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DEVELOPMENT OF INTERACTIVE LEARNING MEDIA ON HUMAN RESPIRATORY SYSTEM LEARNING MATERIAL AT GRADE V ELEMENTARY SCHOOL

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PENGEMBANGAN MEDIA PEMBELAJARAN INTERAKTIF PADA MATERI SISTEM PERNAPASAN MANUSIA DI KELAS V SD

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ABSTRACT

Abstract: *This paper discusses the development of a valid and practical product of interactive learning media on the human respiratory system learning material at grade V elementary school. The method used is Research and Development by using the ADDIE model. This ADDIE model has five stages, Analysis, Design, Development, Implementation, and Evaluation. The research was conducted at SD Muhammadiyah Sungai Apit. The research subjects involved 9 fifth-grade students and 3 teachers. The data collection techniques used in the research were interviews, observations, and questionnaires. Data analysis techniques carried out by researchers were descriptive qualitative and quantitative analysis. Qualitative descriptive analysis is used to organize suggestions from validators while quantitative analysis is used to organize validation and practicality questionnaires. The validity test results indicate that the developed interactive learning media achieved a highly valid category with a percentage score of 93.96%. Whereas the practicality of interactive learning media based on the teachers' response questionnaire was 89.12% with very practical criteria. In addition, based on the student's response practicality questionnaire was 91.11% with very practical criteria. Hence, it can be concluded that the interactive learning media on the human respiratory system learning material at grade V elementary school has met the valid and practical criteria so that it can be used by teachers and students in the teaching and learning process.*

Keywords: interactive learning media, human respiratory system, validity and practicality

Abstrak: Tulisan ini membahas pengembangan produk berupa media pembelajaran interaktif pada materi sistem pernapasan manusia di kelas V SD yang valid dan praktis. Metode yang digunakan adalah metode penelitian dan pengembangan dengan menggunakan model ADDIE. Model ADDIE ini memiliki 5 tahapan yatu Analysis, Design, Development, Implementation and Evaluation. Penelitian dilakukan di SD Muhammadiyah Sungai Apit. Subject penelitian melibatkan 9 orang kelas V dan 3 orang guru. Teknik pengumpulan data yang digunakan dalam penelitian berupa wawancara, observasi, dan angket. Teknik analisis data yang dilakukan peneliti adalah analisis deskriptif kualitatif dan analisis kuantitatif. Analisis deskriptif kualitatif digunakan untuk mengelola saran-saran dari validator, sedangkan analisis kuantitatif digunakan untuk mengelola angket validasi dan angket praktikalitas. Hasil uji validitas menunjukkan bahwa media pembelajaran interaktif yang dikembangkan mendapat kategori sangat valid dengan skor persentase 93,96%. Sedangkan kepraktisan media pembelajaran interaktif berdasarkan angket respon guru adalah 89,12% dengan kriteria sangat praktis. Dan berdasarkan angket praktikalitas respon siswa adalah 91,11% dengan kriteria sangat praktis. Maka, dapat disimpulkan bahwa media pembelajaran interaktif pada materi sistem pernapasan manusia di kelas V SD sudah memenuhi kriteria valid dan praktis sehingga dapat digunakan oleh guru dan siswa dalam proses pembelajaran.

Kata Kunci: ***media pembelajaran interaktif, sistem pernapasan manusia, validitas dan praktikalitas.***

