



## Development of Paklek Media on the Five Senses Material to Strengthen Student Learning Motivation in Elementary School

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### Abstract

The teaching-learning process is specifically designed for the benefit of students, with the aim of making them feel happy and motivated in learning. However, many teachers still struggle to enhance students' learning motivation, especially in the subject of science, specifically the five senses. This research aims to create a game-based learning media product considered valid by media and subject matter experts, practical for use by teachers and students, and effective in improving students' learning motivation. This research and development used the (R&D) ADDIE model. The research results indicate that the PAKLEK media can be effectively applied in learning, as evidenced by validation results from subject matter and media experts averaging 88%, with a valid category. In the practicality test, the PAKLEK media obtained an average score of 94%, with a highly practical category, according to practitioners, namely users in small group trials and field trials. The practicality of the media obtained 96.5%, with a highly effective category. Additionally, the survey results on student motivation showed a significant increase, from 56% to 94%, indicating very high effectiveness. The N-Gain test also showed highly effective results, with a score of 0.87. Thus, it can be concluded that the PAKLEK media for the five senses subject is suitable for enhancing elementary school students' motivation

**Keywords:** Crank Game; Motivation to Learn; Five Senses.

### INTRODUCTION

The learning process is a series of activities that are deliberately arranged to provide benefits to students. Therefore, in learning activities it must be ensured that they learn happily and enthusiastically follow the learning, so teachers need to create a pleasant learning environment by utilizing various resources available in the classroom. A teacher must have skills in increasing student motivation in the learning process. This aims to encourage them to gain interest and motivation in learning, because motivation plays an important role in the success of learning. Teachers should also be able to stimulate students' motivation so that they have a strong urge to learn, so that the learning process can take place smoothly and achieve the set goals. In addition, a pleasant

learning environment must be created by a teacher in learning, one of the things that teachers can do is to choose the right learning method and use media or tools in learning.

The use of media in the learning process is essential in increasing student interest and creating an interesting and effective learning experience. (Hasan, 2021). Effective learning can be done with real actions that are packaged in the form of games because at the elementary school level students still like to play (Panel, 2022). This is in line with the opinion of Yasin Yusuf, (2011) that there must be a medium that can provide information while being interesting so that the learning process takes place without tension, one of these media is game-based media. in line with the opinion of Deswita & Kusumah, (2018) that good learning is learning that does

not depend entirely on the teacher but instead students must also actively participate in the learning process.

Science is a series of critical thinking processes that aim to produce accurate and reliable information. Hungerford, Volk & Ramsey 1990 in (Wedyawati, 2019). The weakness of science learning that is often encountered in the learning process is learning that emphasizes more on memorization of a material concept and less emphasis on the process and learning outcomes. Science learning activities prioritize so that students understand a concept and override student activeness in the teaching and learning process. Especially in the material of the five senses tends to be difficult for students, because they have to memorize and understand the parts and functions of the five senses which are quite complex, without paying attention to student interest and enthusiasm in learning the material.

Based on the results of observations by conducting interviews with teachers and distributing questionnaires to students who have been carried out in one of the elementary schools in Malang district, the results obtained, the teacher uses media in the science material of the five senses, namely media that has not been able to actively involve students in the learning process, the teacher uses textbooks and interactive power points in the material of the five senses. So that there are still many students who are less interested in the material during the learning process, this is because many students have a kinesthetic learning style. Therefore, that is the cause of an education that cannot be said to be good because in the learning process students cannot be actively involved. So that from these problems, teachers can use an interesting media to support the learning process in the classroom in order to realize a good education (Ardiana, 2022).

Referring to the results of the needs analysis through interviews proves that the learning media used by the teacher is not sufficiently able to facilitate student activeness, such as playing while learning on the material of the five senses so that students

can actively participate and more easily remember and understand the material of the five senses, because according to Rahayu, (2022) teachers can develop students' memorization skills by stimulating through various kinds of fun games. Therefore, an interesting game-based media innovation is needed to strengthen students' learning motivation in the material of the five senses, so that their enthusiasm in learning activities will increase and learning will take place more fun. One of the game-based media that can be used on the material of the five senses is the traditional game media engklek.

