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The Implementation of a Modified Straddle Vault Learning Medium using Recycled Materials and Wood Shavings on High School Students' Learning Motivation

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ABSTRACTS

Learning motivation plays a crucial role in increasing student engagement in Physical Education, Sports, and Health (PJOK). Limited variety in teaching methods and inadequate facilities in some schools hinder this motivation. This study aims to determine changes in high school students' learning motivation after using a modified straddle vault box made from recycled materials and wood shavings. A quantitative approach was applied with a pre-experimental one-group pretest-posttest design. A sample of 36 eleventh-graders from SMAN 1 Grogol was selected through simple random sampling. The treatment involved burlap sacks filled with wood shavings and clay as a landing surface for the straddle vault over four sessions. Learning motivation data were collected through questionnaires before and after the treatment, analyzed using descriptive statistics, the Shapiro-Wilk normality test, and a paired-samples t-test in SPSS Statistics 25. Results showed the mean learning motivation score increased from 88.75 on the pretest to 99.22 on the posttest. The paired-samples t-test yielded a significance of 0.000 ($p < 0.05$), indicating a statistically significant difference between pre- and post-intervention conditions. Modifying the straddle vault learning medium significantly changed students' learning motivation. This medium offers an innovative alternative for PJOK instruction, particularly in schools with limited facilities and infrastructure.

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) classes take place in schools, and most students participate in these classes merely to fulfill their obligations as students. In the PJOK learning process, student motivation is rarely evident;when class begins, some students choose to be passive, unenthusiastic, and quick to give up (Fauzia et al., 2026). Learning motivation is an internal driving force within students that guides their success throughout the learning process (Dwi Purnomo et al., 2025). If motivation is firmly rooted within students, their interest in learning will naturally follow, as motivation and interest are interconnected (Nico Pradhanai et al., 2025). The primary reason students choose to remain passive is that Physical Education (PJOK) lessons are often conducted in a single, rigid manner;the teacher gives instructions first, and only then do students move to perform the practical exercises (Yane & Juliansyah, 2018). Learning delivered in an engaging manner automatically boosts students' motivation to learn; therefore, the teacher's role in the classroom is crucial (Makhrus et al., 2024). During the delivery of lessons, teachers must have well-prepared teaching strategies in place to ensure that pupils understand the material presented and remain engaged, as the support of teachers and a supportive learning environment act as external motivators for pupil participation (Angga Kusumah, 2018; Dedy Teriana et al., 2026). Students with low motivation;to learn do not necessarily lack intrinsic motivation, the use of outdated teaching methods can also be a factor. Meanwhile, young educators in some rural areas still face challenges due to a lack of adequate facilities and infrastructure to support the teaching of physical education (Satriyo Utomo et al., 2020).

Due to the lack of adequate facilities and equipment in some schools, Physical Education (PJOK) lessons often focus only on a few general sports. The sports taught include volleyball, basketball, running, long jump, and soccer, however, this lack of variety in activities causes students to become unmotivated and lose enthusiasm for learning because they feel the activities are always the same (Akbar et al., 2025). The main cause of low pupil motivation during Physical Education lessons is the consistently monotonous delivery of the material. A great deal of the material included in the government curriculum, such as gymnastics lessons covering the straddle vault exercise (Sacral Islamin et al., 2022), is still rarely taught during lessons. The limited availability of school facilities also affects the delivery of material that requires specialised spaces and equipment (Syarifatunnisa et al., 2023). The implementation of Physical Education, Health, and Sports (PJOK) lessons on the field is closely tied to the use of teaching aids, However, not all schools have a complete set of such materials. Therefore, repurposing used items into teaching aids can provide a solution to the limitations posed by inadequate facilities in schools during PJOK lessons (E. Rahayu et al., 2025). Indirectly transforming used items into learning aids is a form of modification (Rifai, 2018). During Physical

Education (PJOK) lessons in the field, the materials used do not always have to meet standards, utilizing used items found nearby and modifying them into tools can support the PJOK learning process. Items that are no longer in use do not necessarily have to be discarded, instead they can be transformed into useful, inexpensive, and engaging tools, such as bamboo, cardboard, burlap sacks, paper, plastic bottles, and used tires (Manual Prayuda, 2022). Learning materials are a teacher's primary tool during instruction without them, learning, especially hands-on learning, cannot take place to its fullest potential (Lesmana, 2023).

