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PRELIMINARY STUDY: ASSESSMENT INSTRUMENTS FOR FUNDAMENTAL MOVEMENT SKILLS IN PRIMARY SCHOOL PHYSICAL EDUCATION

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Abstract

Primary school level, the physical education (PE) curriculum emphasizes the importance of fundamental movement skills (FMS) for monitoring and identifying students' abilities, making appropriate assessment essential. The availability of various assessment options for evaluating FMS allows schools to determine their own assessment methods. This article aims to conduct a preliminary qualitative descriptive study on the FMS assessment instruments that have been implemented in PE learning at primary schools. The study employs a qualitative descriptive approach, with data collected through interviews and documentation from PE Teachers. This preliminary study involved three primary schools in Tulungagung Regency as the sample. Data analysis was conducted in three stages: data condensation, data display, and conclusion drawing. The findings of this preliminary study highlight that the assessed FMS include locomotor skills such as running and jumping, while manipulative skills are assessed through volleyball service and underhand passing tests, evaluated by measuring quantity, time speed, and rubrics through practical tests, which are converted into a 100-point scale at the end of each semester. Additional findings revealed obstacles in the assessment process, including time constraints, limited sports facilities, and the lack of full authority for PE teachers to assign final grades. The conclusion of this preliminary study emphasizes the need for standardized, valid, reliable, and practical assessments of FMS. Implementing appropriate assessments enables schools to comprehensively monitor students' physical and motor development.

Keywords: Preliminary Study; Assessment; Fundamental Movement Skills; Physical Education; Primary School

INTRODUCTION

Physical education (PE) play a crucial role in the physical development and health of primary school students (Alexandr et al., 2016; Corbin, 2021). One of the key aspects of physical education is the assessment of fundamental movement skills (FMS), which involves measuring and evaluating children's

motor abilities (Barnett et al., 2016; Platvoet et al., 2018). Effective FMS assessment provides valuable information for teachers and schools in planning effective physical education programs (Lund & Kirk, 2019; Mahardika et al., 2024). Therefore, conducting a preliminary study on FMS assessment in primary schools is essential to understand current practices, challenges faced, and potential improvements.

The importance of FMS assessment lies in its ability to provide a comprehensive overview of students' motor abilities in primary schools, serving as a foundation for designing appropriate learning programs (Haibach-Beach et al., 2018; Pangrazi & Beighle, 2016). Additionally, this assessment allows for the identification of individual strengths and weaknesses in motor skills, enabling teachers and schools to provide targeted support and attention to students in need (Dehn, 2022; Logan et al., 2018). By using effective FMS assessments, teachers can offer valuable feedback to students, helping them identify their strengths and weaknesses, enhance the quality of learning, and establish a foundation for designing appropriate physical education programs in primary schools (Borghouts et al., 2017; Macken et al., 2020; Tolgfors, 2018).

FMS assessment in primary schools can encounter several challenges, such as limited time, restricted resources, and insufficient knowledge about effective assessment methods (Chan et al., 2016; Nobre et al., 2020). Although the assessment of FMS plays a significant role, several obstacles hinder the effectiveness of the assessment process within the context of physical education. Physical education classes often have limited time, making it difficult to provide individual assessments for all students. Time constraints can lead to rushed assessments or even assessments that are not conducted at all (Turner et al., 2017). Effective assessment requires specific tools and equipment, but many schools lack sufficient resources to provide the necessary tools for teachers to carry out comprehensive assessments (C. Dewi et al., 2021; Kroupis et al., 2019). There is also a need for specific skills and knowledge in observation, analysis, and feedback for physical education teachers. Teachers with limited experience and expertise in movement analysis may struggle to implement effective assessment practices (van der Mars et al., 2018). These challenges can affect the effectiveness of movement assessments and ultimately hinder student progress and development.

Overcoming the challenges of implementing movement assessments in physical education requires a comprehensive approach, including improving the quality of resources, dedicating time for assessment within each learning

objective, and providing comprehensive professional development programs for physical education teachers. Preliminary studies will help identify these challenges and seek appropriate solutions. The preliminary study will investigate existing FMS assessment practices commonly used in primary schools (Mohamad et al., 2020). This includes the types of tests used, the frequency of assessment, and the use of assessment results in learning planning.

