COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 ‖ Volume 18, Number 2, 2026 ‖ P.3174-3181

The Students' Interest in Modified 'Gelang Dewa' Media for Discus Throw Learning

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ABSTRACT

This study aims to examine students' interest in the use of "Gelang Dewa" learning media innovations in the topic of discus throwing in Physical Education, Sports, and Health (PJOK) lessons. This innovation was created as a creative step to overcome the limitations of standard facilities and difficult school infrastructure conditions. The methodology applied was a quantitative descriptive survey with an associative approach. The research subjects consisted of 100 grade VIII students at MTsN Surakarta 1, with a sample taken of 30 students through purposive sampling techniques. Data were obtained using a closed questionnaire with a Likert scale that has been tested to be valid and reliable (Cronbach's Alpha = 0.743). The results of descriptive statistical analysis showed that student interest was at a high level, with an average score of 73.20. These findings show that the use of "Gelang Dewa" has a significant impact on increasing students' active participation, reducing anxiety about injuries, and reducing physical fatigue during learning. The use of this ergonomically designed and adaptive tool has proven effective in increasing situational interest and supporting the mastery of basic discus throwing techniques in a more inclusive manner. This study concludes that the development of creative tools from teachers is an important factor in overcoming facility constraints in order to maximize students' moving experience and physical participation in the school environment.

ARTICLE HISTORY
Received: 2026/04/16
Accepted: 2026/05/05
Published: 2026/05/25

KEYWORDS
Physical Education;
Student;
Interest;
Modification;
Learningtools.

AUTHORS' CONTRIBUTION
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

Cites this Article : Khaotsar, H.A.; Nurhidayat, N.; Sistiasih, V.S. (2026). The Students' Interest in Modified 'Gelang Dewa' Media for Discus Throw Learning at MTsN Surakarta 1. **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 18 (2), p.3174-3181

INTRODUCTION

Physical education (PJOK) has a significant role in the development of students' motor skills and emotional health. Unfortunately, its success is often affected by the lack of facilities in the school (Roure, C., 2021). Previous research has touched on equipment modification in general, but few have specifically explored the psychological influence of "interest" in the athletic discipline of discus throwing in school environments with limited infrastructure conditions such as paving fields. (Nurhidayat, Wisnugroho et al., 2025), The learning process prepared will facilitate students in understanding the reasons behind human movements and how to perform these movements safely, efficiently, and effectively. The principle of learning in physical education emphasizes the process of

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socialization or culture through physical activities, games, and sports (Ari Iswanto, 2021). Modifying learning is intended to guide, direct, and learn students who previously could not become able, who were less skilled to become more skilled, so that it will be reflected in the learning activities given by the teacher from the beginning to the end of the lesson (Budi, 2021), Modification of discus throwing sports facilities using god bracelets is an alternative means of modifying discs which are made from water hoses that are made circular like tires and then in the hose are filled with sand until full, made circular according to the size of the original disc throwing facilities to make it easier for students to feel the size of the actual disc circle (Muliadi, 2021).

The innovation of the "Gelang Dewa" in the modification of discus throwing learning tools emerged as a creative answer to overcome the lack of facilities in schools. The device is ergonomically designed using a water hose that is shaped in a circular shape and filled with sand until it is solid, resembling the size and weight of a standard disc. The purpose of this innovation is in line with (Lim, 2021) is to provide a real kinesthetic experience for students, allowing them to experience the true size of the tool in a safer learning setting. From a pedagogical perspective, success in physical education depends not only on cognitive understanding of the material and assessment, but is also strongly influenced by the existence of adequate supporting facilities. Adaptable facilities are a very important element in creating an effective learning process. Without the support of the right facilities, the achievement of learning objectives will be hampered (Garcia-Angulo, A., 2022), considering that physical activity requires a medium that can connect students' movement potential with the desired curricular goals. Therefore, the humanitarian approach through the modification of this tool is expected to increase the comfort and enthusiasm of students in exploring their physical abilities without being hampered by infrastructure limitations (Muliadi, 2021)