Cricket game is a type of game that requires objects and applies rules that are made and must be obeyed by all players (Wardani, 2021). Student learning motivation can be increased through cricket games (Sari, 2021) because it is in accordance with the opinion of Solikah, (2020) which states that student motivation to learn can arise when learning uses a play method that creates a pleasant learning environment. Student learning motivation has an important impact on the learning process and outcomes, so it is a crucial factor in the learning context (Ibrahim, 2014). Thus, it is important to pay attention to learning to be fun, so that students can be motivated in learning (Relawati, 2021).

Several relevant studies have used the crank game media on science material in elementary school in Nurhayati's research, (2017) and Eyan's research, (2021). PAKLEK media is used as an effort to strengthen student learning motivation as in Sangaji's research, (2018) and Rahayu's research, (2022). For example in Tussa's research (2022) which reports that his research has developed engklek game media with an attractive media display and is equipped with images as well as question cards and special cards in it, media development has obtained valid, practical and effective results. Another study was also conducted by Purwanti (2021) who also developed interesting cranklek media with various features such as question cards and challenge cards, besides that the media developed has also used materials that are quite sturdy.

Based on the background description above, it is necessary to develop media on the five senses material to strengthen student learning motivation. The development of a PAKLEK (Engklek Game) media is considered to have an important role in helping students to remember teaching materials in learning. Therefore, based on the results of the previous needs analysis, research to develop media that is interesting and can increase student learning motivation in the learning process, with the title "Development of PAKLEK Media on the Five Senses Material to Strengthen Student Learning Motivation in Elementary School".

## RESEARCH METHODS

The research method used in this research is Research and Development (R & D). This research method was chosen to create a product which will then be tested in the feasibility category of the product that has been made (Rayanto & Sugianti, 2020). The process begins with the analysis stage (analyze), where problem and needs analysis is carried out as the first step. The analysis was conducted in class IV of SDN 1 Tirtomoyo Malang Regency with 18 students. Next is the design stage, at this stage the media design is made, namely the design of the PAKLEK (Engklek Game) media in the canva application, making questions, instruction manuals and developing learning materials, and prototypes. Furthermore, the development stage (development). The completed PAKLEK media will undergo validity testing by material experts and media experts. After being confirmed valid and reliable, the next step is the implementation stage, where the product will be tested by practitioners (teachers) and users (students) to evaluate its practicality and effectiveness. The last stage is evaluation, where researchers will adjust PAKLEK media based on feedback and suggestions from media experts, material experts, practitioners (teachers), and users (students) to improve product quality.

The instrument used in this research and development uses a questionnaire instrument. Questionnaire is a method of collecting data by presenting several written questions. In

line with the opinion of Efendi, (2018) that questionnaires can be useful for obtaining quantitative data needed by researchers. The types of questionnaires used as instruments in this study include material expert validation questionnaires and media experts who use Likert scale assessments with a score range of 1 - 4, while user practicality questionnaires (teachers and students), as well as learning motivation questionnaires for students using Likert scales with a score range of 1 - 5. The data were then analyzed descriptively and quantitatively using paired simple t-test and N Gain. Descriptive analysis was conducted by describing the increase in student motivation before and after using PAKLEK media. Quantitative analysis used JASP 0.18.2.0. Based on qualitative and quantitative analysis, it was found that PAKLEK learning media on the five senses can increase the motivation of elementary school students.

## RESULTS AND DISCUSSION

### Validation Result

PAKLEK (Engklek Game) media on the material of the five senses to strengthen student learning motivation in elementary school has been developed in accordance with the needs analysis that has been carried out. PAKLEK media is developed based on student needs. PAKLEK media is designed with an attractive appearance using a selection of cheerful colors and funny pictures. PAKLEK media is equipped with several supporting components including, 'gacu', question cards, material cards and instruction books.