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INTRODUCTION

In the current era of globalization, technological developments greatly affect the quality of education in Indonesia. By producing new innovations that can support the learning process to be more effective so that the goals of a lesson are achieved. The existence of technology is very useful and can motivate teachers in teaching and delivering material interactively (Poerwanti & Mahfud, 2018). Submission of material in the learning process affects student understanding. In delivering material, teachers can use technology to make the material more interesting. The learning process is inseparable from learning media (Nurrita, 2018). Learning media is one of the learning components that must be considered by the teacher (Miftah, 2013). The word "media" comes from the Latin word medius which literally means intermediary, middle or introduction (Angkowo & Kosasih, 2007:11). The media is an intermediary between those who send information and those who receive information (Personal, 2017). From the definition above, it can be concluded that amedia is a tool that can be used by a person or information source as an intermediary for delivering information to recipients of information. Learning media is a tool used to convey information owned by the teacher to students or vice versa (Arda et al., 2015). The function of learning media is to convey learning messages, clarify the presentation of messages, and overcome the limitations of space and time and can even allow more varied and passionate teaching and learning interactions (Sipayung et al., 2020). According to Malik (1994) in (Sumiharsono & Hasanah 2017) learning media is something that can be used by teachers in conveying messages or subject matter so that it can make students interested in a material to achieve learning goals. Learning media is actually not only in the form of tools and materials, but in it there is a lot of information that can make students gain knowledge (Asrul, 2015). The advantage of learning media is that it can help students psychologically in the learning process because learning media makes it easier for students to understand information or material that is abstract in nature and becomes real (Supriyono, 2018). One of the lessons that has a fairly high level of difficulty at the elementary school level is science learning, because the provision of concrete things in science learning cannot be given as a whole (Adhiyanto & Yermiandhoko, 2019) and in learning it students cannot see directly the constituent organs respiratory system contained in the body as well as human respiratory system processes that occur in it (Panjaitan et al., 2020). Breathing is one of the characteristics of living things, breathing is the process of inhaling oxygen (O2) from free air and then releasing carbon dioxide (CO2) (Ernawati, 2016). Oxygen is useful for the process of burning food substances in the body. In this process energy is generated to carry out life activities (Wijaya, 2018). The human respiratory system consists of the nose, pharynx, larynx, trachea and lungs. One of the human upper respiratory systems is the nasal cavity which is interconnected with the nostrils to deliver oxygen directly to the pharynx and larynx (Santacroce, et al. 2020).

The problem that often occurs today is the lack of use of learning media in the learning process and in student learning activities only given theory (Nurrita, 2018). This is in line with the opinion of Sipayung et al. (2020) which states that students are bored in the learning process because during the learning process the teacher only teaches using theory and rote methods so that it is less

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attractive to students, especially material on the human respiratory system which is abstract in nature. Overcoming these problems interactive learning media can be an alternative solution for teaching materials whose phenomena are difficult to observe directly (Widowati & Purwanto, 2018). Interactive learning media can be used in science lessons in elementary schools, one of which is the material on the human respiratory system. Interactive learning media can help teachers carry out the learning process in class because students not only hear but can immediately see and interact with the media (Sipayung et al., 2020). Interactive learning media is the use of computers to combine text, images, audio and video that allows users to interact and communicate (Kurniawati & Nita, 2018). Interactive learning media is multimedia in which there is an interactive relationship between the media used and its users (Panjaitan et al., 2020). Interactive learning media is a combination of various kinds of media elements in which there are text, images, animations, audio and video graphics which produce learning experiences to be interactive and reflect as a real life experience (Bardi & Jailani, 2015). Interactive learning media has advantages compared to other media because it can make it easy for students to control their own pace of learning (Sitanggang et al., 2016). According to Munir (2012) in (Adhiyanto & Yermiandhoko, 2019) there are several advantages in using interactive learning media including: (a) the media becomes more communicative because it uses pictures and animations so that it is easier for students to understand (b) changes are easy to make changes to quickly so that it can be used according to existing needs (c) more flexible in combining creativity in learning media. Interactive learning media can be developed using various applications, one of which is the Adobe Flash CS6 application. Using Adobe Flash CS6 can provide a new climate in the learning process where this media combines audio, visual and interactive elements (Usfiyana & Pratama, 2019). Adobe Flash Professional CS6 has a smaller size after publication and can also form executable files (.exe) so that the resulting media can be run on any computer without having to install the Adobe Flash Professional CS6 application first (Rahmaibu et al., 2016). Adobe Flash CS6 is software capable of producing presentations, games, films, interactive CDs and learning CDs, as well as creating interactive, interesting and dynamic websites. According to Madcoms (2013) in (Mustarin et al., 2019). Adobe Flash Professional CS6 has the advantage of providing support for HTML, symbol export and fast animation sequences. Its performance can provide faster loading of large photos and does not require an internet connection (Kusumaningrum et al., n.d.). Based on the description of the problems above, the researchers conducted a study entitled the development of interactive learning media on the subject of the human respiratory system in class V SD. This study aims to develop valid and practical interactive learning media so that it can be used in the learning process in elementary schools.