Based on the findings of several previous studies on Physical Education (PJOK) instruction that modified instructional media, it is still common to find that the focus of these studies was solely on improving students' motor skill learning outcomes. These studies were conducted at the elementary school level, and the modifications applied were limited to general adjustments to instructional media, without incorporating changes such as animated movement videos or instructional images (Candra Yuwono et al., 2025). Furthermore, previous research has demonstrated that the use of modified media for Physical Education and Health (PJOK) instruction can boost students' motivation to learn; however, such studies have been limited to the junior high school level and have not specifically addressed the use of recycled materials as PJOK learning media. Additionally, research at the senior high school level remains limited, creating an opportunity for further study (Fahrudin & Trisna Rahayu, 2018). One potential research opportunity involves utilizing recycled materials, specifically burlap sacks. Burlap sacks are very easy to find for example, at home, at school, and on the street. By filling burlap sacks with wood shavings mixed with clay, they can be used as teaching aids in physical education, specifically as a support surface for the straddle vault exercise.

This modification teaches students that items previously left unused can still have significant practical value if utilized properly. Burlap sacks, when combined with wood shavings and clay, can be transformed into physical education teaching materials for use in schools. Implementing this modification provides an alternative solution to the problem of limited teaching resources in schools. Furthermore, modifying unused items into teaching aids fosters creativity in students. It is hoped that this affordable, safe and innovative learning resource will help pupils who tend to be anxious or passive during lessons to feel more at ease and confident in trying new movements, as new experiences are one of the intrinsic reasons pupils take part in Physical Education and Health lessons, and a supportive learning environment can encourage their participation (Dedy Teriana et al., 2026; Kurniawan et al., 2021; Syarifatunnisa et al., 2023). Consequently, it is hoped that this will no longer be a reason for pupils to remain inactive. Through the novelty of this research, it is hoped that the use of modified recycled materials can provide a solution for delivering more varied and innovative teaching content in Physical Education and Health (PJOK) lessons, despite limited facilities at the school. Thus, activities that have not previously been taught can be introduced by modifying jute sacks with

wood shavings and clay as a teaching aid for the 'loncat kangkang' exercise for upper secondary school pupils, in accordance with the government curriculum or the PJOK textbook. This study aims to examine whether the implementation of modified learning media for the straddle jump, using recycled materials and wood shavings, significantly alters the learning motivation of Year 11 pupils at SMAN 1 Grogol, as measured using a validated learning motivation questionnaire with a single-group pre-test–post-test design.

THEORETICAL FRAMEWORK

This study examines learning motivation using Self-Determination Theory (SDT), which distinguishes between types of motivation based on the reasons why a person engages in an activity. Intrinsic motivation is the drive to engage in an activity because the activity itself is interesting and enjoyable. Meanwhile, extrinsic motivation is the drive to perform an activity for reasons other than the satisfaction derived from the activity itself; this may stem from external demands or influences. In Physical Education and Health (PJOK) learning, SDT explains that motivation exists on a continuum, ranging from a lack of motivation (amotivation) to intrinsic motivation. This theory states that effective motivation can develop when three basic student needs are met, namely autonomy (freedom of choice), competence (the ability to perform a task), and relatedness (good relationships with others). SDT also explains that pupils' self-reports are an important means of measuring their motivation. In Physical Education (PJOK) lessons, intrinsic motivation has been studied using a brief scale comprising four response options based on levels of agreement, administered before and after a series of 12 lessons (Kruse et al., 2024; M. Ryan & L. Deci, 2020). This study employed the same approach, namely a learning motivation questionnaire adapted to a 4-point Likert scale. The difference between the pre-test and post-test results was used to assess changes in students' learning motivation. However, as this questionnaire only produces an overall motivation score and does not distinguish between the types of motivational regulation outlined in SDT theory, in this study SDT is used as a conceptual framework for understanding motivation, rather than as a basis for categorising or assessing types of motivation.

