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Student Learning Motivation in Adaptive Physical Education through Small Game Activities

Ricky Almeda[1], H Heidari Nik[2], Mohamed Sifi[3]
[1]Department Physical Sport Sciences Education, Faculty of Teacher Training and Education, Widya Husada Health Sciences College, Medan, Indonesia
[2]Dapartment Sport Injury And Corrective Exercises, Social Sciences, University of Tehran, Iran
[3]Dapartment Physical Education and Sport Science, Social Science, Université Abdelhamid Ibn Badis Mostaganem, Badis, Algeria

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ABSTRACT

Purpose of the study: This study aims to determine and describe the level of students' learning motivation in adaptive physical education through small-sided games among Outstanding Junior High School.

Methodology: This study employed a descriptive quantitative method with a survey approach. Data were collected using questionnaires, observation, interviews, and documentation. The instrument was tested using Pearson Product Moment for validity and Cronbach's Alpha for reliability. The sample consisted of 23 students selected through total sampling, and data were analyzed using percentage descriptive statistics.

Main Findings: The results indicate that students' learning motivation is in the high category, with intrinsic motivation being more dominant than extrinsic motivation. Students showed positive responses in physiological, safety, and self-actualization needs, as well as social interaction and appreciation. Small-sided games effectively promote active participation, enjoyment, and engagement in adaptive physical education learning.

Novelty/Originality of this study: This study provides empirical quantitative data on learning motivation in adaptive physical education through small-sided games at the Outstanding Junior High School level, which is rarely explored. It integrates intrinsic and extrinsic motivational dimensions in a comprehensive framework, offering a holistic understanding of student motivation in special education contexts.

Corresponding Author:
Ricky Almeda,
Department of Science and Education, Faculty of Science and Education, Chulalongkorn University,
Pancing Road, Nort Sumatera, Medan, 20221, Indonesia
Email: rickyakmeda@gmail.com

1. INTRODUCTION

Play is a fundamental activity in child development, playing a crucial role in the learning process and fostering intrinsic motivation. Research shows that play activities can simultaneously enhance students' cognitive, affective, and psychomotor engagement [1]-[3]. Other studies confirm that educational games provide a space for exploration that fosters students' curiosity and self-regulation in learning [4] .In the context of physical education, small games have proven effective as a fun and meaningful learning medium [5] . Therefore, utilizing play activities provides a foundation for understanding student learning motivation in physical education.

Learning motivation is a key factor determining student success in physical education learning. Motivation theory suggests that a fun and tailored learning environment can significantly increase intrinsic motivation [6] . Empirical research in physical education shows that a game-based approach can increase student motivation, participation, and self-confidence [7] .National studies also report that learning motivation directly contributes to students' desire to participate in physical activities [8].However, studies of learning motivation in the context of adaptive physical education are still relatively limited.

Adaptive cultural education plays a strategic role in developing the physical and social potential of children with special needs. International research confirms that adaptive physical education can improve motor skills, social interactions, and the psychological well-being of students with special needs [9]. Other studies suggest that the success of adaptive physical education is significantly influenced by learning strategies tailored to the characteristics of students' disabilities [10]. In Indonesia, adaptive physical education is seen as an important tool for building independence and social participation in special needs students [11]. This situation highlights the importance of assessing learning approaches that can enhance the learning motivation of students with special needs.

Small-scale play activities in adaptive physical education are seen as a potential strategy to increase the learning motivation of students with special needs. Research shows that small-scale play is more flexible, easily modified, and appropriate to the physical and sensory limitations of students with special needs [12]. Other studies report that small-scale play can create a safe, inclusive, and participatory learning environment [13]. National research also shows that small-scale play has a positive impact on the enthusiasm and motivation of students with special needs [14]. However, empirical data based on surveys of students' learning motivation is still very limited.

Manunggal Slawi Special School in Tegal Regency is an educational institution that provides adaptive physical education for students with special needs at the junior high school level. Several studies emphasize that the school context and student characteristics significantly influence the effectiveness of physical education learning [15]. Other research shows that the learning motivation of students with special needs extraordinary school is influenced by teaching methods, the availability of facilities, and the competence of adaptive physical education teachers [16]. National studies on SLB also highlight the need for data-based learning evaluations of student motivation as a basis for program development [17]. However, to date, there has been little research specifically examining the learning motivation of Outstanding Junior High School students through small-scale play activities.

