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Application Interactive Thematic Learning Media i-Spring to Improve Student Learning Outcomes

Hakiki Annisa Batubara
Educational Technology
Postgraduate
Universitas Negeri Medan
Medan, West Sumatera
Indonesia

Naeklan Simbolon
Educational Technology
Postgraduate Leacture
Universitas Negeri Medan
Medan, West Sumatera
Indonesia

Sriadhi
Educational Technology
Postgraduate Leacture
Universitas Negeri Medan
Medan, West Sumatera
Indonesia

Abstract: The purpose of this study was to determine the level of feasibility of using interactive thematic learning media for the application of i-spring to elementary school students. Development research methods (Development & Research). Development research is a model in research that is used to produce certain products and to test the feasibility of media and the effectiveness of a product. The subjects in this study were students of class III A at Tembung 101767 Elementary School. The location of this research was carried out at elementary school IT Nurul 'Ilmi in the odd semester of the 2022/2023 academic year. This development research focused on thematic learning, namely theme 3 "Things Around Me", sub-theme 2 "Objects Being" and Learning 5 and 6 in class III elementary school. The final product will be evaluated based on the specified product quality aspects. The results of the study show that the Thematic Interactive Learning media in the thematic learning developed has been validated and meets the criteria for good and appropriate learning media to be used in thematic learning on the theme 6 sub-themes 3 in class III elementary school with an average media percentage of 88% and material of 90% with a very feasible category as a learning medium.

Keywords: learning Media; thematic; interactive; i-springs; improve learning outcomes

1. INTRODUCTION

Learning outcomes are needed to see the development of students. Learning outcomes are a collection of information in the form of data that can be used to modify the teaching and learning strategies and techniques that have been carried out. Rasyid Harun and Mansur [1], student learning progress can be known through the learning outcomes obtained before and after participating in the teaching and learning process. Every educator today needs the innovation that can provide the key to success in teaching for students. This is of course in accordance with the provisions in Law no. 14 of 2005 article 20 B [2] namely, "Teachers are obliged to improve and develop academic qualifications and competencies in a sustainable manner in line with science, technology, and art".

Learning media designed according to student's learning needs can lead to positive attitudes students towards the learning process. Prawiradilaga [3], the application of learning media can also be designed specifically to achieve learning objectives by taking into account the nature and characteristics of the material to be delivered. In this case, the learning activities that have been carried out are said to be successful if students have good learning outcomes, namely having limits on being able to achieve KKM (Minimum Completeness Criteria).

With the existence of technology-based learning media that combines interesting picture, sound, video, and animation effects, plays a role in stimulating interest in learning and can improve learning outcomes. For this reason, there is a need for more innovative learning transitions by utilizing technology in learning. Accompanied by the teacher's role in designing learning, developing, managing, and carrying out reflections on each lesson, to see student learning needs. Determining solutions to overcome these problems is by developing interactive thematic learning media based on technology in learning.

Interactive thematic learning media is a means for teachers to be creative and increase innovation in thematic learning. Thematic learning means a learning process that is interrelated in each of the themes studied. The 2013 curriculum provides a theme-based learning concept that provides a blend of 3 to 4 subjects in each meeting. While interactive can provide interrelated meanings, the presence of action or subsequent treatment provides feedback as a reaction that arises.

Interactive in this scope relates to the use of the media used, including one of the technology-based learning media using the help of i-Spring software incorporated in Microsoft PowerPoint and/or multimedia programs used in the form of innovative simulations with additional evaluation facilities at the end. The result of the media can be obtained via interactive media in HTML, flash, MP4 video, and powerpoint formats and can be used as one of the features of mobile phone applications.

The use of i-Spring interactive learning media can make it easier for teachers to teach abstract material to be more concrete and can attract students' interest in learning. This is proven based on the results of previous studies which stated that (1) "Data on student responses to interactive learning media Powerpoint i-Spring suite 8, there are 15 statements consisting of positive responses and negative responses of students after using learning media Powerpoint i -Spring suite 8, shows that student's responses to the use of interactive learning media have received positive responses from students. Putriyani and Haryono [4], the media developed can help increase student motivation in studying chemical equilibrium material and improve student learning outcomes. Fibriani, et al. [5], the resulting interactive media development products were able to improve cognitive,

affective, and psychomotor learning outcomes with learning outcomes that exceeded the achievement target of the student response questionnaire to learning was very good [6].