Effective FMS assessment can provide significant benefits to students. It helps in determining the level of mastery of FMS (Basman, 2019), assists teachers in developing appropriate learning programs (Aktop & Karahan, 2012), offers feedback to students for improving their movement skills (van Rossum et al., 2019), and helps students recognize their strengths and weaknesses in FMS (Kranzler et al., 2016). Additionally, FMS assessment can increase students' motivation to practice these skills (Ng & Button, 2018). Through this preliminary study, various effective methods for assessing FMS will be explored, including standardized tests, direct observation, and the use of technology such as image or video analysis (Endriulaitienė et al., 2022). The results of this preliminary study can serve as a basis for further research on movement assessment in physical education at the primary school level.

METHOD

Study Design

This research is a preliminary study, which is conducted before the main research is carried out. The purpose of the preliminary study is to obtain an initial overview of the issues to be investigated, allowing researchers to determine the most appropriate research methods for the subsequent main study (Privitera & Ahlgrim-Delzell, 2019). Specifically, this preliminary study aims to describe the forms of FMS (FMS) assessment used in PE instruction at the primary school level.

Study Setting and Sample

The preliminary study was conducted in three primary schools located in Tulungagung Regency, East Java Province. These schools are State Primary School 1, 2, and 3, all situated in Rejoagung Village, Kedungwaru District. The study focused on these schools as they represent typical primary schools in the region, allowing for a relevant exploration of the assessment practices in a typical educational context. The study specifically sampled fifth-grade classes

to provide a focused assessment of the practices at this critical educational stage.

Data Collection Procedures

The preliminary study was carried out in several stages, which include preparation, data collection, data analysis, and conclusion drawing.

Preparation Stage

The preparation stage involved the development of data collection instruments, including interview guides and documentation review templates. This stage ensured that all necessary tools were available and tailored to gather relevant data from the schools.

Data Collection

(1) Interviews, Data were collected through semi-structured interviews with PE teachers at each of the three schools. These interviews were designed to explore the current practices in FMS assessment, including the methods and criteria used by teachers, the frequency of assessments, and any challenges they faced during the assessment process. The interviews also aimed to gather insights into the teachers' perceptions of the effectiveness of these assessments and their impact on students' physical development.

(2) Documentation Review, In addition to interviews, a documentation review was conducted to examine the existing assessment instruments and recorded student outcomes. This review focused on both formative and summative assessments used in the fifth-grade classes, providing a comprehensive view of the assessment tools and practices in place. The documentation review also included the analysis of rubrics, checklists, and grading scales used by the teachers.

Data Analysis

The data analysis in this study employed a qualitative approach, which included data condensation, data display, and conclusion drawing (Miles et al., 2014). The analysis was carried out in three main stages:

(1) Data Condensation, During the data condensation stage, the interview transcripts and documentation data were systematically reviewed and coded. The relevant information was identified, sorted, and combined to create a coherent dataset that represents the various aspects of FMS assessment practices in the schools.

(2) Data Display, The condensed data were then organized and presented in a format that highlights key findings and trends. This stage involved

summarizing the information into concise, easily understandable statements that reflect the diversity and commonalities in the assessment practices observed.

(3) Conclusion Drawing, Finally, conclusions were drawn based on the presented data. This stage involved interpreting the findings to identify the forms, variations, and challenges in the implementation of FMS assessment in PE at the primary school level. The conclusions provided a foundation for recommendations and potential improvements for future assessment practices.

Ethical Considerations

The study ensured that all data collection activities adhered to ethical guidelines. Informed consent was obtained from the participating teachers, and all data were anonymized to protect the identity of the participants and the schools involved. By following these detailed procedures, the preliminary study provides a clear and comprehensive understanding of the current FMS assessment practices in primary school PE instruction. The findings from this study are intended to inform the design of the main research and contribute to the development of more effective and standardized assessment methods in the future.

FINDINGS AND DISCUSSION

The preliminary study began by designing interview guidelines and documentation templates to collect data in the field. These instruments were used to gather comprehensive insights into the current practices of FMS assessment in physical education at Rejoagung Primary Schools.

Summary of Interview Findings

The interviews conducted with PE teachers from three primary schools in Rejoagung provided valuable insights into the challenges and practices related to FMS assessment. The key points from these interviews are summarized in Table 1.