**Figure 1.**  
**PAKLEK mat**



Figure 2  
Problem cards

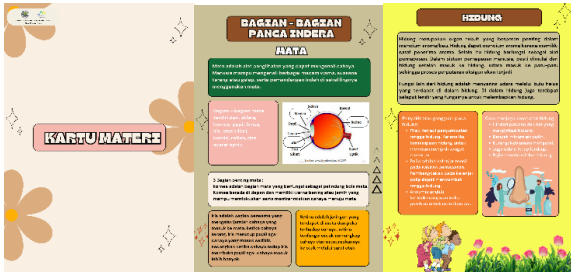


Figure 3  
Material Card

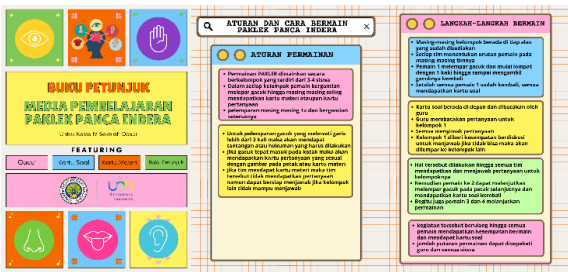


Figure 4  
Instruction Manual

Figure 1 shows the design of the PAKLEK media base which has been revised according to the media expert's suggestion by adding the identity of the agency. In Figure 2 shows a question card made in 5 different designs adapted to the 5 characteristics of the five senses, as well as on the material card in Figure 3 which is designed with 5 different characters according to the type of five senses described, on this material card also contains material that is in accordance with the material expert's suggestion, namely breaking concepts, knowledge and skills. The instruction book in Figure 4 shows the design of the instruction book for using PAKLEK media which contains how to use it, a description of the media and listed indicators on the five senses material. PAKLEK media in learning the five senses to increase student learning motivation in elementary schools has

been approved by material experts and media experts after going through the validation stage. The assessment results show that PAKLEK media is considered valid and reliable. Details of the assessment from material experts and media experts can be found in Table 1 below.

Table 1  
Data on Material Expert Validation Results

Aspects	Score		R	Ts	Ts	Hasil	Ket
	Va h I	Va h II					
Content Suitability	21	25	0,71	46	56	82%	Valid
Presentation of Material	15	17	0,66	32	40	80%	Valid
Linguistics	12	16	0,6	28	32	87%	Very Valid
Average			0,65			83%	Valid

The total score of validation by the two material experts obtained a percentage of 83% Based on the results of these percentages, the PAKLEK media product is declared valid and can be used with minor revisions. The reliability test obtained an average of 0.65, meaning that the validation results were also declared reliable. Based on the suggestions and input from the validators, PAKLEK media products need to be added to the material and questions that contain elements of analysis, so that minor revisions are needed so that PAKLEK media products become better and valid.

Material experts validate products based on content suitability, material presentation, and language. Based on the suitability of the content on the PAKLEK media product, it obtained a percentage of 82% with the main descriptors, namely the suitability of the material with CP, the suitability of the indicators with CP, and the suitability of learning objectives with indicators on the material of the five senses. In evaluating the suitability of learning materials, the main focus is to assess the extent to which the material in the PAKLEK media is in accordance with the learning outcomes set out in the curriculum. On the currency and completeness of the material is good enough and there is no improvement. Selection of good media according to Asnawir in Alwi,

(2017) which states that good learning media used is media that is appropriate and able to achieve learning objectives, as well as the subject matter discussed later can be taken into consideration.

The presentation of material includes 3 aspects, namely the suitability of the presentation of material with elements of knowledge and skills, the conciseness of the material and the clarity of the presentation of the material. In this section the validator gave a score of 80%. With a valid category, the material presentation assessment includes elements of material presented in the form of knowledge and skills elements. The order of the material and the clarity of the presentation of the material are very good, the material is presented coherently from simple material to complex material, while in the aspect of clarity the presentation of the material is very clear by presenting material that is simple and easy for students to understand. (Arsanti, 2018) In the aspect of material presentation, the material must be arranged systematically, completely, and briefly, but still interesting and easy to understand by students, with the aim of increasing student motivation in reading the material. Material experts have stated that the presentation of the material is adequate because it includes elements of analysis and skills, so that students not only memorize material but are also able to think analytically.

The language section includes two aspects, namely the clarity of language use and the use of sentences. In this section, the validator gave the highest percentage in the material validity aspect, which was 87% with a very valid category. The use of language has been adjusted to the level of student understanding, including the selection of simple vocabulary and the use of effective sentences. The language used in PAKLEK media must be communicative, that is, the sentences must be clear and simple so that they are easily understood by students. In line with the opinion of the material expert that language is important in a medium because the selection of appropriate language and easy for students to understand can make students easily understand the material. In line with Nursina's

(2014) statement that using effective sentences and communicative language in learning can make students better understand the material. So that the use of communicative language both in writing and in direct delivery is very effective in the process.

