



## Sports Facilities and Students' Learning Motivation: A Qualitative Study in Elementary Schools of Cimalaka District

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### Abstract

Inadequate sports facilities frequently become a major obstacle in the implementation of Physical Education, Sports, and Health (PJOK) learning at the elementary school level. This study aimed to explore the relationship between sports facilities and students' learning motivation, as well as examine the role of teacher creativity in modifying sports equipment in elementary schools in Cimalaka District. This study employed a qualitative case study design involving three elementary schools, namely SDN Mandalaherang III, SDN Licin, and SDN Cibereum 2. Participants consisted of three PJOK teachers, school principals, and eight students selected using purposive sampling techniques. Data were collected through in-depth interviews, observation, documentation, and student response questionnaires. The qualitative data were analyzed using thematic coding procedures assisted by NVivo software. The findings revealed three major themes: limitations of sports facilities, students' learning motivation, and teacher strategies through equipment modification. Limited facilities reduced students' enthusiasm and participation in physical education activities. However, teachers' creativity in modifying sports equipment, such as sponge balls and PVC goalposts, created a safer, more engaging, and non-monotonous learning environment that enhanced students' intrinsic motivation and active participation. The study concludes that equipment modification serves not only as a technical solution but also as a psychological intervention that supports students' motivation despite limited school facilities.

**Keywords:** Physical Education, Sports Facilities, Equipment Modification, Learning Motivation, Student Engagement

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## **A. Introduction**

Physical, Sports, and Health Education (PJOK) plays an important role in developing students' physical fitness, motor skills, discipline, and sportsmanship at the elementary school level. The effectiveness of PJOK learning is strongly influenced by the availability of adequate sports facilities and infrastructure. Appropriate facilities provide students with safer, more comfortable, and more engaging learning experiences during physical activities (Dana Gunantara et al., 2022). Sports facilities in schools generally include playing fields, sports equipment, and supporting learning media that facilitate the delivery of practical learning materials (Budiastawan & Sukarata Adnyana, 2023; Wijaya et al., 2022).

However, many elementary schools, particularly in sub-district areas, still experience limitations in sports facilities and infrastructure. In Cimalaka District, several schools face problems such as limited land, damaged equipment, and insufficient maintenance budgets. These conditions often reduce students' participation and enthusiasm in PJOK learning activities. Previous studies reported that students with access to adequate sports facilities tend to show higher learning motivation and active participation in physical education classes (Nabila & Juntara, 2025). Conversely, limited facilities may create boredom, reduce movement opportunities, and hinder the achievement of basic motor competencies.

From a psychological perspective, inadequate sports facilities may also affect students' learning motivation. Based on Maslow's Hierarchy of Needs theory, unsafe or inadequate learning environments can interfere with students' needs for safety, comfort, and self-confidence during physical activities. As a result, students may experience lower motivation and reduced engagement in PJOK learning. Lye and Kawabata (2022) explained that monotonous learning activities and limited

equipment frequently contribute to boredom and decreased participation among students in physical education classes.

To overcome these limitations, teachers often implement creative strategies by modifying sports equipment using simple and affordable materials, such as sponge balls, PVC goalposts, and cardboard mats. These modifications not only function as alternative learning tools but also create a more enjoyable and less monotonous learning atmosphere. Previous studies have shown that innovative and game-based learning approaches can improve students' intrinsic motivation and participation in PJOK learning (Putrinanda, 2025; Akbar et al., 2025).

Although previous research has discussed the relationship between sports facilities and learning motivation, most studies have focused on quantitative approaches and general school contexts. Limited research has specifically explored how inadequate facilities psychologically influence elementary school students' motivation and how teachers' creativity in modifying equipment functions as a motivational intervention. Therefore, this study aims to analyze the condition of sports facilities and their relationship with students' learning motivation in elementary schools in Cimalaka District.

The novelty of this study lies in examining sports equipment modification not merely as a technical solution to limited facilities, but also as a psychological strategy that supports students' intrinsic motivation, safety, and engagement during PJOK learning. The findings of this study are expected to contribute to improving the quality of physical education learning, particularly in schools with limited sports infrastructure.

## **B. Methods**

### **Research Design**

This study employed a qualitative approach using a case study design to explore the condition of sports facilities and their

relationship with students' learning motivation in elementary schools in Cimalaka District. A qualitative case study enables researchers to investigate social and educational phenomena comprehensively within their real-life context (Poltak & Widjaja, 2024). Through this approach, the researchers examined how limited sports facilities influence students' motivation and how teachers implement creative strategies through sports equipment modification during PJOK learning activities.