Table 1. Summary of Interview Data on the Implementation of FMS Assessment by Three PE Teachers at Rejoagung Primary Schools

No.	School	Interview Findings
1	State Primary School 1 Rejoagung	"*In my opinion, the implementation of FMS assessment in primary school is still limited. The lack of allocated time for assessments makes it difficult for me to provide individual assessments for each student. In addition, I also face resource limitations, such as the lack of necessary tools and equipment for comprehensive assessments. I hope that more time and resources can be dedicated to FMS assessment so that I can provide better feedback to students*." (PE Teacher 1)
2	State Primary School 2 Rejoagung	"*I feel that FMS assessment in primary school is still not standardized. I use different assessment methods in different classes. This makes the results inconsistent and invalid for comparing students' motor skills across the board. Moreover, I face challenges in training. I need more training and support in terms of observation, movement analysis, and providing effective feedback to students. This training would help me improve the quality of FMS assessment in primary school*." (PE Teacher 2)
3	State Primary School 3 Rejoagung	"*I believe that FMS assessment in primary school needs more attention. The heavy emphasis on academic assessment often causes FMS assessment to be overlooked. I need to recognize that motor skills are also an important part of students' development. I hope there will be more awareness and attention towards FMS assessment at the primary school level, so that I can give better attention to students in terms of their motor skills development*." (PE Teacher 3)

The responses from the three PE teachers highlight several key challenges in the implementation of FMS assessment in primary schools. The teachers identified limitations such as insufficient time, lack of resources, and limited authority, which impact the effectiveness of FMS assessment. Furthermore, the teachers emphasized the need for standardization, increased awareness, and greater attention to FMS assessment in primary schools. These findings serve as a foundation for identifying the necessary improvements in FMS assessment practices at this educational level.

Documentation Review and Analysis

To support the interview data, a documentation review was conducted to examine the FMS assessment instruments and student assessment records used in Rejoagung Primary Schools. The findings from this documentation review are summarized in Table 2.

Table 2. Summary of Documentation Data on FMS Assessment in Fifth-Grade Classes at Rejoagung Primary Schools

No.	School	Assessed Materials	Assessment Instruments	Assessment Documentation
1	State Primary School 1 Rejoagung	Short-distance running, middle-distance running, stair climbing, sit-ups, volleyball service, rhythmic gymnastics	Practical tests, group-based assessment rubrics	Time records (seconds and minutes), movement count records, group scores, 1-100 scale scores
2	State Primary School 2 Rejoagung	Long jump, underhand passing, short-distance running, middle-distance running, skipping, sit-ups, volleyball service, rhythmic gymnastics	Practical tests, group-based assessment rubrics	Distance records (meters), time records (seconds and minutes), movement count records, group scores, 1-100 scale scores
3	State Primary School 3 Rejoagung	Underhand volleyball passing, volleyball service, short-distance running, middle-distance running, long jump, sit-ups, shot put, rhythmic gymnastics	Practical tests, group-based assessment rubrics	Distance records (meters), time records, movement count records, group scores, 1-100 scale scores

The documentation review reveals that the FMS assessment in these primary schools encompasses a range of materials and activities, including short- and middle-distance running, stair climbing, sit-ups, volleyball service, rhythmic gymnastics, long jump, underhand volleyball passing, skipping, and shot put. These activities assess various motor skills such as running speed, endurance, muscle strength, coordination, and technical skills in sports like volleyball.

The assessment documentation includes key elements such as distance, time, movement count, group scores, and 1-100 scale scores. These elements are used to measure various aspects, such as the time required to complete tasks, the number of movements performed, and the evaluation of performance in group settings. The three teachers believe that these diverse materials provide a comprehensive overview of students' motor and physical abilities in physical education.

Based on the findings from both interviews and documentation, it is clear that while there are various assessment practices in place, there are significant challenges that need to be addressed. The need for standardized assessments, better resources, and enhanced teacher training are critical for improving the quality and effectiveness of FMS assessments in primary schools. These findings provide a basis for further research and the development of more effective FMS assessment methods that can be implemented consistently across primary schools.

Importance of FMS Assessment in Primary Education

FMS assessment is a crucial tool in PE at the primary school level. These skills represent the foundational motor abilities that enable students to develop more complex motor skills necessary for participation in various physical activities and sports. FMS can be categorized into three primary groups: locomotor skills (such as walking, running, and jumping), manipulative skills (such as throwing and catching), and stability or non-locomotor skills (such as standing and turning) (Mustafa et al., 2024; Ozmun & Gallahue, 2016). Despite the importance of FMS, the preliminary study revealed that not all aspects of these skills are consistently assessed in primary schools. The findings indicated that teachers primarily focused on locomotor and manipulative skills when determining students' final grades in FMS.

