (M = 72.89; SD = 11:34) is at Good performance standard. However, t-test results show no significant difference between the students of the urban school and rural school (mean difference = -0.15, t = -0.13; p > 0.05).

Table 1 also shows the analysis of achievement standard of students' learning performance based on assessment of learning. In overall, urban school students (M = 81.00%; SD = 8.86) are in Excellent standard performance and the mean is higher than the overall mean of rural school students (M = 79.44%; SD = 9.70) which is situated on Good performance standard. However, t-test results show no significant difference between the students of urban school students and rural school students (mean difference = 1.55; t = 1.72; p > 0.05).

Table 1

Achievement Standard of Students' Learning Performance and Independent t-Test Results for Category Invasion Games between Urban Schools and Rural Schools (N = 544)

Learning Aspect	School Category	n	M (%)	SD	Standard Performance	Mean Difference	t	p
Assessment for Learning								
Psychomotor	Urban	155	73.00	15.18	Good			
	Rural	389	71.97	13.88	Good			

Learning Aspect	School Category	n	M (%)	SD	Standard Performance	Mean Difference	t	p
Cognitive	Urban	155	69.42	15.70	Good			
	Rural	389	69.20	13.92	Good			
Affective	Urban	155	74.57	12.31	Good			
	Rural	389	74.34	13.21	Good			
Overall	Urban	155	72.33	13.91	Good	0.51	0.41	0.68
	Rural	389	71.82	12.60	Good			
Assessment as Learning								
Psychomotor	Urban	155	73.12	15.38	Good			
	Rural	389	72.52	13.04	Good			
Cognitive	Urban	155	70.06	14.96	Good			
	Rural	389	70.67	13.09	Good			
Affective	Urban	155	75.03	11.96	Good			
	Rural	389	75.47	12.25	Good			
Overall	Urban	155	72.74	13.58	Good	-0.15	-0.13	0.90
	Rural	389	72.89	11.34	Good			
Assessment of Learning								
Psychomotor	Urban	155	80.97	10.92	Excellent			
	Rural	389	79.64	11.30	Excellent			
Cognitive	Urban	155	80.77	10.78	Excellent			
	Rural	389	80.18	11.80	Excellent			
Affective	Urban	155	81.42	14.43	Excellent			
	Rural	389	78.56	16.18	Good			
Overall	Urban	155	81.00	8.86	Excellent	1.55	1.72	0.08
	Rural	389	79.44	9.70	Good			

Conclusion

Based on the findings, we can conclude that the achievement standard of students' learning performance in psychomotor, cognitive and affective leaning aspects for category invasion games among 544 Year 4 students shows the overall mean of achievement standard of students' learning performance based on assessment for learning and assessment as learning are of "Good" performance standards. In contrast, the analysis of overall mean of the achievement standard of students' learning performance based on the assessment of learning about shows an increase and is at Excellent performance standard.

The independent t-test results found no significant difference between the urban school students and rural school students who use the learning assessment instrument. Therefore, it can be concluded that this learning assessment instrument can be used either by teachers and pupils in urban schools or rural schools for the process of assessing students' performance standards. This is because there is no significant difference between the achievement standard of students' learning performance of urban schools and rural schools. Furthermore, learning assessment instruments is a holistic assessment instrument which includes a variety of assessment contexts, beside measuring students' performance in psychomotor, cognitive and affective leaning aspects. Through this research, learning assessment instrument can be used as an assessment instrument that is more realistic, holistic and can measure students' performance standards in line with school-based assessment requirements as outlined in Malaysia Education Blueprint 2013-2025.

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