According to SDT theory, the learning environment and teaching strategies can help to meet pupils' basic psychological needs, but they can also hinder the fulfilment of these needs. This can affect pupils' ability to understand and accept motivation as an internal drive. Research on SDT in games suggests that games are more engaging and better able to foster motivation when they meet these psychological needs. In this study, the use of media in education is identified as an area of ongoing development. This view is supported by a number of studies, although the available evidence remains limited. In Physical Education and Health (PJOK) lessons, pupils' satisfaction with new experiences may be linked to increased intrinsic motivation. This is influenced by pupils' perspectives whilst learning takes place, through the

introduction of new learning experiences—for example, by providing activities that differ from the usual ones. The use of a variety of materials or recycled items is one alternative teaching strategy. Furthermore, a review of the literature indicates that modifications to Physical Education (PE) teaching aids and learning materials have the potential to enhance pupil participation, learning motivation and interest in sport, particularly amongst primary school pupils (Fierro-Suero et al., 2020; Setiawan & Malik Ibrahim, 2026). Modified learning materials form part of the support for learning that can influence pupil motivation through direct experience. In this study, the use of jute sacks filled with sawdust and clay enabled pupils to perform straddle jumps on a softer surface, thereby helping to reduce the risk of injury. By providing pupils with the opportunity to try movements they had never performed before, this supported the fulfilment of their psychological needs based on Self-Determination Theory (SDT), particularly in terms of autonomy and competence, as pupils felt safer and more capable of performing the movements they were learning. However, this study only measured changes in overall learning motivation scores and did not examine the factors causing these changes. Consequently, this relationship remains theoretical. The aim of this study is to determine whether learning strategies implemented over a short period also have a similar impact on upper secondary school pupils. This is important to investigate because the majority of previous studies were conducted on primary school pupils or utilised cross-sectional methods, that is the collection of data at a specific point in time.

In SDT theory, the experience of new things is regarded as one of the basic psychological needs that can potentially influence motivation. A study of 1,656 physical education students showed that the fulfilment of the need for new experiences can predict autonomous motivation, in addition to the fulfilment of the needs for autonomy, competence and relatedness. New experiences can boost motivation through a person's curiosity and interest in the situations they face. Based on the research reviewed, a person's attention and curiosity tend to be higher when receiving information that is somewhat familiar but not yet fully understood, compared to information that is completely new or already very familiar. In Physical Education, situational interest refers to pupils' interest in an activity, which is influenced by several factors, such as novelty, challenge, the desire to try new things, and the enjoyment derived from carrying out the activity. Novelty relates to the difference between what pupils already know and the knowledge or skills they need to learn in order to complete a task. Research involving 1,812 secondary school pupils showed that the enjoyment derived from an activity and the desire to explore were the main factors influencing pupils' overall interest. Meanwhile, novelty was not found to be an independently influential factor. Situational interest is also temporary in nature; therefore, it is recommended that learning activities combine new elements with things already familiar to pupils (Fernández-Espínola et al., 2020; Kidd & Y. Hayden, 2015; Roure et al., 2019). The use of familiar materials, such as jute sacks utilised as learning tools with functions different

from their usual ones, can be linked to the previous explanation. However, this remains a hypothesis based on theory and has not yet been confirmed by research findings. In this study, the use of modified pommel horse apparatus has the potential to enhance pupils' motivation to learn, particularly if the apparatus makes learning activities more enjoyable and encourages pupils to try new things. Nevertheless, the increase in motivation arising from pupils' interest in something new cannot automatically be regarded as long-term motivation. The research, conducted over four learning sessions, is expected to provide an insight into changes in pupils' motivation to learn following the implementation of this teaching aid, although it cannot yet confirm the sustainability of these changes in motivation in the long term.