Challenges in Implementing FMS Assessment

The use of FMS assessment instruments enables PE teachers to evaluate students' progress in mastering these foundational skills. However, the assessment process is often hindered by several factors, including time constraints, limited facilities, and the lack of full authority granted to PE teachers to assess according to established instruments. These challenges limit the effectiveness of the assessment process and can hinder the identification of areas where students require additional support and improvement (Eather et al., 2018). Consequently, FMS assessment instruments are essential tools for designing educational programs that meet the individual learning needs of students (Barnett et al., 2016). However, practical challenges often arise in school and sports team contexts. For instance, assessment instruments that require direct observation by an expert may not be feasible or practical in many situations (Jaakkola et al., 2016). Therefore, there is a growing need for more practical and efficient assessment instruments that teachers can easily implement.

Cultural and Social Considerations in FMS Assessment

FMS assessment instruments must be adaptable to the cultural and social contexts of different student populations. In some cases, certain skills may be considered more important or relevant in one cultural context than in another. As a result, assessment instruments should be flexible and capable of being modified to suit the specific needs and contexts of individual students or groups (Song et al., 2022). For instance, locomotor skills involve body movements from one place to another, such as running, jumping, crawling, and climbing (Sari, 2019). In contrast, manipulative skills involve controlling objects, such as hitting a ball with a racket, throwing and catching a ball, or kicking a ball (Chen et al., 2016). The preliminary study findings highlighted that only locomotor and manipulative skills were consistently assessed in the FMS evaluation process. Mastery of these skills at an early age is crucial for children's physical development and health, as well as for their success in sports and other physical activities in the future (Bremer & Cairney, 2018). Therefore, accurate and effective assessment of FMS is essential.

Approaches to Assessing Locomotor and Manipulative Skills

Common approaches to assessing locomotor and manipulative skills include direct observation and performance assessment of students in various tasks designed to measure these skills (Dewi et al., 2022; Rey et al., 2020). The preliminary study revealed that existing FMS assessment instruments evaluated students based on time speed, the number of movements performed within a certain time frame, and group assessments using evaluation rubrics. However, challenges persist in ensuring that assessments are conducted consistently and objectively, especially when different teachers apply different standards (Cattuzzo et al., 2016). Furthermore, lengthy FMS assessments can be time-consuming and resource-intensive. To address these challenges, researchers have developed standardized assessment instruments specifically designed to measure locomotor, manipulative, and stability skills (Chen et al., 2021; Valentini et al., 2018). Despite these advancements, limitations within the school environment, including those related to teachers and students, can still impact the successful implementation of these assessment tools.

Criteria for Selecting Effective FMS Assessment Instruments

Selecting the appropriate FMS assessment instruments is crucial for accurately measuring students' motor skills. Several criteria should be considered when choosing these instruments:

(1) **Validity and Reliability**, Assessment instruments must be valid and reliable. Validity refers to the extent to which the instrument measures

what it is intended to measure, while reliability refers to the consistency of the measurement (Nurhidayah et al., 2024; Souza et al., 2017). FMS assessment instruments should have demonstrated validity and reliability through scientific research.

(2) **Practicality**, The assessment instruments must be practical for use in schools, considering factors such as the time required for assessment, the amount of equipment needed, and the level of expertise required to use the instrument effectively (Schuwirth & van der Vleuten, 2018).

(3) **Comprehensiveness**, The instruments should encompass a wide range of FMS, including locomotor skills, object control skills, and stability skills. Instruments that measure only one type of skill may not provide a complete picture of students' FMS abilities (Zhang et al., 2022).

(4) **Age Appropriateness**, The assessment instruments should be appropriate for the age and developmental stage of the students. The tasks and assessment criteria should align with the physical and motor development of primary school students (Setiawan & Sitompul, 2017).

Choosing FMS assessment instruments that meet these criteria can help ensure accurate and effective evaluations of students' motor skills. Additionally, these instruments can support teachers in designing physical education programs that meet students' learning needs and contribute to their overall physical development.

CONCLUSION

The preliminary study on the implementation of FMS assessment in primary schools reveals several key challenges faced by PE teachers. These challenges include time constraints, limited facilities, and insufficient authority, all of which affect the effectiveness of FMS assessment. There is a pressing need for standardized assessments, increased awareness, and greater attention to FMS evaluation. The current PE curriculum primarily assesses locomotor and manipulative (or object control) skills. Teachers' assessment documentation typically includes distance, time records, movement counts, group scores, and final scores on a 1-100 scale. The findings from this preliminary study can serve as a basis for identifying necessary improvements in FMS assessment practices in primary schools and provide an empirical overview of the assessment process as well as students' motor and physical abilities in PE learning.

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