From several alternative media criteria (Kinanti et al., 2021) To replace the disc, it seems that a water hose and then in the sand fill a circle resembling a wheel can be used as a modified alternative medium to replace the disc. In terms of shape, it can represent the shape of the disc, in terms of availability and price, so the tool is very easy to get and make in a bath at a very low price. So that students are more actively participating in learning in the learning of the service. The shortcomings in this study are in the attention not only to learning outcomes, but also to explore the emotional aspects and students' interest in innovative tools. The innovations presented are the use of “Gelang Dewa” which are specially made to follow the stages of student development as well as the challenging school environment situation, (Garcia-Angulo, A., 2022) It is evident that tool customization helps students move from "can't be can" in a more motivating way that creates a sense of security and comfort.

In addition, there are differences in methods and focus when compared to other relevant studies (Kinanti et al., 2021) only examines learning outcomes without assessing students' interests in detail, while research (Auliya et al., 2025) conduct an interest survey but against a different type of game (i.e. Goboy games). Thus, this study seeks to overcome these shortcomings by using a quantitative descriptive survey approach to

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specifically analyze the relationship between the use of the modified "God Bracelet" and the learning interest of grade VIII students at MTs N Surakarta1.

Theoretically, the implementation of changes in learning media using the 'God Bracelet' tool focuses on fulfilling the concept of situational interest as described by (Roure, C., Pasco, D., & Kermarrec, 2021). The design of this flexible tool can encourage active student engagement through interactions with objects that are more accessible, thus creating a positive emotional response during the learning process. In addition, (Garcia-Angulo, A., 2022) emphasizing that the use of ergonomically modified equipment contributes greatly to the effectiveness of motor skills mastery as well as increasing students' internal motivation. This happens because cognitive load and worries about injury can be minimized, allowing individuals to thoroughly delve into basic techniques.

In a broader perspective, this innovation emerged as an inclusive teaching strategy to address the gap between curriculum needs and the real conditions of facilities in educational institutions. The phenomenon of declining student participation is generally caused by a lack of infrastructure (Lim, 2021) can be overcome with a creative and student-focused modification approach. The integration of innovative sports facilities in schools has proven effective in creating a supportive learning environment, which will ultimately increase students' engagement and sustainability of physical activity over a long period of time (Zhang, T., 2024).

METHODS

This study applies a descriptive quantitative design with an associative approach to examine phenomena in real terms through numerical data representation. The purpose of using the survey method in this study is to collect data in a structured manner related to research variables from a predetermined population.(Syahroni, 2022) The quantitative approach was chosen because it was able to provide solid objective evidence through the analysis of statistical data to explain the relationships between variables. (Syahrizal & Jailani, 2023) The variables studied in this study are divided into two main components: Independent Variable: Innovation of the learning media "Gelang Dewa" which is specifically designed to overcome the lack of school facilities and infrastructure. Dependent Variables: Student interest measured based on indicators such as enthusiasm, active participation, and willingness to try during learning activities.

Population is defined as a generalized region consisting of objects or individuals that have certain properties and characters that are determined by the researcher to be investigated and subsequently drawn conclusions. On the other hand, a sample is a segment of the population.(Suriani et al., 2023) The population in this study is 100 students in class VIII at MTS N Surakarta1. Based on sampling techniques according to (Thomas, 2022) i.e. purposive sampling In this study, the sample is 30 students of MTS N Surakarta 1 class VIII. According to (Yanti, R., Suryani, I., & Putri, 2024) The sampling technique used in this study is nonprobability sampling, which more specifically refers to the findings (Hansen, R., & Johnston, 2023) purposive sampling. Nonprobability Sampling Sampling is a sampling method that is not done randomly.

Data collection by(Hansen, R., & Johnston, 2023) In this meeting aims to obtain information about the interest of grade VIII students in the use of modification of discus throwing subject facilities ("Gelang Dewa") at MTS N Surakarta 1, In order to obtain data relevant to the problems discussed, the author records data which is carried out in the following way, According to (Tan, K. L., 2022) Questionnaires can consist of regular and closed-ended questions, Closed-ended questionnaires offer predefined answers, such as multiple-choice, Likert scale, or yes/no answers. This type is in line with the findings (Tan, K. L., 2022) It is simpler to analyze quantitatively because the data produced is organized and consistent. Data was obtained through a closed-ended questionnaire that utilizes the Likert Scale. This tool was chosen to ensure that the organization of the data remains consistent, making it easy to conduct in-depth statistical analysis.