The study was conducted in three elementary schools in Cimalaka District, namely SDN Mandalaherang III, SDN Licin, and SDN Cibeureum 2. These schools were selected purposively because they represented schools experiencing limitations in sports facilities and infrastructure. Most schools had limited sports fields, inadequate equipment, and constrained maintenance budgets, which affected the implementation of PJOK learning.

### **Participants**

Participants were selected using purposive sampling techniques based on their direct involvement in PJOK learning activities. The participants consisted of:

1. Three PJOK teachers as key informants,
2. Three school principals as supporting informants, and
3. Eight elementary school students who actively participated in PJOK learning.

The involvement of teachers and principals provided information regarding facility management, equipment limitations, and instructional strategies, while students provided perspectives related to learning experiences and motivation during physical education activities.

### **Data Collection Techniques**

Data were collected through triangulation techniques consisting of:

1. in-depth interviews,
2. observation,

3. documentation, and
4. student response questionnaires.

In-depth interviews were conducted with PJOK teachers and school principals to obtain information regarding the condition of sports facilities, learning challenges, and strategies for modifying sports equipment. Observations were conducted during PJOK learning activities to examine the utilization of facilities and students' participation. Documentation techniques were used to support field findings through photographs and school facility records. In addition, questionnaires were distributed to students to support qualitative findings related to learning motivation and perceptions of sports facilities.

### **Data Analysis**

The qualitative data were analyzed using thematic analysis assisted by NVivo software. The analysis process included data transcription, open coding, category classification, node development, and theme interpretation. Through this process, the researchers identified several major themes related to sports facilities, students' learning motivation, and teacher creativity in modifying sports equipment.

To ensure the trustworthiness of the findings, the researchers applied source triangulation and technique triangulation by comparing data obtained from interviews, observations, documentation, and questionnaires. Member checking was also conducted with several participants to confirm the accuracy of the interview results and thematic interpretations.

### **Ethical Considerations**

Prior to data collection, the researchers obtained permission from the participating schools. Informed consent was obtained from teachers, school principals, and parents of participating students. The researchers also ensured the confidentiality of participants' identities and used the collected data solely for research purposes.

## **C. Results and Discussion**

## Result

Based on the results of the analysis, the findings of the research at SDN Mandalaherang III, SDN Licin, and SDN Cibereum 2 show that there is a close relationship between the condition of sports facilities and the psychological dynamics of students. The data from interviews with PJOK teachers and 8 students in the three schools were grouped into three main themes, namely: Student Learning Motivation, Infrastructure, and Impact and

Implication Strategies. The data processing process using NVivo software is carried out through several systematic stages to ensure the validity of qualitative findings. First, the results of interviews with three PJOK teachers were converted into digital transcripts which were then coded to identify a keyword. Through this feature, researchers can see the mutual relationship between the availability of tools and students' intrinsic motivation.

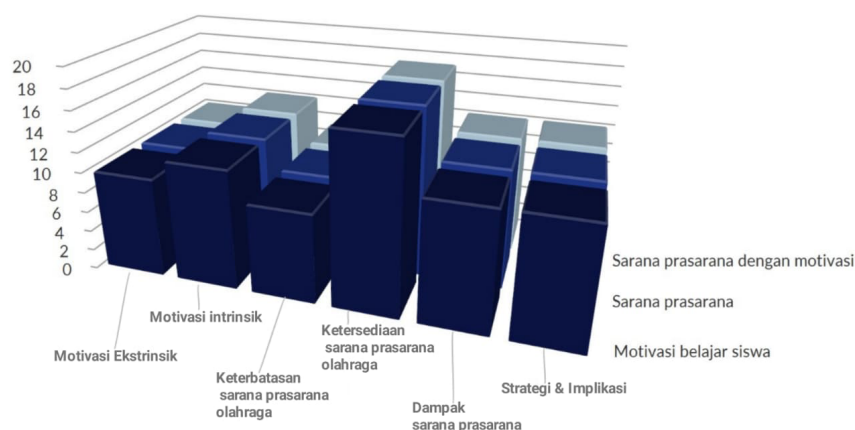


Figure 1. Three-Dimensional Bar Chart

The first image is a *3D Bar Chart* that presents a comparison of the reference frequencies of each code analyzed. Based on this graph, it can be seen that the variable Availability of Sports Infrastructure Facilities has the highest bar (reaching 13), which shows that the issue of availability of equipment is the most dominant topic

discussed by informants. Meanwhile, in the motivation cluster, Intrinsic Motivation (9 references) was more prominent than Extrinsic Motivation (7 references), which indicates that there is a great potential for sports interest from within students even though the support of external facilities still varies.