1.1 Learning and Learning Outcomes

Learning occurs especially when a person responds and receives stimulation from his external environment which is in line with Gagne's thought [7] "The purpose of instructional is to help people learn". In this case, the stimulus is very important and is useful as a driving force for changes in a comprehensive manner that comes from the external environment of students. From the explanation of learning above, it can be concluded that the definition of learning is a person's continuous experience in acquiring development from within that originates from stimulation and a willingness to make changes based on experience with the new things that have been obtained. Thus becoming a better person than before by achieving the ability to think rationally, creatively, and morally.

Learning outcomes are the product of an information system input process that issues (output) in the form of behavior/performance. Schunk [8], the acquisition of learning outcomes is known after the occurrence of human performance, but the process of learning is much less obvious. Driscoll [9], the final results of learning activities contribute to (1) intellectual skills, (2) cognitive strategies, (3) verbal information, (4) attitude, and (5) motor skills. [10].

1.2 Interactive Learning Media

Media is an intermediary for teachers and students in providing good and fun communication and can increase student learning enthusiasm when the application of learning media is given interestingly and innovatively in the learning process [11]. Learning media is considered important when carrying out learning for teachers so that learning objectives can be achieved and learning activities can be more easily understood and conveyed with the help of learning media. According to Arsyad [12], the word media comes from the Latin Medius which literally means 'middle', 'intermediary', or 'introduction'. Another opinion regarding the media is the carrier of information/messages from information sources to recipients, and the message is intended to change the recipient's behavior [13].

Media are all forms and channels of conveying messages/information from message sources to intermediaries that can stimulate the mind, and arouse enthusiasm, attention, and willingness of students so that students can acquire knowledge, skills, or attitudes in accordance with the objectives of the information conveyed [14]. In the learning process, the important thing is to motivate learning which is useful as students' skills in mastering learning material and learning success. This is in line with Rusman's opinion [15], which states that the media is a tool that allows students to understand and understand something easily, to remember it for a long time compared to the delivery of subject matter, by face-to-face and lecturing without tools or tools. learning Media.

Learning media is an important component during the learning process in achieving learning goals. According to Rusman [16] the use of learning media will be very helpful in conveying messages and lesson content, as well as giving more meaning to the learning process, thus motivating students to improve their learning process. This is in line with Susilana's opinion [17] that the benefits of learning media contain value: (1) concrete abstract concepts, that is, they can provide concrete forms through elaboration and descriptions that were previously difficult to convey to students, (2) can present objects that are too dangerous or difficult to get into the learning environment, (3) can be interactive learning media for objects that are too big or small, (4) show movements that are too fast or slow.

Furthermore, Suryani [18] the benefits of learning media for students are: (a) stimulate curiosity to learn, (b) motivate students to study both in class and independently, (c) make it easier for students to understand the subject matter presented systematically through media, (d) providing a fun and not boring atmosphere so that it focuses more on learning, and (e) giving students awareness of choosing the best learning media for learning through the variety of media presented.

Interactive learning media is a learning program that contains a combination of text, images, graphics, sounds, videos, animations, *and* simulations in an integrated and synergistic manner with the help of computer devices or the like to achieve certain learning goals where users can actively interact [19].

The use of interactive learning media must be able to control and interact dynamically. This is the characteristic of interactive learning media in which there is the word "interactive". In contrast to the interactive term that is applied between two people where each can influence *the* other to interact. Because in interactive learning media involves humans and computers (non-human), the interaction is always preceded by humans as users who provide action and computers react. Users press the button, move the cursor, shift objects, do *drag-and-drops*, write through the keyboard, talk via *a* mic, *and* move limbs in front of the camera are some examples of actions from users who can start to interact with the media.

According to Surjono, [20] Interactive media has a mandatory element in the form of text, images, sounds, animations, and video in an integrated and synergistic manner through a computer or electronic *by* the purpose. In addition, learning media *to* be included in the interactive category of emotion have feedback, branching, assessment, monitoring, instructions, and interesting interactive learning *media*.