RESEARCH METHODS

The type of research used is research development or Research and Development (R&D). R&D is a type of research that does not test a theory but produces a product (Anyan et al., 2021). The model used in this study is the ADDIE model which has 5 stages, namely analysis, design, development, implementation and evaluation. This research was conducted at SD Muhammadiyah Sungai Apit with the test subjects in this development research being 9 grade V SD students and 3 teachers. The object of this research is interactive learning media on the material of the human respiratory system. In this study using qualitative data in the form of interview results and expert advice and quantitative data in the form of numbers from the questionnaire scoring. Data collection techniques used are observation, interviews and questionnaires.

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The observations that the researchers made were non-structural observations, namely observations that were not prepared systematically. The observation was carried out directly by the researcher by coming directly to the school to observe the condition of the school, teachers and students. The questionnaire used in this study was a validation questionnaire for validators and a practicality questionnaire for responses for teachers and students. While the interviews were conducted to get input from sources on the media being developed. Data analysis techniques carried out by researchers are descriptive qualitative analysis and quantitative analysis. Qualitative descriptive analysis was used to manage suggestions from validators while quantitative analysis was used to manage validation questionnaires and practicality questionnaires.

RESULTS AND DISCUSSION

Research result

1. Analysis (Analyze) At this stage the researcher conducted a needs analysis, curriculum analysis and analysis of student characteristics.

a. Needs analysis Based on observations at Muhammadiyah Sungai Apit Elementary School and interviews with the homeroom teacher of class V SD, it was found that in the learning process most of it was carried out using the lecture method, the teacher explained the material from the beginning to the end of the lesson. One of the materials that is quite difficult to understand if explained by the lecture method is the material on the human respiratory system. Students have difficulty understanding the material. The teacher strongly agrees that this interactive learning media is developed, because it can be used as an alternative learning media that can be used in the learning process, moreover the school already has computer laboratory facilities that can be used to support the use of learning media in schools.

b. Curriculum analysis Based on the interviews that the researchers conducted, information was obtained that the curriculum currently used by schools is the 2013 curriculum. At this time the learning process using communication and information technology has been carried out by the teacher. Analysis of the curriculum also includes an analysis of core competencies, basic competencies, indicators and learning objectives of the material on the human respiratory system in class V SD according to the 2013 curriculum syllabus.

c. Analysis of the characteristics of students Student character analysis is carried out to determine the characteristics of students which include preferences, knowledge and learning styles of students in the learning process. Based on the results of interviews between researchers and students, it was found that some students liked science lessons and some students did not like science lessons, this was due to the different interests and learning styles of students.

Students like learning by using media in which there are pictures, sounds and videos. Students also like bright colors. Students were very enthusiastic when offered to use interactive learning media in the learning process of the human respiratory system material.

2. Design After conducting the analysis, the researcher then designed interactive learning media by establishing a development team consisting of the main developer, media expert validators, material experts, linguists, as well as teachers and students as practitioners. Next determine the resources needed such as personal computers or laptops used by the developer, then the researcher selects and determines the scope of the material, namely the material contained in class V elementary school to be precise on theme 2 "Clean Air for Health", sub-theme 1 "How the Body Processes Air Clean", learning 2. In the material on the human respiratory system the scope of material presented is in the form of

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human respiratory organs and their functions and how humans breathe. Then the researchers also determined the product specifications developed were interactive learning media using the Adobe Flash CS6 application which students could access using a computer or laptop without using an internet network. At this stage the researcher also determines the pictures, supporting videos, types of games and evaluation questions that will be developed in the interactive learning media.

Development At the development stage the researcher carried out the process of developing the initial design of the product, namely interactive media, making validation instruments for media experts, material experts and linguists, making teacher and student response questionnaires, validating the product with media experts, material experts and linguists, and revising the product. according to the advice of the validator. a) Initial display of media In the initial appearance of the media, it uses a blue background with a picture of the human respiratory system as a background, which begins with the phrase "welcome to science learning". Also included are themes, materials, study programs and university names. In the main view there is a navigation button "START" which can direct the user to the user manual page. A screenshot of the initial display of the media is presented in Figure 1.