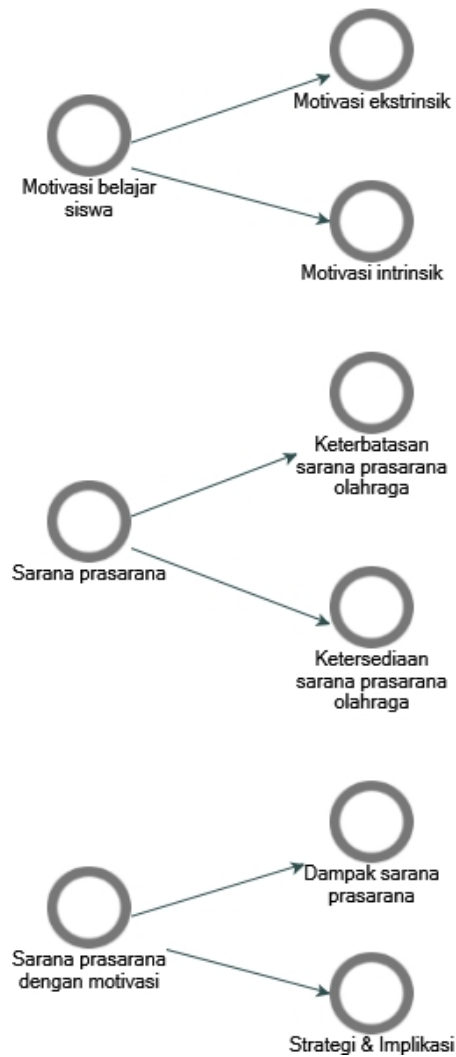


Figure 2. Project Map

The third visualization presents a Project Map that systematically displays the network of structural relationships between research categories in the NVivo software. In this map, three main codes can be seen interacting with each other, where the Student Learning Motivation category is specifically branched into intrinsic and extrinsic motivation aspects. In line with this, the Infrastructure category overshadows the variables of availability and condition of tools found at SDN Mandalaherang III, SDN Licin, and SDN

Cibeureum 2. The most crucial relationship is shown through the Facilities of Infrastructure and Motivation code, which directly links the impact of physical facility conditions to the strategies and implications of learning in the field. This relationship map visually proves that the condition of sports facilities in Cimalaka District does not stand alone, but is a determining factor that dynamically affects the enthusiasm and achievement of students' basic competencies.

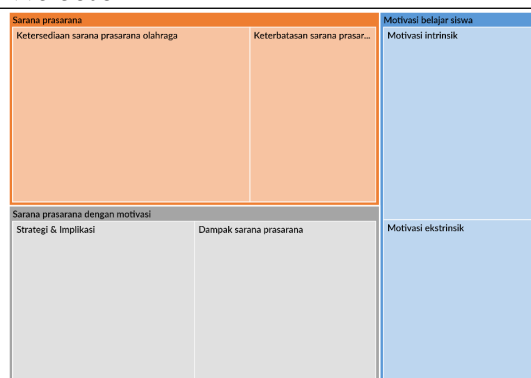


Figure 3 Hierarchy Chart

The fourth image is the Hierarchy Chart or Treemap which uses the area of the box to show the dominance of the data. The largest box is occupied by Infrastructure Facilities, especially in the Sports Infrastructure Facilities Availability box. This visually provides the conclusion that the main focus in this study is the physical condition of school facilities. However, the Student Learning Motivation box also takes up significant space, showing that the psychological impact on students is an

equally important variable in the analysis of the achievement of basic competencies in several elementary schools in Cimalaka District.

### Results of the Student Response Questionnaire

This document contains tabulation of data from the results of the student response questionnaire to infrastructure facilities and its relation to learning motivation in Cimalaka District.

**Table 1. Assessment of Respondents' Perception of Facilities and Infrastructure)**

Yes	Informant Initials	Response Score	Percentage (%)	Perception Category
1	W	38	95%	Very Positive
2	F.M	38	95%	Very Positive
3	A.N	36	90%	Very Positive
4	F.A	35	87.5%	Very Positive
5	U.N.	25	62.5%	Enough
6	I.L	26	65%	Enough
7	S.M	38	95%	Very Positive
8	H.Z	36	90%	Very Positive

### 1. Students' Perception of Infrastructure and Learning Motivation

To strengthen the qualitative findings regarding the impact of infrastructure facilities, the researcher distributed a response questionnaire to 8 student informants as supporting data (triangulation). Based on table 1, it can be seen that the majority of informants (75%) gave a response in the "very good" category. This shows that in general,

students have high motivation to learn even though they are limited in facilities. However, there were interesting findings in U.N and I.L respondents who gave sufficient scores (62.5% and 65%) of these score differences became the basis for researchers to dig deeper through interviews, where it was found that some students still expected more variety of tools despite modifications made