This research gap is evident in the limited number of survey studies on learning motivation in adaptive physical education that focus on small-scale play at the Outstanding Junior High School level. Most previous research has focused on motor learning outcomes and physical fitness aspects [18]. Other research is still qualitative and does not provide a quantitative overview of the level of learning motivation of Extraordinary school students [19]. In Indonesia, studies on learning motivation in adaptive physical education are still dominated by the context of general and inclusive schools [20]. Therefore, a survey study is needed that specifically examines the learning motivation of Outstanding Junior High School students in participating in physical education through small games.

The novelty of this study lies in its use of a quantitative descriptive approach to specifically examine the level of learning motivation among Outstanding Junior High School students in adaptive physical education through small-sided games, an area that has received limited empirical attention. Unlike previous studies that primarily focused on motor learning outcomes and physical fitness or relied on qualitative methods, this study provides measurable data on both intrinsic and extrinsic motivation [21]. Furthermore, it integrates multiple motivational dimensions physiological needs, safety, self-actualization, social needs, and appreciation within a comprehensive analytical framework, offering a more holistic understanding of students' learning motivation. By concentrating on the Outstanding Junior High School context, this study also addresses a significant gap in the Indonesian literature, which has largely been dominated by research conducted in general and inclusive school settings [22].

The implications of this study extend to both theoretical and practical domains in the development of adaptive physical education. Theoretically, the findings reinforce the concept that small-sided games are an effective instructional strategy for enhancing students' learning motivation in a holistic manner, encompassing physical, psychological, and social aspects. Practically, the results provide valuable insights for teachers to design more innovative, adaptive, and student-centered learning experiences by utilizing small-sided games as a primary instructional medium. In addition, this study can serve as a reference for policymakers in developing curricula and programs in adaptive physical education that are more responsive to the needs of Outstanding Junior High School students. Moreover, the findings open opportunities for future research to develop and evaluate game-based learning models integrated with continuous assessment of student motivation [23].

Based on the above description, this study is urgently needed to provide empirical data on the learning motivation of Outstanding Junior High School students in adaptive physical education. The novelty of this study lies in its focus on studying learning motivation through small-scale game activities in the Outstanding Junior High School context, which is still rarely researched, especially in Tegal Regency. Similar research at the international

level emphasizes the importance of motivation data as a basis for curriculum improvement and adaptive learning strategies [24]. National studies also recommend motivation surveys as a basis for adaptive physical education policymaking [25].

2. RESEARCH METHOD

2.1 Research Design

This study employed a descriptive quantitative research design with a survey approach to describe the level of students' [26] learning motivation in adaptive physical education through small-sided games. Descriptive quantitative approach was selected because the study did not aim to examine causal relationships or provide experimental treatment, but rather to obtain an objective description of students' motivational conditions based on empirical data. The data were collected directly from respondents and analyzed numerically to allow systematic and measurable interpretation. This approach is considered appropriate in adaptive physical education research to comprehensively understand the motivational characteristics of students with special needs.

2.2 Population and Sample

The population of this study consisted of all students with hearing impairments (Category B) at the Outstanding Junior High School level, totaling 23 students. The sampling technique used in this study was total sampling, meaning that all members of the population were involved as research participants. Therefore, the sample consisted of 23 students with hearing impairments (Category B) at the Outstanding Junior High School level.

2.3 Data Collection Techniques

Data collection in this study was conducted through questionnaires, observation, interviews, and documentation [27]. The questionnaire served as the primary instrument to measure students' learning motivation in participating in adaptive physical education through small-sided games. The questionnaire was designed using closed-ended statements with a Likert scale adjusted to the characteristics and abilities of students with special needs. Observation was carried out directly during the learning process to obtain supporting data regarding students' participation, responses, and engagement in physical education activities. Interviews were conducted with both students and teachers to strengthen the questionnaire findings and explore participants' perceptions and experiences related to the implementation of adaptive physical education through small-sided games. Documentation techniques were used to collect additional supporting data, including school records, photographs, and other relevant documents related to the learning process [28].