Validity Test: Pearson Product Moment correlation is applied to measure the reliability of each statement in reflecting student interests. Based on the evaluation at a significance level of 5% with N = 30, all 19 statements were declared valid because the value of R {calculated} (between 0.425 to 0.791) always exceeded the value of R {table} of 0.361. Reliability Test: The internal consistency of the tool was answered through the high correlation numbers between the items, especially on the student activity indicator (R = 0.791), which indicates that the tool is reliable in capturing student perceptions stably. To support the researchers, tools that are in accordance with the data collection method applied are used. The instrument used is in the form of a questionnaire. According to (Purwantini & Tripalupi, 2021) The questionnaire method is a technique used to collect information.

The data analysis technique applies an associative descriptive statistical approach to systematically examine the relationship between variables (Roure, C., 2021). The percentage of interest is calculated through the formula: P = (F/N) x 100, Thus, the percentage (P) is generated from the frequency of answers given by the respondents (F) divided by the total number of samples (N). The analysis process includes data collection, simplification of information for proper grouping, and presentation of data in the form of statistical tables to reach precise and comprehensive conclusions.

RESULTS AND DISCUSSION

Result

The research, which was carried out at MTs N Surakarta 1, succeeded in collecting opinions from 30 students of class 9D about their experiences using the media of "Gelang Dewa" during the learning process of discus throwing.

From the data analyzed, it is clear that there is a high enthusiasm from the students. In terms of statistics, the total answer scores of the respondents are in a very positive range. Of the 30 students, the average score was recorded at 73.20 with a standard deviation of 7.416. If we review the distribution of data, the highest score reaches 91, which was obtained by a student named Aqsya, while the lowest score is 56. Most students gave a score above 65, which shows that the innovation of the God Bracelet was warmly welcomed by the majority of students.

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Judging from the statement aspect, the P10, P14, and P19 indicators recorded the highest score with an average of 4.20. This shows that students find this tool modification to be very effective in reducing physical fatigue (P10), maintaining competitive spirit while playing (P14), and gaining psychological support (P19).

Table 1.
Descriptive Statistical Distribution of Respondents' Answers

Variable / Indicator	Red	Std. Deviation	Categories
P01 - P09 (Internal Interest)	3.84	0.64	Height
P10 - P14 (Instructional Quality)	4.02	0.67	Very High
P15 - P17 (Facilities & Environment)	3.55	0.88	Height
P18 - P19 (Social Support)	3.90	0.74	Height
Average Total Score	**73.20**	**7.416**	**Height**

Before conducting a more in-depth data analysis such as the table above, the researcher conducted a validity test to ensure that each question item in the instrument (god bracelet) could really measure the interest of students precisely, referring to the number of participants (N = 30), The R value of the table used as a reference was 0.361 (at a significant level of 5%.

Table 2.
Results of the Validity Test of Student Interest Instruments

Question Item	Status (Valid)	
	R Count	R Table
P01	0,667	0,361
P02	0,425	0,361
P03	0,551	0,361
P04	0,381	0,361
P05	0,544	0,361
P06	0,599	0,361
P07	0,564	0,361
P08	0,725	0,361
P09	0,695	0,361
P10	0,642	0,361
P11	0,593	0,361
P12	0,668	0,361
P13	0,767	0,361
P14	0,582	0,361
P15	0,578	0,361
P16	0,791	0,361
P17	0,547	0,361
P18	0,698	0,361
P19	0,637	0,361

The above results identify that the statement item (P01-P19) shows an R value calculated to be greater than 0.361, so that all instruments are declared valid and valid to assess student interest, After descriptive statistical analysis shows that the maximum value (Mean = 4.20) at points P10, P14 and P19 shows that aspects of physical comfort and support from the environment are the main factors for MTs N Surakarta 1 students.

