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Movement Profile in Long Jump Learning of Grade X Students at SMK Negeri 1 Singaraja

Ida Bagus Arta Pratihara Nandana[a], Made Agus Wijaya[b], Peby Gunarto[c], I Gede Suwiwa[d], I Made Satyawan[e]
[abcde]Universitas Pendidikan Ganesha, Indonesia

Correspondence: bagus.pratihara@students.undiksha.ac.id
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Abstract
The low level of student's active participation in Physical Education, Sport, and Health (PJOK) learning, particularly in long jump material, indicates that, movement adequacy has not been optimal. This condition is influenced by limited active time and opportunities for movement during the learning process. This study aimed to identify the profile of movement adequacy of tenth-grade students in PJOK learning on long jump material at SMK Negeri 1 Singaraja. This research employed a survey method with a descriptive quantitative approach. The population consisted of all tenth-grade student's, with a sample of 37 student's selected using the simple random sampling technique. Data were collected through direct observation using the Focus Proportion Analysis (FPA) instruments to measure Active Time Allotment (ATA) and Student's Direct Engagement (SDE). The results showed that the average percentage of ATA was 57.35%, while SDE was 43.90%. These findings indicate that the level of student's movement adequacy falls into the sufficient category. This condition is influenced by the implementation of practice activities conducted in turns and the limited facilities and infrastructure, resulting in student's opportunities to actively engage in movement activities not being fully optimal.

Keywords: movement adequacy; physical education; active time allotment; student's direct engagement; long jump

1. Introduction

Education is essential in human life as it serves as the primary means of acquiring knowledge. Through education, individuals develop their potential, gain knowledge, skills, and values, and prepare themselves to face challenges, contribute to societal progress, and continuously improve their quality of life (Ujud et al., 2023). Education is a crucial issue faced by developing countries, including Indonesia, particularly in terms of quantity, effectiveness, efficiency, and relevance (Lukito, 2021). Physical education also plays an important role in developing motor skills, as well as mental and physical health, and social and ethical values (Harahap, 2024). Through systematically designed physical activities, physical education can develop both gross and fine motor skills, as well as improve coordination, balance, flexibility, muscle strength, and endurance. In addition, physical education instills important values such as cooperation, discipline, and sportsmanship. Thus, physical education not only improves physical fitness but also contributes to shaping individuals who are healthy, confident, and resilient (Pandiangan et al., 2024).

Furthermore, physical education encourages students' active involvement in sports and various physical activities, thereby supporting overall physical, social, and emotional well-being (M. et al. (2024), 2024). Moreover, physical education is considered an integral part of the overall education system, focusing on the development of physical fitness, movement skills, critical thinking skills,

emotional stability, social skills, reasoning, and moral actions through physical activities ((Pratiwi & asri, 2024). The level of participation is influenced by internal factors such as interest and self-confidence, as well as external factors such as support from teachers, family, and the school environment. Interactive learning strategies, well-organized sports programs, and engaging games can enhance students' motivation and discipline. Therefore, effective collaboration among teachers, schools, parents, and students is essential to create a positive and meaningful physical education learning experience.

Movement sufficiency is an important indicator to determine whether an individual's level of physical activity meets the minimum requirements for maintaining health and physical fitness. It is defined as the amount and intensity of daily physical activity, particularly moderate to vigorous activities such as sports, active play, or other forms of exercise that can improve physical fitness ((Daarion & Suroto, 2017). In addition to assessing movement sufficiency, it is also important to understand students' fitness levels in participating in physical education classes. The assessment of movement sufficiency is not only based on the duration of activity but also on the quality of movement, the variety of activities, and their suitability to individual needs and abilities (Setiawan et al., 2022).

The long jump is a form of jumping movement in which both legs are brought forward and upward in an effort to keep the body's center of gravity in the air for as long as possible, performed quickly through a take-off using one foot to achieve the maximum possible distance (Fernandho et al., 2022). The main objective of the long jump is to achieve the greatest possible distance through a combination of horizontal speed from the run-up and vertical force from the take-off, resulting in an effective parabolic trajectory (Tanwisastra, et al., 2023). Similarly, the long jump is defined as an athletic event that aims to achieve the maximum distance from take-off to landing. Its execution includes a run-up to build speed, a one-foot take-off from the take-off board, a flight phase, and landing in a sandpit. The main goal is to maximize jump distance through a combination of running speed, take-off power, and good body coordination (Perdana, 2022).