1.3 I-Spring Learning Media

I-Spring is a tool that provides several features on the *powerpoint* which includes a realistic dialog simulation character with additional assessment evaluation features. The results of the creation of interactive thematic learning media can be converted in the form of flash formats, power points, HTML5, and MP4 videos, or can even be used as *mobile-based* media. I-Spring is one of the tools that *convert* presentation files into Flash and Scorm / AICC forms, which are forms commonly used in learning with E-Learning LMS (Learning Management System). I-Spring software is available in free and paid versions.

According to Hermawati [21], I-Spring is one of the tools that converts presentation files into flash form, *and* can easily be integrated *into* Microsoft PowerPoint so that its use does not require complicated expertise. The use of this application can create various forms of *the* quiz, *and* enter audio, video, and YouTube.

The I-Spring application can make the presentation file into flash easily and make the entered video run smoothly. Utilization of I-Spring applications can make it easier for teachers to teach abstract material to be concrete precisely on the material of the human digestive system. Learning using this media can help students to more easily understand the material and make learning more interesting.

I-Spring can easily be integrated into Microsoft Power Point so that its use does not require complicated expertise. Some features of the I-Spring Presenter are: (1) Media I-Spring Presenter works as PowerPoint add-ins, to make the PowerPoint file more attractive and interactive-based-based and can be opened at Hamedia Interactive Learning for each computer or platform; (2) developed to support e-learning learning methods. I-Spring can insert various forms of media, so that the resulting learning media will be more interesting, including being able to record and synchronize the video presenter, add Flash and Youtube videos, import or record audio, add information makers and company logos, and create navigation and Unique design; (3) easily distributed in flash format, which can be used anywhere and optimized for the web; and (4) making quizzes with various types of questions/questions, namely: True/False, Multiple Choice, Multiple Response, Type in, Matching, Sequence, Numeric, Fill in the Blank, Multiple Choice Text.

1.4 Thematic Learning

Susanto [22], states that several characteristics are contained in the application of integrated thematic learning models, namely: (1) Student-centered learning (Student Centered), (2) Learning can provide direct experience to students (Direct experience). (3) In learning the separation between subjects becomes not so clear. (4) Learning presents concepts from various subjects in a learning process. (5) Learning is flexible (flexible). (6) Learning outcomes can develop according to the interests and needs of students.

Meanwhile, Prastowo [23], concluded that the characteristics of thematic learning are basically, namely: (1) Student-centered learning. (2) emphasizing the formation of understanding and meaningfulness. (3) learn through experience or provide direct experience. (4) pay more attention to the process rather than the result. (5) loaded with linkages. (6) the separation of aspects is not very clear. (7) presents concepts from various aspects. (8) is flexible. (9) learning outcomes according to the interests and needs of students. (10) using the principle of learning while playing and having fun.

Thematic learning provides advantages compared to conventional learning. According to Prastowo [24] the advantages of thematic learning consist of: (1) Being able to shape learning experiences and activities that are relevant to the development of children in elementary school. (2) the activities selected in the implementation of learning are more meaningful and memorable for students. (3) learning activities will be more meaningful and memorable for students so that learning outcomes last longer. (4) help develop students' thinking skills. (5) present pragmatic learning activities by the problems students often encounter in their environment. (6) develop students' social skills such as cooperation, tolerance, and responsiveness to other people's ideas.

By the teacher's handbook for class III theme 3 Sub-theme 3 Learning 1 and 2 of the 2013 revision of the 2018 curriculum. The limitations of the material on thematic learning that will be discussed include several subjects, namely mathematics, SBDP, and Indonesian, the following is the scope of basic competencies to be developed;

The formulation of the problem in this research is how is the development of interactive thematic learning media in learning theme 3 sub-theme 3 appropriate for use in learning.