From the description presented, it can be concluded that the PAKLEK media has gone through a series of material expert validations. However, in the aspect of material presentation, it needs to be considered because there are few material elements that have not appeared in order to add activities and vary students' ways of thinking, this is to further support students' interest in the material of the five senses, while the highest assessment is in the aspect of content suitability. The validation test on media experts in detail can be seen in Table 2 below.

**Table 2**

**Data on Media Expert Validation Results**

Aspects	Score		R	Ts	Tsh	Hasil	Ket
	Vah I	Vah II					
View	24	23	0,9 0	47	48	97%	Very Valid
Usability	27	22	0,8 8	49	56	87%	Very Valid
Average			0,8 9			92%	Very Valid

So in Table 2 shows the results of the validation of PAKLEK media products from both validators getting a total percentage of 94%, categorized as very valid and feasible to use without revision. The reliability test obtained 0.89, meaning that the validation results were also declared reliable. Based on suggestions and input from media validators, it is necessary to pay attention to writing and need to add the identity of the developer and agency to the components of the PAKLEK media product, so that minor revisions are needed for the product to be better.

Validation by media experts includes an assessment of appearance and usability. The display aspect of the PAKLEK media obtained a score of 97% with descriptors that the media display was in accordance with the age of student development and had a varied and colorful appearance. In PAKLEK media, the display aspects include color selection, item selection and suitability of the combination of items and background colors.

The appearance of the PAKLEK media has supporting aspects of the media display where the PAKLEK media is designed with a selection of cheerful and diverse colors and is equipped with gacu components, material cards, question cards and guidebooks with attractive image designs that can arouse students' interest and motivation in learning. The display aspect in a medium is important because, a learning medium is expected to attract students' attention in terms of media appearance, color selection and learning media content, especially in color selection, because the presence of color elements in a medium can stimulate the brain so that it can divert and focus the eye's attention on the object being viewed (Salina, 2022).

Then in the usability aspect obtained a score of 87% from the media expert validator. The usability aspect includes instructions, how to use, and durability that are appropriate where the instructions are written in the instruction book that makes it easier for users to use PAKLEK media. then how to use it is quite easy and does not require special skills in using PAKLEK media. In addition, the durability of PAKLEK media is quite good because it uses good and strong materials but does not need special storage or maintenance. The usability aspect is very important because, the media must be used easily in its operation (Johar, 2014). In line with the statement delivered by the media expert that PAKLEK media is easy to use and maintain by teachers and students.

From the description presented, it can be concluded that PAKLEK media has gone through a series of validations from media experts. The average value of all aspects shows a figure of 92% which is included in the very valid category. So that there are only a few additions that need to be considered regarding the addition of identity and agency. So that the high percentage obtained in the display aspect can support PAKLEK media in strengthening student learning motivation. Reinforced by the opinion of (Salina, 2022) in the display of a media, the right color selection can attract students' attention in learning, because colors provide a pleasant atmosphere to the viewer. So that with the

high percentage obtained from the validity of a media in the display aspect, it is expected to be able to strengthen student learning motivation.

### Practicality Results

The assessment of the practicality of the media in this study is an assessment in the form of a questionnaire totaling 10 statement items by users (teachers and students) through a small-scale trial of 6 students and a field trial of 18 students. The detailed practical results can be seen in Table 3 below.

**Table 3**  
**Teacher Practicality Test Results**

Aspects	Score		Tse	Tsh	Result	Description
	Small scale	Large scale				
Clarity of instructions	10	10	19	20	95%	Very practical
Ease of use	20	20	40	40	100%	Very practical
Clarity of material	10	10	20	20	100%	Very practical
Attractiveness	10	10	20	20	100%	Very practical
<b>Average</b>					98%	Very practical

Table 3 shows the results of the practicality test by teachers who filled out a practicality questionnaire of 10 statement items using a Likert scale. The assessment aspects in practicality include clarity of user instructions, ease of use, clarity of material and attractiveness. The aspects of ease of use, clarity of material and attractiveness get a high percentage of 100%, because the teacher as a user states that the use and maintenance of PAKLEK media is quite easy and the media can be used for a long time. This opinion is in line with Tahrim, (2021) that in choosing media, it is very necessary to pay attention to ease of use to facilitate users in the learning process. In the aspect of material clarity in accordance with the material validation indicators provided by the material expert that the language used in the PAKLEK media is quite communicative so that it is very easy for students to understand. Seen in table 4.5 that the recapitulation of the results of the practicality test by teachers on small-scale and large-scale trials obtained a percentage of 98%, with the media descriptor very practical to use by users.