The questionnaire instrument was developed based on intrinsic and extrinsic motivational components. Intrinsic motivation included physiological needs, safety needs, and self-actualization needs, while extrinsic motivation covered social needs and appreciation needs. The indicators included maintaining physical health, improving fitness, reducing fatigue, avoiding illness, increasing enjoyment, developing discipline, building self-confidence, improving social interaction, cooperation, and achievement orientation.

2.4 Instrument Validity and Reliability

The research instrument was tested for validity and reliability prior to data collection [29]. The validity test was conducted using the Pearson Product Moment correlation technique involving 15 respondents outside the research sample. An item was considered valid if the calculated correlation coefficient (r-count) was higher than the r-table value at a significance level of 5%. Reliability testing was conducted using Cronbach's Alpha formula to determine the consistency of the instrument. The instrument was categorized as reliable when the reliability coefficient exceeded the minimum reliability criteria. The validity and reliability tests ensured that the questionnaire was appropriate and consistent for measuring students' learning motivation.

Tabel 1. Research Instrument Grid of Students' Learning Motivation in Adaptive Physical Education through Small-Sided Games

Variable	Motivation Component	Indicators	Item Number	Total Items
Students' Learning Motivation in Adaptive Physical Education through Small-Sided Games	Intrinsic Motivation – Physiological Needs	Maintaining body health	1	1
	Intrinsic Motivation – Safety Needs	Improving physical fitness	2	1
		Reducing fatigue	3	1
		Avoiding illness	4	1

Variable	Motivation Component	Indicators	Item Number	Total Items
		Creating feelings of enjoyment and comfort	5–6	2
	Intrinsic Motivation – Self-Actualization Needs	Developing discipline	7	1
		Building self-confidence	8	1
		Developing personal potential	9	1
	Extrinsic Motivation – Social Needs	Increasing friendships	10	1
		Improving interaction with teachers	11	1
		Enhancing cooperation among peers	12	1
	Extrinsic Motivation – Appreciation Needs	Achieving good performance	13	1
		Obtaining additional academic scores	14	1
		Becoming an athlete	15	1

The questionnaire items were arranged systematically to measure both intrinsic and extrinsic dimensions of students' learning motivation. Each indicator reflected motivational aspects relevant to adaptive physical education and the implementation of small-sided games for students with special needs [30].

2.5 Data Analysis Technique

The data obtained from the questionnaires were analyzed using descriptive quantitative analysis techniques. Students' motivation scores were calculated, classified, and converted into percentages to determine the overall level of learning motivation as well as the level within each motivational indicator [31]. The results were then presented in tables and percentage forms to facilitate interpretation and understanding of the findings. Data obtained from observations, interviews, and documentation were used as supporting qualitative information to strengthen and explain the quantitative findings. All findings were interpreted descriptively to provide a comprehensive overview of students' learning motivation in adaptive physical education through small-sided games.

2.6 Research Procedure

The research procedure was conducted systematically through several stages. The first stage was the preliminary stage, which included preparing the research design, determining the research location, obtaining research permission, conducting preliminary observations, selecting participants, and preparing research instruments and supporting materials. The second stage was the fieldwork stage, where the researcher conducted direct observations during adaptive physical education learning activities, distributed questionnaires to students, conducted interviews with participants and teachers, and collected documentation data. The final stage involved data checking, coding, tabulation, analysis, interpretation, and reporting of the research findings. All collected data were carefully reviewed to ensure completeness and accuracy before being processed and analyzed according to the established research procedures.

3. RESULTS AND DISCUSSION

Based on data collected through questionnaires distributed to 23 exceptional junior high school students, the findings indicate the level of students' learning motivation in participating in adaptive physical education through mini-games. Data were analyzed using descriptive quantitative techniques in the form of percentages across all intrinsic and extrinsic motivation indicators. Overall, the results indicate that students' learning motivation is in the high category. Most students gave positive responses in the "agree" and "strongly agree" categories for almost all questionnaire items, indicating that mini-games create a fun and supportive learning environment for students with special needs.

3.1. Intrinsic Motivation

Intrinsic motivation in this study consisted of physiological needs, safety needs, and self-actualization needs. The findings showed that intrinsic motivation was more dominant than extrinsic motivation, indicating that

students participated in adaptive physical education activities primarily because of internal encouragement, enjoyment, and personal satisfaction rather than external rewards.