Information and Communication Technology (ICT) enables teachers to deliver learning materials in a more engaging, interactive, and efficient manner. Through the use of videos, animations, and motion simulations, sports techniques can be clearly visualized, making them easier for students to understand and imitate. ICT-based learning media can also diversify teaching methods, improve effectiveness, and align with the characteristics of today's digital generation (Muhammad et al., 2011). This is in line with the TPACK (Technological Pedagogical Content Knowledge) framework, which emphasizes the importance of integrating technology, pedagogy, and content knowledge in physical education learning. TPACK is an essential competency for teachers, encompassing mastery of subject matter, appropriate teaching strategies, and effective use of technology in the learning process (Rosita & Amelia, 2025) .

Previous studies have examined various aspects of physical education learning, particularly related to student participation and physical activity. For instance, Pambudi, et al. (2024) found that learning strategies influence students' active participation in PJOK learning. Similarly, Mumtazza, et al. (2024) emphasized the importance of physical education in increasing students' participation in sports and physical activities. Furthermore, Ramadhan, et al. (2025) highlighted that the implementation of innovative learning methods can improve student engagement in physical education. In addition, studies by Tanwisastra, et al., (2023) and Lukito, (2021) focused on improving long jump learning outcomes through specific instructional approaches.

However, these studies tend to focus either on student participation, learning outcomes, or instructional methods separately, without specifically integrating quantitative indicators such as Student's Active Time Allotment (ATA) and Student's Direct Engagement (SDE) within a particular athletic context. Therefore, the novelty of this study lies in its comprehensive approach to analyzing students' movement sufficiency in long jump learning by simultaneously measuring ATA and SDE.

Thus, an objective assessment is needed to evaluate students' level of movement sufficiency. This study aims to describe the profile of students' movement sufficiency in long jump learning based on two main indicators: the percentage of students' active time during learning (Student's Active Time Allotment) and the level of direct engagement in movement activities (Student's Direct Engagement). Specifically, this study aims to describe the profile of movement sufficiency among Grade X students of SMK Negeri 1 Singaraja.

2. Method

This study employed a descriptive quantitative approach using a survey design to objectively describe the profile of students' movement sufficiency during long jump learning. This approach was chosen because the study focused on presenting empirical data in the form of percentages reflecting students' motor engagement without providing any experimental treatment or intervention. The population of this study consisted of all Grade X students at SMK Negeri 1 Singaraja, totaling 426 students. The sample was determined using a cluster random sampling technique, in which classes were randomly selected to ensure that each class had an equal opportunity to be chosen. Based on this process, Class X ULP A and Class X ULP B were selected as the sample, with a total of 37 students. The data source in this study was students' motor activity during the learning process. The variable examined was movement sufficiency in long jump learning, which was measured using two main indicators: Active Time Allotment (ATA), referring to the proportion of instructional time used for motor activities, and Student's Direct Engagement (SDE), referring to the level of students' direct involvement in movement activities. Data were collected through direct observation using the Focus Proportion Analysis (FPA) instrument, which has been validated by experts. This instrument was developed by the Physical Education research team of the Center for Policy and Innovation, Ministry of National Education. The FPA instrument is used to determine the proportion of active learning time allocation (ATA) and the proportion of students engaged in motor learning activities (SDE) (Pambudi et al., 2024). To enhance data accuracy and minimize observational bias, observations were supported by video documentation during the learning process (Ramadhan et al., 2025). The data collection procedure included preliminary observation to identify learning conditions, determination of observed subjects, recording of the learning process, and systematic video analysis. The recording was conducted continuously to obtain comprehensive data on students' movement activities. The data collection procedure included preliminary observation to identify learning conditions, determination of observed subjects, recording of the learning process, and systematic video analysis. The recording was conducted continuously to obtain comprehensive data on students' movement activities. Data were analyzed using descriptive quantitative techniques. The observational data were processed into percentages of Active Time Allotment (ATA) and Student's Direct Engagement (SDE), which were then interpreted to describe the level of students' movement sufficiency in long jump learning.

Data Collection Techniques
This study employed a descriptive quantitative approach with a survey design. The subjects were tenth-grade students at SMK Negeri 1 Singaraja, with a sample of 37 students selected using simple random sampling. The study was conducted at SMK Negeri 1 Singaraja, Buleleng Regency, Bali Province, chosen based on the suitability of facilities for PJOK learning and observation of students' movement activities.

Data were collected through direct observation of the Physical Education, Sports, and Health (PJOK) learning process, specifically on long jump material. The observation used a Focus Proportion Analysis (FPA) sheet to record students' activities at specific time intervals. The data focused on two indicators: Active Time Allotment (ATA), which measures the proportion of time spent on motor activities, and Student's Direct Engagement (SDE), which measures students' direct involvement in learning activities.