PAKLEK media is considered very practical and can be used without the need for revision. Therefore, PAKLEK media is in accordance with the needs of students in supporting learning in the classroom. Feedback and suggestions from teachers indicate that the product is practical and effective in use by students. Mutia, (2021) in elementary school children there are four characteristics, namely a preference for play, physical activity, the ability to work in groups, and a preference for direct experience. Thus, in accordance with Fitriyawany, (2013) game media can be used to convey the desired learning material. It is in accordance with the opinion of the teacher as a user that good media is media that is able to achieve learning objectives.

**Table 4**  
**Small Scale Student Practicality Test Results**

Aspects	Total Score	Score maks	Result	Dec
Clarity of instructions	54	60	90%	Very practical
Ease of use	112	120	93%	Very practical
Clarity of material	55	60	91%	Very practical
Attractiveness	55	60	91%	Very practical
Average			91%	Very practical

**Table 5**  
**Small Scale Student Practicality Test Results**

Aspects	Total Score	Score maks	Result	Dec
Clarity of instructions	171	180	95%	Very practical
Ease of use	335	360	93%	Very practical
Clarity of material	171	180	95%	Very practical
Attractiveness	167	180	92%	Very practical
Average			93%	Very practical

Based on Table 4 on a small scale and Table 5 on a large scale as follows. The results of the evaluation of the practicality of PAKLEK media according to students'

opinions in the small-scale trial showed an approval rate of 91%, while in the large-scale trial it reached 93%. Thus, it can be concluded that PAKLEK media is very practical and is suitable for use without the need for revision. Based on the evaluation results from teachers and students, it is evident that PAKLEK media is very practical for its users (teachers and students).

The practicality test by students was conducted in two stages. The first stage, the small-scale trial, was conducted on January 5, 2024 in class IV of SDN 2 Tirtomoyo There were six students in the sample. Of these, two students had high ability, two students had medium ability, and two students had low ability. The second stage, the large-scale trial, was conducted on January 12, 2024 in class IV of SDN 1 Tirtomoyo with 18 students. Practicality questionnaires were filled in by students after they learned about the five senses using PAKLEK media. During the PAKLEK media trial activities on the five senses material, students were grouped into two large groups. Learning in groups is considered fun because students can work together with their friends. Group learning also increases students' enthusiasm for learning so that students' learning motivation increases.

### Effectiveness Results

The effectiveness test was conducted by comparing the scores of student learning motivation instruments before and after the use of PAKLEK media. The results of this effectiveness test are documented in Table 6 below.

**Table 6**  
**Effectiveness Test Results of Student Motivation Questionnaire Scores**

Aspects	Before		Percentage	After		Percentage	N-Gain Score
	NK	K		NK	K		
Attention	270	139	51%	270	260	95%	0,91
Relevance	270	146	54%	270	249	92%	0,84
Confidence	270	152	56%	270	251	92%	0,84
Satisfaction	270	164	60%	270	257	95%	0,89
total	<b>1080</b>	<b>601</b>		<b>1080</b>	<b>1007</b>		
Average			<b>56%</b>			<b>94%</b>	<b>0,87</b>

Based on table 6, the results of the effectiveness test of the motivation questionnaire score before and after using PAKLEK media by fourth grade students of SDN 1 Tirtomoyo show that the percentage of motivation questionnaire scores before using the media obtained an average of 56%, which is in the medium motivation category. While the percentage of motivation questionnaire scores after using PAKLEK media obtained an average of 94% which means it is included in the high motivation category. So that PAKLEK media can strengthen student learning motivation on the material of the five senses. While the N-Gain Score results obtained a value of 0.87 or 87% which means the development of PAKLEK media is effective.

Calculation of student motivation scores before and after using PAKLEK media found a significant increase in motivation, which was supported by the presence of an observer while students were using the media in learning. The observer also filled in the student learning motivation instrument after using the PAKLEK media, the results of which are recorded in Table 1.7 below.