The physiological needs indicator demonstrated high student responses related to maintaining body health, improving physical fitness, and reducing fatigue. Most students perceived that participating in small-sided games helped them feel healthier, more active, and physically refreshed. These findings indicate that students possess awareness regarding the benefits of physical activity for their bodies and overall well-being. This result supports the study conducted by Block and Obrusnikova, which stated that adaptive physical education contributes positively to students' physical health, motor development, and participation in active lifestyles. Similarly, research by Lieberman emphasized that game-based physical activities improve physical engagement and enjoyment among students with disabilities.

The high level of physiological motivation can also be explained by the characteristics of small-sided games, which are simple, flexible, and easier to adapt according to students' abilities. Students with special needs often experience limitations in participating in conventional physical education activities; therefore, modified games provide opportunities for them to move more freely without excessive pressure. As a result, students experience greater physical comfort and enjoyment during learning activities. This finding aligns with the theory proposed by Deci and Ryan in Self-Determination Theory, which explains that intrinsic motivation develops when individuals experience autonomy, competence, and enjoyment in activities [32], [33].

The safety needs indicator also showed positive responses from students. Students reported feeling comfortable, safe, and happy during adaptive physical education learning through small-sided games. This suggests that the learning activities successfully minimized feelings of fear, anxiety, and pressure often experienced by students with special needs in physical activity settings [34]. The flexibility of small-sided games allows teachers to adjust rules, duration, and intensity according to students' conditions, thereby creating a psychologically supportive environment.

These findings are in line with the research of Goodwin and Watkinson, who reported that inclusive and modified physical activities contribute to students' emotional comfort and increase participation among students with disabilities. In addition, Haegele explained that adaptive physical education should emphasize student safety and emotional support to encourage active involvement. The findings of the present study confirm that small-sided games are capable of creating a non-threatening learning atmosphere that supports students' psychological well-being [35]. The self-actualization indicator revealed that students experienced improvements in self-confidence, discipline, and personal development during the learning process. Students felt encouraged to participate actively, complete tasks independently, and interact confidently with peers during games. The findings suggest that small-sided games not only improve physical participation but also support students' psychological growth and social identity development [36].

This result is consistent with research conducted by Ntoumanis and colleagues, who found that enjoyable physical education activities significantly improve students' self-confidence and intrinsic motivation. Similarly, Dyson emphasized that cooperative and game-based learning strategies in physical education contribute positively to students' personal and social development. In adaptive physical education contexts, self-confidence is an important factor because students with special needs frequently encounter social barriers and limited opportunities for self-expression.

3.2. Extrinsic Motivation

Extrinsic motivation in this study consisted of social needs and appreciation needs. The findings demonstrated that students also possessed relatively high extrinsic motivation, although the level was slightly lower than intrinsic motivation. This suggests that external encouragement such as social interaction and recognition contributes positively to students' participation but is not the primary driving force.

The social needs indicator showed that students enjoyed interacting and cooperating with peers and teachers during small-sided games. Most students reported that the activities helped them communicate more easily, develop friendships, and strengthen teamwork skills. This finding indicates that small-sided games function not only as physical activities but also as social learning media that facilitate interpersonal interaction among students with special needs [37].

These findings are supported by cooperative learning theory, which emphasizes the importance of interaction and collaboration in educational settings. Research conducted by Clemente [38] found that collaborative physical education activities improve students' communication skills and social relationships. Furthermore, Strielkwoski [39] reported that social support from peers and teachers significantly influences students' motivation and engagement in adaptive learning environments. The appreciation needs indicator revealed that students were motivated by opportunities to achieve good performance, receive additional academic scores, and potentially become athletes. However, compared to intrinsic motivation indicators, this component showed slightly lower responses. This suggests that students participate in adaptive physical education primarily because they enjoy the activities rather than solely expecting rewards or recognition.

The findings are consistent with the study conducted by Mejeh [40], which explains that excessive emphasis on external rewards may weaken intrinsic motivation. Therefore, teachers should provide balanced appreciation strategies that encourage students while still maintaining enjoyable and meaningful learning experiences. Appropriate recognition, such as verbal praise and positive feedback, may strengthen students' confidence without reducing intrinsic interest in physical activities [41].