Figure 1. Initial Media Display

a) Display Instructions for Use Display instructions for use contain information about the functions of the navigation buttons contained in the developed interactive learning media. Media Main Menu Display On the main menu there are several sub-menus that can be selected by the user, namely in the form of sub-instructions, basic competencies, sub-materials, instructional video sub-menus, games sub-questions, evaluation sub-questions and developer profiles. In addition to the sub menu, there are also exit navigation buttons. In the display of basic competencies there are basic competencies, learning indicators and learning objectives to be achieved in the learning process. In this view are inserted the main menu button, next and previous buttons and the exit button.

b) Material Display The material contained in the material menu is the name of the organs and functions of the human respiratory system and the process of breathing in humans. Learning materials are packaged as attractively as possible and use simple sentences so that students can easily understand them. The material is presented in the form of simple questions and statements that can be answered by students and then there is an explanation of the material. In the scane there are several navigation buttons, namely the next, previous, material menu, main menu, and exit buttons. a) Game display The game menu contains two simple games which aim to find out students' understanding after studying the material on the material menu. In the game display, navigation buttons are inserted next, previous, main menu, game menu and exit. b) Display of Evaluation

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Questions The evaluation question display contains practice questions that can be done by the user to find out whether the user has understood the material from the interactive learning media provided. In the display of evaluation questions, navigation buttons are inserted, start, next, previous, return to the discussion menu and exit. c) Developer Profile View The developer profile view is located on the main menu at the bottom left. In this view the user will see the developer's profile containing the name, NIM, study program, faculty and university of the developer. Also accompanied by a profile photo, the University of Riau logo and the main and exit menu navigation buttons.

a) Expert validation

After the interactive learning media has been developed, a product feasibility validation will be carried out. The validation of learning media was carried out by 3 expert validators consisting of media expert validators, material experts and language experts. The validation was carried out by experts in accordance with the validation questionnaire given by the researcher, the expert validator also provided comments and suggestions for improving the media being developed. This interactive learning media product was validated 2 times. The results of product validation can be seen in table 1 below.

Table 1. Product Validation Results

No	Rated aspect	Persentage (%)	Categori validation
1	Media	92.31%	Very Valid
2	Materi	93.75%	Very Valid
3	Language	95.83%	Very Valid
Rata-rata Keseluruhan		**93,96%**	**Very Valid**

Based on the table above, the developed interactive learning media obtains an average percentage score of 92.31% with a very valid category for the media aspect; 93.75% with very valid categories for material aspects and 95.83% with very valid categories for language aspects. Overall the developed interactive learning media obtained an average of 93.96% with a very valid category. Based on the results of the validation carried out, the developed interactive learning media can be used at the trial stage. 1. Implementation a) One-on-one Trial One-on-one trials were conducted to see the readability of the developed media such as students' difficulties in using the media. A one-on-one trial was conducted on 3 students of grade V SD Muhammadiyah Sungai Apit who were randomly selected. First, students use the interactive media that was developed and the researcher looks at the difficulties experienced by students in using the media and the researcher also gives a number of questions to students. In the one-on-one trial, the results showed that the interactive learning media for human respiratory system material had an attractive appearance, the material presented was easy for students to understand, instructions for use could be understood by students and the navigation buttons on the media could be operated properly. The games in the media are varied and fun. Students feel happy when in the learning process the teacher uses this interactive media. Based on the explanation above, the interactive learning media developed can be accepted by students as one of the learning media in the respiratory system material in class V SD. b) Teacher Response Test and Student Response (Practicality) After conducting one-on-one trials, the researcher then conducted practicality tests with teachers consisting of 3 class teachers at SD Muhammadiyah Sungai Apit. The developed interactive learning media obtained an average percentage score of 86.11% in the very practical category for the

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operational aspect, 91.67% in the very practical category for the learning design aspect and 89.58% in the very practical category for the visual communication aspect. Overall, the developed interactive learning media obtained an average of 89.12% in the very practical category. The results of the analysis obtained from the student practicality questionnaire can be seen in table 2 below.

Table 2. Practicality Analysis Results By Teachers

No	Rated aspect	Presentse Skor	Categories
1.	Operational	86,11%	Very Practical
2.	Learning Design	91,67%	Very Practical
3.	Visual Communication	89,58%	Very Practical
	Overall Average	**89,12%**	Very Practical

Furthermore, the researcher also conducted a practicality test of student responses in small groups which were attended by 6 randomly selected students of SD Muhammadiyah Sungai Apit. The developed interactive learning media obtained an average percentage score of 91.67% in the very practical category for the operational aspect, 89.17% in the very practical category for the learning design aspect and 92.5% in the very practical category for the visual communication aspect. Overall, the developed interactive learning media obtained an average of 91.11% in the very practical category. The results of the analysis obtained from the student practicality questionnaire can be seen in table 3 below.