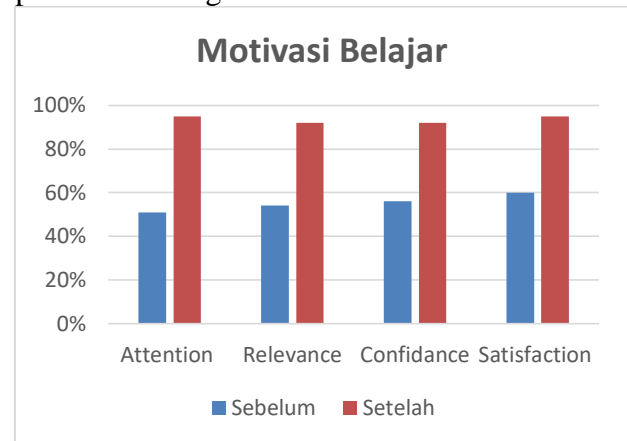
**Table 1.7**  
**Observation Results of Learning Motivation by Observers**

Assessment Aspect	Total score	Score Maks	Persentase
Attention	15	15	100%
Relevance	14	15	93%
Confidence	15	15	100%
Satisfaction	14	15	93%
Average			96%
Category			Highly Effective
Test Decision			Usable Without Revision

From the observation results recorded in the student learning motivation instrument, a percentage of 96.5% was obtained, which indicates a high level of motivation. Thus, it is concluded that PAKLEK media in the five senses lesson is effective to increase students' learning motivation on the material of the five senses.

After evaluating the students' learning motivation scores before and after PAKLEK

media is used in learning. Furthermore, the calculation and improvement results of each aspect of student learning motivation are presented in Figure 5 below.



**Figure 5**  
**Histogram of Student Learning Motivation**

Based on Figure 5, it can be informed that before and after the use of PAKLEK media has increased significantly. From the graph, it can be seen that the attention aspect obtained the highest percentage after PAKLEK media was used, which was 95%. Relevance showed the lowest increase, which was 54% before using PAKLEK media, increasing to 92% after using the media.

The Effectiveness Test was conducted using a learning motivation questionnaire that refers to four elements namely Attention, Relevance, Confidence, and Satisfaction which are the basis for each statement in the motivation questionnaire. The results showed that learning motivation, which was measured based on the four aspects, provided a diverse percentage in influencing the level of student motivation in learning the material of the five senses, although the acquisition of the percentage was not much different. It is known that the percentage of motivation for each aspect of motivation is 95% for attention, 92% for relevance, 92% for confidence, and 95% for satisfaction. Attention and satisfaction received the highest percentages among the other four aspects of motivation, while confidence and relevance received lower percentages. A graph illustrating the results of each percentage for each ARCS aspect can be seen in Figure 5.

The attention aspect is a very essential aspect in motivating learning, this is because



the characteristics of the attention aspect are prioritizing students' interests and encouraging students' curiosity to learn. Setyowati, (2022). Because it is in accordance with the statement of Asiani, (2017) that student motivation can be seen from the desire and encouragement of students in learning, so that students are excited and active in carrying out learning activities. What supports students to achieve a high percentage in the attention aspect of the media is the appearance and method of using PAKLEK media which is in line with the results of media validation which states that the appearance and method of using the media are very valid so that the media can attract students' attention. So it can be concluded that if the attention aspect gets the highest percentage, it shows that students have high motivation. The acquisition of these results can be seen from the students' high interest and curiosity in the media and material presented with bright colors and attractive images. Students look active and enthusiastic in using PAKLEK media for the five senses.

Based on the results of the relevance aspect of 92%, it shows that students are still not fully motivated in learning. This is due to the limitations of PAKLEK media, especially in the content of science material about the five senses, still unable to help students apply the concepts they understand in real life. According to Primavera (2014), the factor that causes the lack of effectiveness in the relevance aspect is because the use of game methods in science learning does not directly reflect the concept of the material, so students have difficulty in linking the material of the five senses with phenomena that exist in everyday life.

The confidence aspect achieved a result of 92%. Things that can affect the percentage obtained in the confidence aspect are mental resilience and a high level of confidence possessed by students. Games that are carried out in groups and scramble to answer questions make students compete to answer each other and are not afraid to convey answers, because the learning atmosphere is not tense and tends to be fun. Thus, with the emergence of self-confidence in students with

the help of learning media can make it easier for students to control their emotions and interest in learning. This is in line with the opinion of Yasin Yusuf, (2011) that there must be a medium that can provide information as well as interesting so that the learning process takes place without tension, one of these media is game-based media.