Research Instrument
The instrument used was the Focus Proportion Analysis (FPA) observation sheet, designed to measure students' movement sufficiency through ATA and SDE indicators. The instrument has been developed and validated by experts from the Center for Policy and Innovation, Ministry of National Education. Data collection was supported by video documentation to improve accuracy and reduce observational bias.

Data Analysis Techniques
Data were analyzed using descriptive quantitative techniques. Observational data were converted into percentages to determine the level of movement sufficiency. ATA was calculated by dividing active movement time by total learning time, while SDE was calculated by dividing the number of actively engaged students by the total number of students. The results were categorized into very high, high, moderate, low, and very low levels.

Data Validity
Data validity was ensured through the use of a standardized and validated FPA instrument. Data collection was supported by video recording to allow repeated analysis and reduce bias. Triangulation between direct observation and video analysis was conducted to ensure data consistency and accuracy.

3. Result

Based on observations conducted during Physical Education, Sports, and Health (PJOK) learning on long jump material at SMK Negeri 1 Singaraja, an empirical overview of students' movement adequacy was obtained using two indicators: Active Time Allotment (ATA) and Student's Direct Engagement (SDE). The study was carried out over two meetings, involving Class X ULP A with a total of 37 students, of whom 35 actively participated during data collection. The collected data were analyzed to determine the proportion of active movement time and the level of students' direct engagement. The findings provide an objective description of students' movement adequacy and serve as a basis for evaluating the effectiveness of PJOK learning, particularly in enhancing student participation and engagement.

$$\textit{Active Time Allotment} = \left(\frac{25}{73} x100\%\right) = 34{,}70\ \%$$

Based on the calculation results, the Active Time Allotment (ATA) value of 34.70% indicates that the time allocated for students' movement activities was still not optimal. This suggests that the learning process was not yet fully focused on practical activities, as a considerable portion of the time was still used for explaining the material, organizing the class, and other non-movement activities. Although it falls into the moderate category, time management has not been maximized in positioning physical activity as the main focus of Physical Education learning. During the first meeting, students had actually been engaged in movement activities; however, the distribution of time still needs to be improved in order to increase the intensity of movement engagement and achieve the learning objectives more effectively. The results of the observation analysis showed that the percentage of Active Time Allotment (ATA) reached 83,63%, indicating that the majority of instructional time was allocated to students' movement activities. This suggests that the teacher's allocation of time for practice was categorized as good, as a dominant proportion of the lesson duration was devoted to physical activity. Furthermore, the observation results in Class X ULP A showed that student attendance in the first meeting was 35 out of 37 students, while in the second meeting it was 16 out of 37 students. These data were obtained through video documentation, which was used to analyze the proportion of Active Time Allotment as well as the level of students' engagement during the learning process.

$$\textit{Active Time Allotment} = \left(\frac{46}{55} x100\%\right) = 83{,}63\%$$

Based on the analysis results, a total of 46 out of 55 learning episodes were categorized as focused activities, resulting in an Active Time Allotment (ATA) percentage of 83.63%. This high percentage indicates that the majority of instructional time was effectively allocated to movement activities. However, the implementation of the post-test led to a division of time between evaluation and practical activities, although all students were still provided with opportunities to engage in movement throughout the learning process. Overall, the teacher was able to manage instructional time effectively by minimizing waiting time and maximizing students' opportunities to practice. The learning activities were dominated by practical exercises, conducted both individually and in rotation across several stations, allowing movement opportunities to be distributed evenly. Systematic classroom management, from explanation to practice, also supported smooth transitions and minimized time loss. However, a high Active Time Allotment (ATA) value does not necessarily reflect students' direct engagement. Therefore, the analysis of Student's Direct Engagement (SDE) is needed to measure the level of students' active participation in the learning process and to complement the evaluation of the overall effectiveness of PJOK instruction.

$$\textit{Student's Direct Engagement} = \left(\frac{(298/25)}{35} x100\%\right) = 34{,}9\%$$

Based on the calculation results, the Student's Direct Engagement score in the first meeting was 34.9%. This figure indicates that, out of the total number of students, the proportion who were directly involved in physical activity at a given time was still relatively low. This percentage was influenced by the rotational learning system as well as limitations in facilities and infrastructure. The percentage of Student's Direct Engagement in the second meeting is presented as follows:

$$\textit{Student's Direct Engagement} = \left(\frac{(383/44)}{16} x100\%\right) = 54{,}42\ \%$$