Table 3. Practicality Analysis Results By Students

No	Rated aspect	Presentage Scor	Categories
1.	Operational	91,67%	Very Practical
2.	Learning Design	89,17%	Very Practical
3.	Visual Communication	92,5%	Very Practical
	Overall Average	**91,11%**	Very Practical

Evaluation

Evaluation is the final stage of the ADDIE model development step. The evaluation process is carried out by researchers at each of the four stages above which is called formative evaluation. Formative evaluation is aimed at product revision needs. In the formative evaluation the researcher evaluates the media developed based on the validator's assessment. At this stage the researcher also revised the product that was developed according to the suggestions from the validator. The researcher also conducted an evaluation at this practicality test stage based on assessing the responses of teachers and students. Discussion The development of instructional media is one way to improve the quality of learning in elementary schools (Pratiwi et al., 2022). Using media in the learning process provides many benefits as stated by Falahudin (2014), namely the delivery of subject matter can be uniformed, the learning process becomes clearer and more interesting, the learning process becomes more interactive, efficiency in time and effort and can improve the quality of learning outcomes. But what is often encountered today is the lack of use of learning media in the learning

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process and in student learning activities only given theory (Nurrita, 2018). Moreover, if the material being taught is material that is quite complex, such as material on the human respiratory system, in which the structure and function of the organs that make up the human respiratory system are found in the body, which demands an abstract way of thinking. Such material characteristics require the development of learning media that are able to visualize abstract concepts so that they are easily understood by students. The development of learning media is carried out using Research and Development (R&D) research methods. This type of R&D research is a type of research that does not test a theory but produces a product (Anyan et al., 2020). In this research the product developed is interactive learning media on the material of the human respiratory system. The model used in this study is the ADDIE model. The ADDIE model is a process carried out by researchers to develop educational products that can be accounted for (Rohaeni, 2020). The ADDIE model has five stages, namely Analysis, Design, Development, Implementation and Evaluation (Purnamasari, 2019). The product development process is carried out in stages and an evaluation process is carried out at each stage to produce interactive learning media products that are valid and practical for use by teachers and students in the learning process.

The product developed is based on the results of an analysis conducted at SD Muhammadiyah Sungai Apit. At the analysis stage, needs analysis, curriculum analysis and student analysis were carried out. This stage was carried out using observation and interview methods (Purnamasari, 2019). Based on the results of the analysis carried out, it was found that the facilities available at school were quite complete starting from computer labor and projectors that could support the use of learning media, but teachers still did not use media in the learning process and only used the lecture method. This is in line with Untari's opinion (2017) which states that classes should be able to provide a variety of learning resources ranging from books, teaching aids and various learning media. This causes many students to pay less attention to lessons because of the limited media used in the learning process. To overcome these problems, teachers strongly agree if researchers develop interactive learning media because it can be used as an alternative learning media that can be used in the learning process. The curriculum used by the school is the 2013 curriculum which contains material on the human respiratory system which is quite difficult for students to understand. This is caused by students who have different characteristics such as learning styles, preferences and knowledge. Students have different characteristics such as learning styles, preferences and knowledge. This is also supported by the opinion of Meriyanti (2015) which states that the characteristics of children are different, so teachers need to understand the initial characteristics of students so that teachers can easily process everything related to the learning process so that the teaching components are in accordance with student characteristics. Furthermore, the design stage begins with creating a development team consisting of main developers, media expert validators, material experts, linguists, teachers and students as practitioners. Then determine the resources needed such as computers, electricity and others. In addition, researchers also select and determine the scope of material to be presented in the media. The material that the researchers chose was the human respiratory system. Researchers also design media specifications such as determining images, supporting videos, types of games and evaluation questions that will be presented in the interactive learning media. In determining media specifications according to the characteristics of students who like to play and move. It is intended that students are interested in using the interactive learning media developed. This is in line with the opinion of Meriyati (2015) which states that elementary

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school students have different characteristics from other ages because at this age students prefer to play, move and feel or do something directly. The next stage is developing (development) by carrying out the process of developing the initial design of the product, namely interactive media, making validation and practicality instruments and conducting validity tests. The development of interactive media is adapted to the diverse character of students so that this interactive media can be accepted by students as a whole as a tool in the learning process. Products developed using the Adobe Flash CS6 application because the Adobe Flash CS6 application is a reliable application in developing interactive learning media. This is in line with Rezeki's opinion (2018) which states that Adobe Flash CS6 is good software to use to support interactive learning because using Adobe Flash CS6 can combine graphics, sound, animation, video, and has the ability to interact with users. The interactive learning media developed is published in executable form so that it can be opened on any computer or laptop, even if it does not have the Adobe Flash CS6 application. This is in line with the opinion of Rahmaibu et al. (2016) which states that the executable file (.exe) has a smaller size and the resulting media can be run on any computer without having to install the Adobe Flash CS6 application first.