Overall, the findings demonstrate that small-sided games are effective in increasing students' learning motivation in adaptive physical education. The implementation of game-based learning creates an enjoyable, inclusive, and student-centered learning atmosphere that supports physical, psychological, and social development simultaneously. Students become more active, enthusiastic, and confident in participating in learning activities because the games are adapted to their abilities and needs.

The dominance of intrinsic motivation indicates that students genuinely enjoy participating in adaptive physical education activities [42]. This finding is particularly important because students with special needs often experience lower participation rates in physical activities due to physical limitations, lack of confidence, or negative social experiences. Through small-sided games, students are able to experience success, enjoyment, and meaningful participation, which subsequently strengthen their internal motivation to learn and engage in physical activities. Moreover, the findings confirm that adaptive physical education should not only focus on physical achievement but also consider students' emotional and social needs. Small-sided games allow teachers to create learning environments that are flexible, safe, collaborative, and inclusive. Such conditions are essential for supporting holistic student development in special education settings.

Previous studies on adaptive physical education have primarily focused on motor skills development, physical fitness, and psychomotor achievement among students with special needs. For example, studies conducted by Che et al. [43] emphasized physical activity participation and health outcomes without specifically examining students' motivational dimensions. Meanwhile, research by Elena et al. [44] mainly explored participation experiences through qualitative approaches, resulting in limited quantitative evidence regarding learning motivation among students with special needs. In Indonesia, studies conducted by Suryanto and colleagues focused more on inclusive and general school contexts rather than Special Junior High School settings. Therefore, previous research has not comprehensively analyzed intrinsic and extrinsic learning motivation simultaneously within adaptive physical education through small-sided games, especially at the Special Junior High School level.

The novelty of this study lies in its comprehensive examination of students' learning motivation in adaptive physical education through small-sided games specifically within the Special Junior High School context. Unlike previous studies that mainly emphasized physical performance and motor outcomes, this study integrates intrinsic and extrinsic motivational dimensions into one analytical framework. Furthermore, this study provides empirical quantitative evidence regarding physiological needs, safety needs, self-actualization, social interaction, and appreciation among students with special needs [45]. The focus on adaptive game-based learning within a special education environment also contributes new insights into how small-sided games can support holistic student motivation in Indonesian adaptive physical education settings.

The findings of this study have important theoretical and practical implications for adaptive physical education. Theoretically, the study strengthens the application of Self-Determination Theory by confirming that enjoyable and supportive learning environments significantly contribute to intrinsic motivation among students with special needs. Practically, teachers are encouraged to implement small-sided games more consistently as a flexible and student-centered instructional strategy that promotes active participation, enjoyment, social interaction, and self-confidence. Additionally, the findings can serve as a reference for curriculum developers and policymakers in designing adaptive physical education programs that are more inclusive, motivating, and responsive to students' needs. The study also opens opportunities for future research to develop innovative game-based adaptive learning models integrated with continuous motivation assessment.

This study has several limitations that should be acknowledged. First, the sample size was relatively small, involving only 23 students from one Special Junior High School institution, which limits the generalizability of the findings to broader populations of students with special needs. Second, the study used a descriptive quantitative design without experimental intervention, making it difficult to establish causal relationships between small-sided games and learning motivation. Third, the data were primarily based on self-reported questionnaires, which may be influenced by subjective perceptions and response bias. In addition, the study focused mainly on motivation variables and did not explore other relevant factors such as emotional development, physical performance, or long-term behavioral changes. Therefore, future studies are recommended to involve larger and more diverse samples, apply mixed-method or experimental designs, and examine additional variables to provide a more comprehensive understanding of adaptive physical education through small-sided games.

4. CONCLUSION

In conclusion, this study demonstrates that students' learning motivation in adaptive physical education through small-sided games at SMPLB Manunggal Slawi is generally in the high category, with intrinsic motivation

being more dominant than extrinsic motivation. Small-sided games provide an enjoyable, flexible, and inclusive learning environment that supports students' physical engagement, psychological development, and social interaction. These activities not only enhance students' awareness of health and fitness but also foster self-confidence, discipline, and cooperation. Although extrinsic factors such as rewards and recognition also contribute to motivation, they play a secondary role compared to internal drives. Therefore, small-sided games can be considered an effective pedagogical strategy in adaptive physical education to promote holistic student motivation, particularly for students with special needs**.**

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