2. METHODS

This research is a type of research and development (R & D). Development research (Development & Research) is a model in research that is used to produce certain products as well as test the feasibility of the media and the effectiveness of a product. In this research what will be developed is learning media using PowerPoint and i-Spring. This development research focused on thematic learning, namely theme 3 "Things Around Me", sub-theme 2 "Object Being" and Learning 5 and 6 in class III SD IT Nurul 'Ilmi. The final product will be evaluated based on the specified product quality aspects. Thus, the product of this research is an appropriate and effective media for third-grade students at Tembung 101767 Elementary School.

The development model that will be planned in this study follows the path of Thiagrajan, Dorothy S. Semmel, and Melvyn I Semmel's siiiiasailam [25]. According to Thiagarajan, and Semmel in Sugiono [26], namely the 4-D model (four D models) consists of 4 stages, namely: (1) the definition stage (define), (2) the planning stage (design), (3) stage of development (develop) and (4) stage of deployment (disseminate). Here's the main flow of the Thiagarajan, Semmel & Semmel development model.

Valid products will be applied to learning to see the level of effectiveness in improving student learning outcomes. In addition to being feasible and effective, the media developed must also have practical value, by what is needed when learning takes place, teachers who play a role in learning know what students need, and vice versa the responses given by students must be by what needed, the conditions for the media to be feasible to develop must pay attention to feasibility and effectiveness.

According to Thiagarajan, et al [27], states that "initial design is presenting of the essential instruction through appropriate media and in a suitable sequence". The initial design is the design of all learning media that must be developed before the trial is carried out.

Activities in this phase are designing patterns, and plots based on the flowchart of the trial model, Rusman [28] revealed that the computer as a tutor is oriented towards efforts to build student behavior through the use of computers. In simple terms, the operating pattern is as follows: (1) The computer prepares material (2) students respond (3) student responses will be evaluated by the computer orientated toward the student's direction in pursuing the next achievement, and (4) continue or repeat the next stage.

This learning media was tested in class III elementary schools, to see the effectiveness of the learning media that had been designed and to increase student learning independence. In the context of developing learning media, the following steps will be carried out: (1) Validation of learning material experts; (2) Validation of learning design experts; (3) Validation of learning media design experts; (4) Revision of learning media based on input from experts during the validation of i-Spring learning media in thematic learning; (5) Trial I (individual) of 2 class III students; (6) Revision of learning media based on

the results of trial I; (7) Distribution of practical questionnaires to teachers and distribution of student response questionnaires; (8) Trial II 25 students in class III learning; (8) Revision of the media and further trials if they have not met the set effectiveness standards and stop the trials if they have met the set effectiveness standards; (9) Student assessment of product attractiveness; and (10) Analysis of interactive learning e-media.

The trial design in this study used a one-group pretest-posttest design. The first step is to take measurements as an initial test (Pretest), then subject to treatment within a certain period, then a final test (posttest) is carried out. The pre-test and post-test research design is the pattern in the table as follows:

Table 1. Trial Design

Test	Treatment	Test
T1	X	T2

Information:
T1 is a test of learning outcomes before learning.
T2 is a test of learning outcomes after learning.
X is learning using i-Spring-based learning media.

Feasibility Analysis of Interactive Thematic Learning Media
Expert validation questionnaire data were analyzed using the percentage of developed learning media scores. The formula used to calculate the percentage of expert validation questionnaires, namely:

$$P = \frac{f}{N} \times 100\%$$

Information:
Q: Score Percentage
f: Total score obtained
N: Total maximum score

Table 2. Classification of Feasibility of Learning Media

Achievement Level	Validity Classification
81,26% < P ≤ 100%	Very Valid
62, 26% < P ≤ 81,25%	Valid
43,76 % < P ≤ 62,25%	Less Valid
25% < P ≤ 43,75 %	Not Valid

Data Analysis of the Effectiveness of Interactive Thematic Learning Media

The data obtained from the trial results were analyzed to see student learning outcomes. This analysis will show the percentage of students who can achieve a minimum KKM score in the B- category (complete).