Student's Direct Engagement in the second meeting was 54.42% and was categorized as moderate, indicating that students' direct involvement in movement activities was fairly good. There were 46 learning episodes, with the number of students actively engaged in each episode showing improvement, although participation was still not fully evenly distributed. This condition indicates that the learning process was fairly effective; however, it still requires improvements in instructional strategies, such as organizing smaller groups and managing the rotation system more optimally, so that movement opportunities can be distributed more evenly. However, the observation results also showed that some students experienced difficulties when performing the long jump, particularly due to fear and lack of confidence, which led to delays in participation. This is common in long jump learning, as it requires coordination, courage, and technical understanding. The teacher addressed these issues by providing guidance, motivation, and close supervision. Effective class organization, group management, and safety monitoring reflect the teacher's strong managerial competence in conducting practical lessons. These findings emphasize that high Active Time Allotment does not necessarily guarantee high Student's Direct Engagement. Therefore, both indicators must be considered simultaneously to evaluate the effectiveness of Physical Education learning. To improve students' movement sufficiency, it is necessary to implement more effective instructional strategies, such as organizing smaller groups, applying station-based learning, and optimizing the rotation system to ensure more equitable participation.

Summary of Student Learning Results

The findings indicate that students' learning outcomes in long jump instruction can be viewed from *Active Time Allotment* (ATA) and *Student's Direct Engagement* (SDE), where ATA reached 34.70% in the first meeting, which was categorized as less optimal, and increased to 83.63% in the second meeting, which fell into the very good category, indicating that students had much more optimal opportunities for physical activity in the second meeting. Meanwhile, SDE, which was initially 34.9% in the first meeting and categorized as low, increased to 54.42% in the second meeting, which fell into the moderate category, indicating that students' direct involvement in movement activities improved, although it was not yet evenly distributed. This condition reflects that there are still limitations in simultaneous participation influenced by the rotational learning system, the large number of students, and limited facilities and infrastructure. Overall, although the allocation of movement activity time has improved significantly, students' direct engagement still needs to be optimized through more effective instructional strategies.

4. Discussion

The findings of this study indicate that the effectiveness of Physical Education learning, particularly in long jump instruction, is not solely determined by active time allocation but also by the level of students' direct engagement. The improvement in Active Time Allotment (ATA) reflects better instructional time management, which is in line with the concept that effective time management plays an important role in supporting students' activities and learning outcomes (Daarion, 2017; Setiawan et al., 2022; Bile et al., 2021). However, student engagement has not yet been evenly distributed, indicating that the increase in active time has not been fully accompanied by an improvement in the quality of participation. Active engagement is an important indicator in Physical Education learning as it reflects students' participation physically, cognitively, and socially (Wijaya & Kanca, 2018).

This condition is influenced by several factors, including the rotational practice system, the relatively large number of students, and limited facilities and infrastructure, which lead to longer waiting times and reduced activity intensity. These findings are consistent with previous studies indicating that limited facilities and less effective instructional strategies can reduce student engagement, while game-based approaches and modifications of learning media have been shown to increase participation (Hidayat et al., 2025; Sari et al., 2020). In addition, psychological factors such as lack of self-confidence also affect students' participation.

Overall, this study emphasizes that improving the quality of Physical Education learning requires not only effective time management but also instructional strategies that promote equitable student engagement. Therefore, the implementation of small-group organization, station-based learning, and effective rotation management is recommended to optimize movement adequacy and improve students' learning outcomes.

5. Conclusion and Recommendation

Based on the results of the study conducted in Physical Education (PJOK) long jump lessons at SMK Negeri 1 Singaraja, it can be concluded that students' movement adequacy was generally in the moderate category. This was indicated by an Active Time Allotment (ATA) value of 57.35%, suggesting that the use of movement activity time was fairly good and effective. Meanwhile, the Student's Direct Engagement (SDE) value of 43.90% showed that students' direct involvement was still in the moderate category and not yet optimal, as practice was conducted on a rotational basis and influenced by factors such as students' courage and self-confidence. Overall, the learning process was carried out with good classroom management and created a conducive learning environment; however, further optimization of instructional strategies is needed to ensure more even and maximal student engagement.

Therefore, it is recommended that teachers implement more effective learning strategies, such as organizing smaller groups, applying station-based learning models, and optimizing the rotation system to increase students' opportunities for active participation. In addition, improving the availability of facilities and providing continuous motivation can help enhance students' confidence and engagement in movement activities. Future research is also suggested to explore alternative instructional approaches that can further improve students' movement adequacy in physical education learning.

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