METHOD

This study employed a quantitative approach using an experimental method. During the study, the researcher implemented an intervention using a straddle vault learning medium modified from recycled materials and wood shavings. Subsequently, the researcher observed changes in the students' learning motivation. This study used a pre-experimental design, specifically a one-group pretest-posttest design, which involves only one class group without a control group. This type of design was chosen because the researcher administered a pretest questionnaire at the beginning before implementing the intervention and a posttest questionnaire as a final assessment after the intervention was completed (Sumiati et al., 2023). The study was conducted at SMAN 1 Grogol, beginning with the creation of modified learning materials for the straddle vault using recycled materials, namely burlap sacks and wood shavings mixed with clay, as well as supplementary materials such as flannel fabric and sponges to serve as hand supports during the straddle vault. The designed learning media were validated by an expert in gymnastics, Dr. Irma Febriyanti, S.Or., M.Kes. After receiving feedback from the validator, the modified learning media were tested. This validation was conducted to assess whether the modifications made to the teaching materials were appropriate. The assessment covered the following aspects: suitability for learning, safety of the materials, quality and construction of the materials, functionality of the materials, ease of use, suitability for student characteristics, practicality, and maintenance. After receiving an evaluation from the validator, the study was conducted in a class designated as the sample. All students in the sample were required to complete a learning motivation questionnaire in the form of a pretest that had been prepared. Next, students were provided with the straddle vault learning intervention for 4 sessions, each lasting 3 JP × 40 minutes. After the fourth session was completed, the students again filled out the learning motivation questionnaire as a posttest. The motivation questionnaire completed by the students was used to analyze changes in their learning motivation after receiving the intervention through the modified media.

The modified apparatus was designed by altering the size and shape of the original straddle jump board. The modification was carried out by using the dimensions of the top beam of the second box from the handholds as a reference, so that when pupils perform the straddle jump during the second lesson, their legs can spread freely without hitting the apparatus. Compared with the original straddle jump block, the modified version is 9 cm taller and 20 cm shorter, whilst the width remains the same as the original block, at 50 cm. The shape of the modified apparatus was adapted to that of a jute sack, taking the form of a block when filled with sawdust and clay in a ratio of 2:1—2 parts sawdust to 1 part clay. The top surface of the support was covered with foam and wrapped in flannel to prevent slipping and reduce the risk of injury during lessons.

The population for this study consists of all 11th-grade students at SMAN 1 Grogol for the 2026–2027 academic year. The study sample was determined using simple random sampling and consists of one 11th-grade class. The research instrument consists of a learning motivation questionnaire designed using a 4-point Likert scale as a measurement tool. Before the questionnaire was administered to the students, the instrument had to undergo a validity test to determine the accuracy of each statement item in measuring the variables under study, as well as to assess the instrument's consistency through a reliability test. The learning motivation questionnaire used in this study was adapted from the thesis titled "Levels of Learning Motivation Among 10th-Grade Students in Physical Education and Health (PJOK) Classes at SMK Negeri 1 Cerme, Gresik Regency," written by (Mohtar, 2024). This instrument has undergone validity and reliability testing, resulting in 33 valid items and 1 item excluded (item 28), with a Cronbach's Alpha value of 0.978, indicating very high reliability. Next, the modified learning materials were assessed for suitability by experts before being distributed to the students. The results of this study were analyzed using SPSS Statistics 25. Initial analysis was conducted using descriptive statistics to provide an overview of the pretest and posttest scores obtained from the sample, subsequently a normality test was performed to verify the data met the requirements for further analysis. If the data were normally distributed, a paired samples t-test was used to analyze differences in students' learning motivation before and after the implementation of the modified staddle vault learning materials. However, if the data did not meet the assumption of normality, the Wilcoxon Signed-Rank Test was used for further analysis.

RESULTS

In this section, the researcher explains the results of the data analysis obtained from the pretest and posttest questionnaires administered after the implementation of modifications to the straddle vault learning medium using recycled materials and wood chips on high school students' learning motivation. Data processing in this study was conducted using SPSS Statistics 25. The following is a summary of the results of the pretest and posttest data analysis from the research sample.