At this stage, the researcher also tested product validity on three validators, namely media experts, material experts and language experts. The validation stage was carried out twice and revisions were also made to the product developed according to the suggestions from the validator. Based on the results of validation by 3 validators, it shows that interactive learning media on human respiratory system material is said to be very valid because it meets the specified validity criteria starting from aspects of media display, material and language. This is in line with the opinion of Kintoko & Rifai (2017) which states that media is said to be valid if it meets the validator's assessment criteria which states that learning media is with revisions or without revisions and is based on a strong theoretical foundation. After the interactive learning media product has been developed, the researcher then implements it by conducting one-on-one trials and practicality tests of teacher and student responses. The one-on-one trial aims to see the readability of the media and students' difficulties in using the media. One-on-one trials were carried out with 3 students of class V SD.

The result of the first trial interview is that the developed interactive learning media for human respiratory system material has an attractive appearance, the material presented is easy for students to understand, instructions for use can be understood by students and the navigation buttons on the media can be operated properly. This is in line with the opinion of Surjono (2017) in (Kusumawati, et al. 2021) which explains that navigation is a button that has a function to control the user to go to the desired page. In line with this statement, interactive learning media has navigation buttons that are made clear and make it easy for users to export the desired page. After conducting one-on-one trials, a practicality test of teacher and student responses was then carried out to see the practicality of the interactive learning media products that had been developed. Based on the results of the practicality of the teacher's and student's responses, it shows that interactive learning media on the material of the human respiratory system is said to be very practical.

These results were obtained from the teacher and student response questionnaire which is a combination of several aspects including operational aspects, learning design and visual communication in which the teacher is easy and fluent in using interactive learning media, the navigation buttons in the media can operate properly and the media can make students learn independently. The material presented and the evaluation questions

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contained in the media are in accordance with the scope of learning material and the language used is easy for students to understand, the type of letters and the appearance of the media are in accordance with student characteristics. This is in line with the opinion of Nieveen (1999) in (Kumalasasi, 2018) which states that practicality can be seen from product users such as teachers, students and other experts who have no difficulty in using it and the products developed have appropriate implementation. In the development of interactive learning media evaluation is carried out. Evaluation is a process carried out to provide value to learning programs (Trisiana and Wartoyo, 2016). The evaluation process is also carried out by researchers at each stage of development. At the evaluation stage, the management of research results and conclusions are drawn. The evaluation process is also carried out by researchers at each stage of development which is called formative evaluation which aims as a reference in revising the product. Based on the results of obtaining a questionnaire from the validity test and practicality test, it can be concluded that interactive learning media on the material of the human respiratory system in grade V SD is stated to be very valid and practical so that it can be used by teachers in the learning process in class.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion that have been presented, it can be concluded that in developing interactive learning media on the subject of the human respiratory system, it is carried out through 5 stages. The selection of interactive learning media was carried out based on the results of the needs analysis carried out by researchers, it is known that the use of learning media is still rarely used in the learning process and only uses the lecture method. The material contained in the learning media is adapted to the 2013 curriculum in the syllabus. Furthermore, the researchers carried out media design and development of interactive learning media. Interactive learning media on material on the human respiratory system in grade V SD which was developed using the Adobe Flash CS6 application can be used by teachers and students in the learning process because it meets valid and practical criteria. The development of interactive media is said to be valid because it meets the assessment criteria from the aspect of media display, material and language with an average score of 93.96% with a very valid category while the average percentage of teacher response practicality obtained a score of 89.12% with the very practical category and the practicality of student responses obtained a score of 91.11% in the very practical category. Based on the research that has been done, the researchers propose the following recommendations and suggestions: 1. In this study, the interactive learning media developed can only be used on computers or laptops. For further research, it is expected to be able to develop interactive learning media using the Adobe Flash CS6 application that can be used on Android. 2. The developed interactive learning media meets valid and practical criteria but has not yet been tested for its effectiveness. For further researchers, they can develop interactive learning media to test the effectiveness of the media.

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