**Table 2. (Based on Indicators)**

Yes	Indicator	Question Item	Reach (%)	Categories
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1	Availability of Facilities	P1 - P2	66.25%	Good
2	Quality & Care	P3 - P5	68.33%	Good
3	Learning Motivation	P6 - P9	67.50%	Good
4	Facility Security	P10	72.50%	Good

## 2. Analysis of means indicators and their impact on motivation

The questionnaire data was further analyzed based on the main indicator indicators to see which aspects had the most influence on student motivation. Based on table 2, the security aspect of the facility (P10) received an achievement of 72.50%. These findings are crucial in this study because they confirm the reasons why students stay motivated to use the modification tool. As the results of observations in the field, the use of sponge balls with paper, PVC pipes, and cardboard as mats for gymnastics learning materials provides a sense of security to students compared to original hard tools. This sense of security then lowers students' psychological barriers to experimenting in sports movements.

On the other hand, the indicator of facility availability (P1-P2) shows a figure of 66.25%. This is in line with the results of interviews with PJOK teachers who stated that the limited number of tools often forces students to queue. Although modified tools have helped, the limited number of physical tools remains a note for the school to continue to increase the procurement of suggestions gradually to maintain the consistency of student learning motivation in several Cimalaka Districts.

## Discussion

The findings of this study demonstrate that sports facilities and infrastructure play an important role in supporting students' learning motivation in PJOK learning at the

elementary school level. Although several schools in Cimalaka District experienced limitations in sports facilities, students still showed relatively positive motivation toward physical education activities. This finding indicates that learning motivation is not only influenced by the completeness of facilities, but also by how teachers create meaningful and engaging learning experiences.

The results revealed that the safety aspect of modified sports equipment became one of the strongest factors influencing students' participation and enthusiasm during PJOK learning. The use of sponge balls, PVC goalposts, and simple modified equipment created a safer and more comfortable learning environment for students. From the perspective of Maslow's Hierarchy of Needs theory, this condition fulfills students' basic needs for safety and comfort, which subsequently supports higher levels of motivation and learning engagement. When students feel physically secure during activities, they tend to participate more actively and confidently in learning processes.

In addition, the findings showed that teacher creativity in modifying sports equipment contributed positively to students' intrinsic motivation. Modified learning media created a more enjoyable and less monotonous atmosphere, reducing boredom during PJOK lessons. This finding is consistent with the study of Lye and Kawabata (2022), which explained that repetitive activities and limited equipment may reduce students' engagement and increase

boredom in physical education learning. Therefore, innovative teaching strategies become essential in maintaining students' active participation despite limited school facilities.

The findings also support previous studies stating that adequate sports facilities positively influence students' learning motivation and participation in physical education (Jannah & Sontani, 2018; Nabila & Juntara, 2025). However, this study expands previous research by emphasizing that equipment modification not only functions as a technical alternative but also as a psychological intervention that encourages students' confidence, enjoyment, and engagement in learning activities. This indicates that teacher adaptability and creativity are important components in overcoming structural limitations within elementary schools.

Nevertheless, this study has several limitations. The number of participants was relatively small and limited to three elementary schools in Cimalaka District, which limits the generalizability of the findings. In addition, the use of interviews and questionnaires may contain subjective responses from participants. Therefore, future studies are recommended to involve larger participant groups, apply mixed-method approaches, and explore broader educational contexts to strengthen the understanding of the relationship between sports facilities and students' learning motivation.

#### **D. Conclusion**

This study concludes that sports facilities and infrastructure have an important role in influencing students' learning motivation in PJOK learning at

the elementary school level. Limited facilities, damaged equipment, and inadequate maintenance were found to reduce students' participation and enthusiasm during physical education activities. However, the findings also demonstrate that teacher creativity in modifying sports equipment can effectively overcome these limitations and maintain students' motivation to learn.

The use of modified equipment such as sponge balls, PVC goalposts, and simple learning media created a safer, more enjoyable, and less monotonous learning environment. From a psychological perspective, these modifications helped fulfill students' needs for safety, comfort, and self-confidence, which contributed to stronger intrinsic motivation and active engagement in learning activities. Therefore, equipment modification should not only be viewed as a technical solution to limited facilities, but also as an innovative pedagogical strategy that supports effective PJOK learning.

This study also highlights the importance of teacher adaptability and creativity in addressing structural limitations within schools. Nevertheless, this research was limited to a small number of participants and schools in Cimalaka District, so the findings cannot be generalized broadly. Future studies are recommended to involve larger samples, broader educational contexts, and mixed-method approaches to strengthen the understanding of the relationship between sports facilities, learning environments, and students' motivation in physical education learning.

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#### F. Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this research article. The research was conducted independently without any financial or commercial influence that could affect the objectivity of the findings.

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