Table 1. Descriptive Statistical Analysis of the Learning Motivation Questionnaire

Variabel	N	Minimum	Maximum	Mean
Pretest Questionnaire	36	76	106	88.75
Posttest Questionnarie	36	85	123	99.22

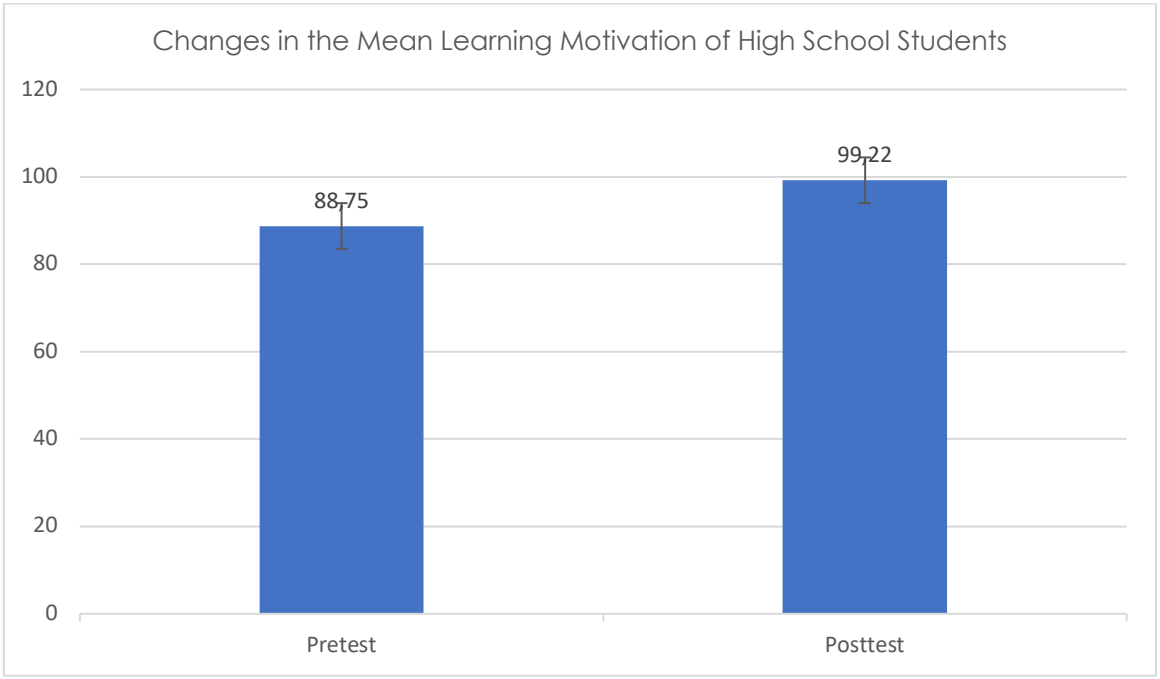


Figure 1. Bar Chart of the Mean Learning Motivation of High School Students

Based on Table 1 and Figure 1 above, the results of the descriptive statistical analysis of the pretest and posttest questionnaires with a total of 36 student respondents show that the minimum pretest score was 76 and the maximum was 106, while the minimum posttest score was 85 and the maximum was 123. The pretest mean was 88.75. After the intervention which involved modifying the straddle vault learning medium using recycled materials and wood shavings the posttest mean increased to 99.22. These results indicate an increase in the average learning motivation scores of high school students after they received four sessions of instruction using the modified straddle vault learning medium.

After conducting a descriptive statistical analysis, the next step is to perform a normality test on the data to determine whether the research data are normally distributed or not. In this study, the Shapiro-Wilk test was used because the sample size was less than 50, specifically 36 students (Sianturi, 2025).

Table 2. Result of the Shapiro-Wilk Normality Test

Variable	Significance	Notes
Pretest Questionnaire	0.611	Normally distributed
Posttest Questionnaire	0.104	Normally distributed

Based on Table 2 above, the results of the normality test using the Shapiro-Wilk test show that the significance value for the pretest variable is 0.611 > 0.05 and the significance value for the posttest variable is 0.104 > 0.05. Based on these results, since both significance values are greater than 0.05, according to the evaluation criteria, it can be concluded that the pretest and posttest variable data are normally distributed.

The results of the normality test indicate that the variables are normally distributed; therefore, the next step is to conduct a parametric test using the paired samples t-test, as shown in Table 3 below.