Based on Permendikbud number 104 of 2014, the competency mastery value of skills knowledge is expressed in the form of numbers and letters, namely 4.00-1.00 for numbers that are equivalent to the letters A to D. Individual learning mastery is set with an average score of 2.67. The value of student's knowledge and skills is determined by the following formula:

$$\text{Student value} = \frac{Skor\ yang\ diperoleh}{Skor\ maksimum} \times 4$$

While the learning completeness per class or the percentage of classical completeness (PKK) is obtained by calculating the percentage of the number of students who complete individually. A class is said to have completed learning if the PKK is 85% (Ministry of Education in Trianto, 2011). The percentage can be calculated by the formula:

$$PKK = \frac{Jumlah\ siswa\ yang\ telah\ tuntas\ belajar}{Jumlah\ seluruh\ siswa} \times 100\ \%$$

3. RESULT AND DISCUSSION

3.1 Results

Table 3. Material Expert Analysis Calculations

No	Aspect	Total Score	Percentage score	Classification
1	Learning	92,85 %	90%	Very Valid
2	Material	83,33%		
3	Display Quality on the monitor	92,85 %		

To see more clearly the validation results can be seen in the following diagram:

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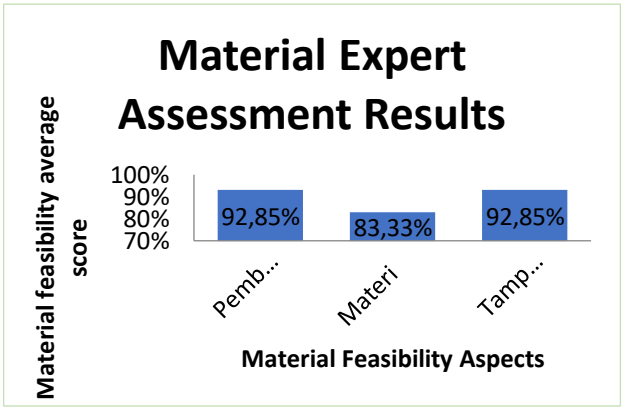

Figure 1. Graph of Material Expert Assessment Results

Based on the percentage of assessment of each aspect that has been assessed by the validator, it can be seen, which is composed of 92.85% learning aspect assessment, 83.33% material aspect assessment, and 92.85% display aspect assessment on the monitor. The results of the validation value on the media have an average feasibility level of 90% and are included in the very feasible category.

Based on the review of learning material experts, notes were obtained about the shortcomings of the Thematic Interactive media in thematic learning. Among them are video media that are displayed less effectively, material for each subject that needs to be added, additions to media titles, and additions to questions at the end of learning.

After the assessment was given, the researcher revised the product deficiencies that had been given by the validator.

Table 4. Calculation of Learning Media Expert Analysis

No.	Aspect	Total Score	Percentage score	Classificati-on
1	Conformity	85,71 %	88%	Very Valid
2	Convenience	83,33%		
3	Attractiveness	88,89 %		
4.	Benefits	92,85 %		

In Table 4.4 above, it can be seen the results of the validator's assessment of each media aspect, namely the assessment of the suitability aspect of 85.71%, the convenience aspect of 83.33%, the attractiveness aspect of 88.89%, and the usability aspect of 92.85%. The following is a diagrammatic form of the results of media expert validation.