An instrument that measured student interest with 19 questions showed a reliability coefficient of 0.743. In quantitative research studies, Cronbach's Alpha values ranging from 0.70 to 0.80 are considered to have a high level of reliability. This shows that the

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questionnaire shows good internal consistency as well as stability in assessing students' views and interests on the use of the "God Bracelet" media. Refers to (Nurhidayat, Wisnugroho et al., 2025) The high correlation between the items ensures that this measurement tool is able to provide scientifically reliable data to draw conclusions, because each question together reflects the same construct in capturing the participation of student activities in the field. This coefficient value shows that the instrument functions efficiently as a psychological evaluation tool in the context of physical education learning.

Discussion

The results of the study identified that changes to the "Gelang Dewa" tool can significantly increase students' interest in the learning process of Physical education, sports and health and can be an inclusive solution in the school environment as found (Zhang, T., 2024), The high average score on question indicators P10 and P14 shows that this modified tool is effective in overcoming students' physical and mental obstacles when learning discus throwing techniques which are generally seen as difficult or boring. These findings are in line with (Zhang, T., 2024) provides an interesting perspective on how small changes can evolve in learning Physical education, sports and health, The highest average score produced in this study, which is (73.20), shows that learning challenges that arise in discus throwing materials, such as heavy and unreasonable disc loads or worries about injury can be solved by utilizing discus throwing modifications using "Gelang Dewa". However, it can also be seen that there is a deficiency in the P 17 indicator regarding the field at school, namely the score (average 3.50), although it is still included in the category (Good), this is a reminder that the spaciousness of the moving area is still an aspect that needs to be considered by students who carry out sports activities, All of this data explains that interest is not only related to internal desires, But also about how the environment and facilities can support their needs when carrying out physical education, sports and health learning activities that are physical activities outside the classroom. This valid data shows that the research instrument functions effectively in showing students' perceptions, the high R number calculated at number P16 (0.791) which is related to student activities shows that the availability of modified equipment has a very close relationship with their involvement in activities in the field. From these findings, it is told that when technical obstacles such as the original tool are replaced with modifications "Gelang Dewa" that are lighter and more innovative, students' interests will arise on their own, according to (Roure, C., 2021) The ever-high average of scores in almost all indicators proves that this modification is not only an aid, but also a bridge that makes it easier for students to be able to do discus throwing without feeling stressed. The use of modified media such as the "Gelang Dewa"is in line with the findings (Roure, C., 2021) which states that equipment adjustments are significantly able to arouse students' situational interest in physical activity. This is crucial because according to (Lim, 2021) , the efficiency of PJOK learning is highly dependent on the quality and accessibility of available facilities.

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CONCLUSION

Based on a series of research and data analysis that has been done, it can be concluded that the application of the modification of the "Gelang Dewa" has substantially succeeded in encouraging the interest of MTs N Surakarta 1 students in learning to throw discus, with an average score (73.20), the student acceptance rate in this modification is classified as high. Students feel facilitated in understanding the discus throwing technique, do not feel tired quickly and feel happier because the tools used are more suitable for the conditions in the field and their physical condition compared to the original discus, as well as there is good instructional support and understanding of the material taught by the teacher. The instrument used to assess student interest was proven to be valid, where the R calculated for each item was higher compared to the R table (0.361), The most significant aspect in increasing student interest was reduced physical fatigue and good instructional support from the teacher.

ACKNOWLEDGMENTS

The author expresses his gratitude to the presence of God Almighty for the completion of this artiekel, and expresses his deepest appreciation to MTs Negeri Surakarta 1 and the Physical Education Study Program of the University of Muhammadiyah Surakarta for the space, facilities, and guidance that has been provided. Behind this success, the author's infinite respect and love for his beloved Ladies and Gentlemen, as a lamp and prayer that never dimmed, whose affection is the reason for the author to remain upright to this point. Gratitude also goes to my dear Sister Sister, who, through her grasp of spirit and sincerity, has become a place where the writer leans when tired approaches. Finally, thank you also to the author to a couple whose presence is still kept tightly in the secret of time; Although your body and name have not yet greeted you, your absence at this time is a form of loyalty that gives the writer the silence to love science with all his heart, until the time comes for us to meet in a celebration of more beautiful successes in the future.

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