Table 3. Results of the Paired t-Test

Variable	Mean	t-value	df	Sig. (2-tailed)
Pretest-Posttest Questionnaire	-10.472	-8.843	35	0.000

Based on Table 3, the results of the paired samples t-test comparing the pretest and posttest data show a mean difference of -10.472 with a significance value (Sig., 2-tailed) of 0.000 < 0.05. Thus, H_0 is rejected and H_1 is accepted. The calculated t-value was -8.843 with 35 degrees of freedom (df). Based on the results of the paired samples t-test, it can be concluded that there is a statistically significant difference between the pretest and posttest results after the treatment the application of modifications to the straddle vault learning medium using recycled materials and wood dust on high school students' learning motivation.

DISCUSSION

The implementation of different teaching methods as opposed to previous Physical Education (PJOK) instruction was able to boost students' enthusiasm and encourage them to be more active during PJOK lessons (Fahrudin & Trisna Rahayu, 2018). This situation arose because the PJOK learning process had previously relied on outdated methods, the lessons lacked variety, the instructional material was unengaging, and the content was consistently monotonous, causing students to become bored and choose to remain passive and unenthusiastic during class (Ramadhani et al., 2025). This finding aligns with the issues raised in the research background, where a lack of variety in Physical Education, Health, and Sports (PJOK) instruction can lead to students being less active and unmotivated during the learning process. By implementing a gradual approach over four sessions through media modification using burlap sacks filled with wood shavings and clay as a jumping platform for the straddle vault in the gymnastics curriculum, students were provided with a new learning experience. Indirectly, students not only observe the teaching aids but also have the opportunity to use and experiment with them during the lesson. This finding aligns with the results of a study conducted by (Budi Santoso et al., 2022), which explains that students' intrinsic motivation is a crucial factor in fostering their engagement during learning activities. During the Physical Education and Health (PJOK) learning process, teachers have a full responsibility toward students to direct, guide, and create engaging learning experiences (Yuliani et al., 2026). Yuliani et al.'s finding supports the findings of the present study because direct and engaging learning experiences influence students to participate more actively during the learning process.

Engaging instruction can foster motivation in students, they will feel challenged and participate more actively during the learning process, thereby naturally transforming the learning environment. Research conducted by (Suwandi et al., 2026) indicates that physical education instruction designed around fun games can boost student motivation, consequently the use of modified teaching materials in physical education has a positive impact on the learning process, especially since some schools still lack the standard equipment needed to implement varied instructional approaches. The application of modified media provides an alternative for teachers and schools to continue implementing varied Physical Education and Health (PJOK) instruction based on students' learning needs and characteristics. It is hoped that these modifications will boost enthusiasm, participation, and understanding of basic techniques during Physical Education classes (Nur Syaifullah & Wicahyani, 2026). The application of modified teaching materials in the classroom is not merely about creating tools and using them immediately, rather these materials must be designed with consideration for safety, ease of use, suitability for students, and learning objectives. This is done to prevent some students from feeling afraid during hands-on practice, thereby ensuring that their interest and motivation to

learn do not decline (Rajong & Rumini, 2026). Findings (W. Rahayu et al., 2023) indicate that interest in Physical Education, Health, and Sports (PJOK) learning is always linked to the variety of material presented by the teacher, the use of engaging learning media, and a pleasant learning atmosphere.

The implementation of the modified straddle vault activity provided students with a varied learning experience and an atmosphere distinct from previous lessons. Interest is closely linked to learning activities; students who are interested tend to remain focused and enthusiastic whilst learning (attention), and are more motivated to achieve their learning objectives (goal-directed motivation) (Br Manurung et al., 2024). During the Physical Education (PJOK) learning process at school, the teacher plays a central role in facilitating learning that is enjoyable, creative, and beneficial (Desy Anggraeni et al., 2023). Students cannot learn on their own without the teacher's guidance or support. Through physical education lessons using the modified straddle vault that has been prepared, students will not be able to use this teaching aid on their own right away, they need guidance, demonstration of movements, supervision, and support from a teacher throughout the learning process (Yogo Prayadi & Cahya Putra, 2022). Therefore, teaching aids in learning serve as a supportive tool for teachers. The use of modified teaching aids in physical education can take various forms, depending on teaching needs while still aligning with learning objectives. This demonstrates that innovation and creativity in applying modified teaching aids do not necessarily have to involve technology but can be adapted to the limitations of the facilities available at the school.