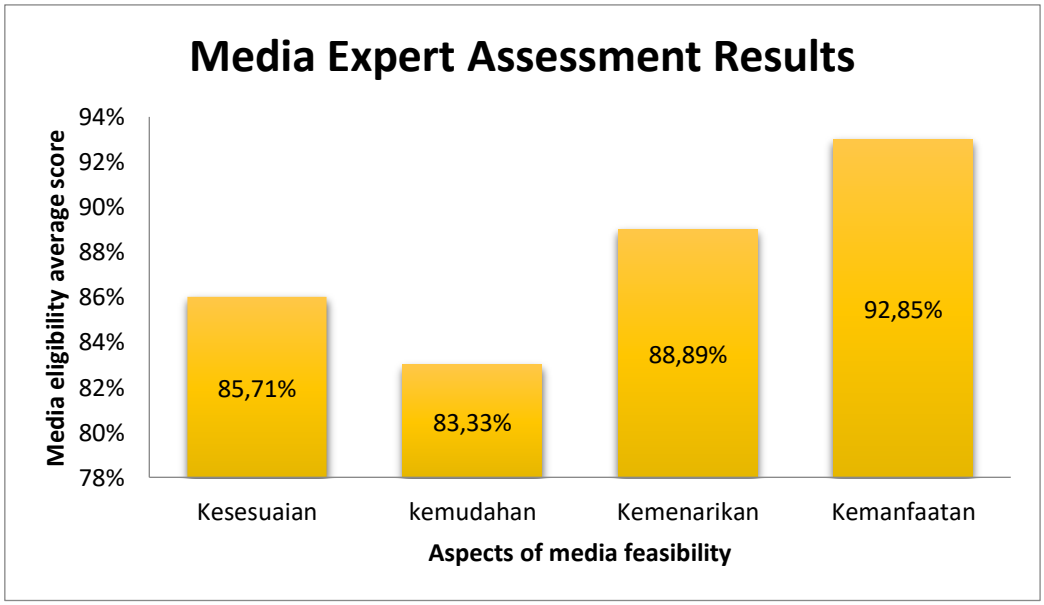

Figure 2. Graph of Media Expert Assessment Results

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Based on the validation of media experts, there are many notes containing improvements to learning media, namely: (1) Improvements to hyperlinks for each slide, (2) Adding recorded narrations to important material, (3) When the video tutorial media is played, turn down the music, (4) There are some not needs to be displayed on the slide like a back button. After providing a note of deficiencies to be corrected, then the media will be repaired and declared its eligibility.

3.2 Description of Student Response Test Result Data

The trial was carried out in the environment around the children of SD N 101767 Tembung with 15 third-grade students consisting of 2 groups, namely 4 individuals and 8 small groups. The purpose of this response questionnaire is to see student interest in the student learning process in class and is useful to see the relationship between the media and student learning processes. The analysis of the results of the trial of I-Spring learning media in thematic learning applied to class III at SD N 101767 Tembung, is as follows:

Table 5. Calculation of Student Response Questionnaire Analysis

No	Aspect	Score Average	Percentage score	Classification
1	Content Quality	89%	**89,86** %	Practical
2	Pleasure	89,37%		
3	Evaluation	89%		
4	Grammar	85,65%		
5	Use of Illustration	95.25%		

To make it easier to see the results of the student response questionnaire analysis can be seen in the following diagram:

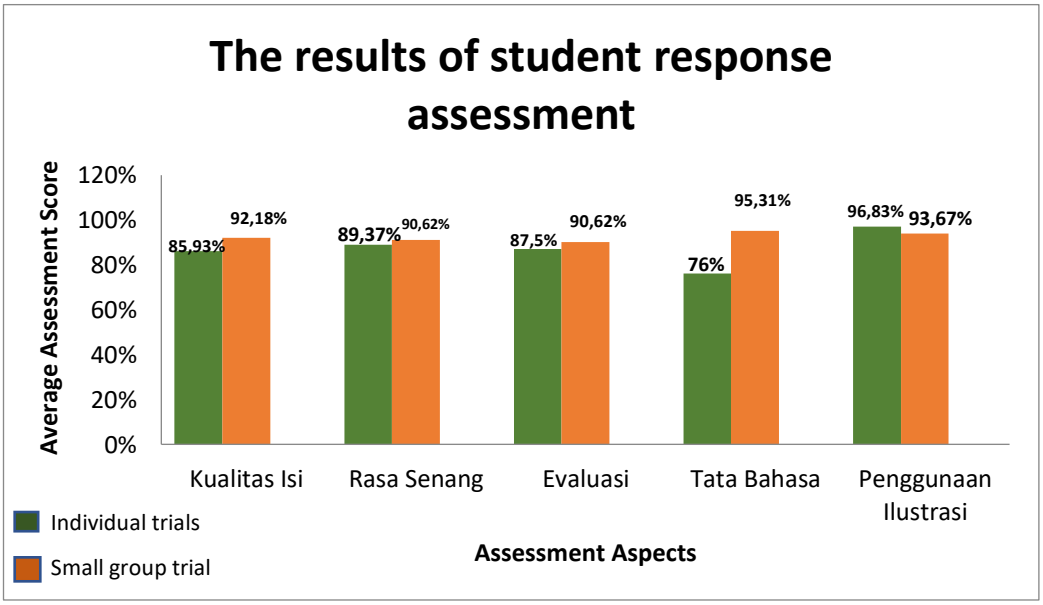

Figure 3. Graph of Student Response Assessment Results

From table 4.6 the assessment obtained consists of 89% content quality, 89.37% enjoyment, 89% evaluation, 85.65% grammar, and 95.25% use of illustrations. The results of the analysis of student responses can be concluded that the score obtained from the student response questionnaire is worth 89.86%, with the predicate of good media value according to students, for this reason, it can be concluded that the i-Spring learning media has been effectively used without having to revise it.

3.2 Discussion

The discussion of the results of this study aims to explicitly describe the findings of the research results that have been stated previously which discuss the analysis of the needs and feasibility of learning media. The feasibility of i-Spring learning media refers to product quality. Media or products that are said to be suitable for use if they have validity.

The stage that has been passed and is mandatory in development research before testing the product in the field is conducting product validation by expert validators. The validators consist of material experts and learning media experts. The product is feasible to be tested in the field if the team of experts has validated the product with a valid category without revision. Material experts classify learning media as valid categories accompanied by notes on revisions from various aspects. The revised notes contain video media that is shown to be less effective, for each subject needs to be added, additions to media titles, and additions to questions at the end of learning. After knowing and understanding the shortcomings of the research media, the making improvements and the validator has been revised the researcher.

The next step is validation by learning media experts. At this stage, media experts classify learning media as valid categories, but there are several revisions from the assessment aspect. These revisions include (1) Improvements to the hyperlinks for each slide, (2) Adding recorded narration to important material, (3) When the video tutorial media is playing the music is turned down, (4) some things don't need to be displayed on slides such as a back button. After knowing

the weaknesses of the media that need to be corrected, the next step is for the researcher to make revisions according to the notes of the expert team. The validation results of learning media validation are declared valid according to the percentage score obtained.

Meanwhile, in terms of the practicality of the media, the i-Spring learning media in learning has the characteristics of a high-quality product that is practical. This was measured through student response questionnaires through individual trials and small group trials which were given after using the i-Spring learning media. The results of the analysis of student responses at the trial stage were that the media had been categorized as practical with an average response rate of 89.86%.

When viewed from previous research conducted by Kusuma [29] entitled "Development of Ispring Suite 8 PowerPoint Interactive Learning Media on the Excretion System Concept in High Schools", it was concluded that the use of iSpring learning media has fulfilled the valid category by showing an average the results of student responses obtained were "4.57" with a percentage of 91.40% with a very strong category (above 80%). This shows that students' responses to the use of interactive learning media PowerPoint Ispring Suite 8 obtained positive responses from students.

In addition, the development research conducted by Wijayanto and Rafiq [30] on the development of PowerPoint & Ispring Suite learning media at SMP Negeri 1 Jambi City stated that these media could be used by students independently at home and anywhere. Learning media developed according to students' views are very good to attract students' interest and motivation in the process of learning activities. The results showed that the use of Ispring Suite 8 learning media increased student motivation and learning outcomes and contributed to interactive and dynamic learning. So, based on research that has been conducted at 101767 Tanjung Selamat, it can be said that i-Spring learning media in thematic learning can improve student learning outcomes in class III.

4. CONCLUSION

The success of a media in the form of learning products can be a reference in every selection of learning media. This is supported by the rapid development of information technology and the alignment and attachment of students to each technology that develops according to student learning needs. Besides that, the application of learning media can support efforts to improve student achievement in today's technology-based educational ecosystem. Based on the results of the analysis and discussion in this study, several conclusions were put forward as follows: (1) Interactive Thematic Learning Media in the thematic learning that has been developed meets the validity criteria and can be used properly by teachers and students; (2) Interactive Thematic Learning Media in thematic learning that has been developed has been validated and meets the criteria for good and appropriate learning media to be used in thematic learning on theme 6 sub-theme; dan (3) I-Spring media in learning that has been developed on reaction rate material, has met the eligibility standards based on validation by material and media experts, with an average media percentage of 88% and material of 90% with a very feasible category as learning media

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