The last aspect is Satisfaction, which gets a percentage of 95%. The evidence of this is the sense of satisfaction in learning the five senses that can be seen when students are in the classroom, one of which is that students want to read the material, are able to complete the game without cheating and try to answer questions, besides that the satisfaction is also felt by students because their kinesthetic learning style can be fulfilled by using PAKLEK media. This aspect can reach a high category because it is closely related to the confidence aspect, namely the high self-confidence of students who are able to provide a sense of satisfaction to students. Reinforced by the opinion of the observer that students have high satisfaction because students can learn by being facilitated to play.

The next step was to test the normality of the pre and post motivation questionnaire scores to determine whether or not the data was normally distributed, while considering the significant increase in learning motivation. More detailed information can be found in Table 7.

**Table 7**  
**Normality Test**

Aspects	Before		After		P
	M	SD	M	SD	
<i>Attention</i>	8.72	1.40	14.27	0.82	0.19
<i>Relevance</i>	7.66	1.28	13.82	0.78	0.22
<i>Confidance</i>	8.05	1.58	13.94	0.87	0.63
<i>Satisfaction</i>	7.77	1.55	14.27	0.75	0.24
<b>Total</b>	<b>32.2</b>	<b>5.81</b>	<b>56.3</b>	<b>3.22</b>	<b>1.28</b>
<b>Average</b>	<b>8.05</b>	<b>1.45</b>	<b>14.07</b>	<b>0.80</b>	<b>0.32</b>

Test data is considered normally distributed if the significance value is greater than 0.05. Using Shapiro-Wilk to test the normality of each aspect obtained results showing that the attention aspect has a significance value of 0.22 ( $p > 0.05$ ),

relevance of 0.24 ( $p > 0.05$ ), confidence of 0.63 ( $p > 0.05$ ), and satisfaction of 0.19 ( $p > 0.05$ ). Therefore, the conclusion is that the average of all aspects is found to be normally distributed because it obtains a significance value greater than 0.05, which is 0.32. Furthermore, to evaluate the increase in learning motivation, a paired sample t-test was used which is listed in Table 8 below.

**Table 8**  
**Paired Sample t-tests**

Aspects	Test	Statistic	df	p
<i>Attention</i>	Student	-13.420	17	<0.01
	Wilcoxon	0.000		<0.01
<i>Relevance</i>	Student	-18.365	17	<0.01
	Wilcoxon	0.000		<0.01
<i>Confidance</i>	Student	-15.225	17	<0.01
	Wilcoxon	0.000		<0.01
<i>Satisfaction</i>	Student	-17.045	17	<0.01
	Wilcoxon	0.000		<0.01

From the results of the paired sample t-test in Table 4.10, it is evident that each aspect has a p value <0.01 (significant). This indicates that there is an increase in student learning motivation before and after the application of PAKLEK media.

## CONCLUSION

PAKLEK media is a traditional game-based learning media. PAKLEK media was developed as a learning media that can strengthen students' learning motivation in science subjects on the material of the five senses. Based on the results of the analysis and discussion, conclusions can be drawn regarding research on the development of PAKLEK media to strengthen student learning motivation as follows.

The research and development that has been carried out produces PAKLEK media products that are valid according to material experts and media experts by getting a percentage score of 83% material experts who fall into the valid category and 92% media experts who fall into the very valid category. The percentage achievement shows that PAKLEK media is very valid according to the experts.

The developed product has gone through the practicality test stage. The results of product trials on a small scale of PAKLEK product development by teachers obtained a

percentage score of 97.5%, while by students obtained a percentage of 91%. The product trial on a large scale by the teacher received a percentage score of 100%, while by students it was 93%. Based on the results of the practicality test obtained from the results of data analysis, it can be concluded that PAKLEK media is practical to use for users in the learning process.

PAKLEK media can strengthen student learning motivation on the material of the five senses. This is based on the results of the learning motivation trial after using the learning media getting a percentage value of 94% in the high category. So that from the results of the PAKLEK media effectiveness test it is declared effective in increasing student learning motivation in the material of the five senses.

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