However, before implementing media modifications in the learning process, these modifications must go through several stages, the design process, validation by experts, pilot testing, and evaluation regarding media use so that the developed media can be safely used in learning after receiving expert assessment (Udiana Watikasari et al., 2023). Furthermore, (Gata Wijaya et al., 2023) directly explain the application of modifications to learning media, providing students with new and meaningful learning experiences that allow them to receive explanations and engage in hands-on practice during instruction. Some schools still have limited facilities for conducting physical education (PJOK) practical lessons, so the implementation of these practical learning activities has not yet been optimal. This situation can be improved by innovatively utilizing learning media, the media used in learning does not always have to conform to established standards. Teachers can modify teaching aids by utilizing recycled items or materials easily found in the surrounding environment, ensuring that limited facilities do not always hinder the provision of varied Physical Education and Health (PJOK) learning experiences (Najib et al., 2026). Throughout the study, the researcher carried out observations in stages. During the first session, the pupils completed a learning motivation questionnaire as a pre-test. Throughout the activities, the researcher observed that the pupils' enthusiasm and motivation remained relatively low. This was evident from the fact that some

pupils paid little attention to the explanations given, were unable to concentrate whilst completing the pre-test that had been distributed, and showed little interest in taking part in the straddle jump exercise. This behaviour relates to the indicators of attention and interest included in the learning motivation questionnaire. Furthermore, during the second session, once the modified straddle jump equipment had been introduced, the majority of pupils showed a change in their approach to learning. They paid closer attention to the activities, were keen to give them a go, and were enthusiastic about practising the straddle jump movement. These behaviours became even more evident during the third and fourth sessions, when the pupils took turns to actively practise the straddle jump movement using the modified equipment that had been provided.

Some students attempted the straddle vault but still fell while crossing the burlap sack. These failures did not discourage the students. They resumed practicing according to the teacher's instructions alongside their peers, some students also collaborated to analyze how to cross the burlap sack without falling. Based on these observations, the students indirectly became more active than in the first treatment, as they demonstrated higher learning motivation through their active participation during the learning process (Yesaya Sipayung et al., 2024). Learning motivation varies among students and depends on the individual circumstances each student experiences. Research conducted by (Purnomo & Matin, 2021) showed that when participating in Physical Education (PJOK) lessons on track and field, students' motivation varied greatly, this demonstrates that student motivation is not always consistent across all learning sessions. This is because motivation in some students does not always stem from within but can also be related to the material presented, environmental factors, the teacher's instructional methods, and the use of media during instruction (Syahputra Nasution et al., 2025). Therefore, students' motivation in Physical Education and Health (PJOK) classes is not determined solely by the use of media but may also be influenced by various other factors.

In Physical Education and Health (PJOK) lessons, adapted teaching materials can have a positive impact on pupils' motivation to learn; however, their effectiveness depends on whether these materials are used in conjunction with appropriate teaching strategies, varied content, and an approach that enables teachers to create learning experiences that are engaging, enjoyable and safe for pupils. Without this support, pupils' motivation may wane over time (Muharram Tanjung & Sinulingga, 2026). In line with this, (Osita et al., 2020) explain in their research that learning outcomes in Physical Education and Health are not always solely related to learning motivation, but can also be influenced by other factors, such as pupils' fitness levels and nutritional status. Therefore, changes in pupils' learning motivation during lessons do not entirely determine their learning success, as there are still several other supporting factors that can influence it. Overall, adapting teaching materials can be a useful

alternative for schools facing a lack of facilities, provided this is combined with appropriate teaching strategies and attention to other factors that influence pupils' motivation to learn.

CONCLUSION

Based on the results of the study conducted at SMAN 1 Grogol, it can be concluded that the implementation of modified straddle vault learning media using recycled materials and wood shavings significantly improved high school students' motivation to learn. The use of modified straddle vault learning media in the physical education curriculum specifically, burlap sacks filled with wood shavings and clay provided students with a new learning experience. The use of this learning medium in this study can serve as an alternative to address the issue of limited physical education facilities and infrastructure in schools. Based on the researcher's observations, throughout the learning process, all students demonstrated enthusiasm and eagerness to use the prepared learning medium.

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