Development of Interactive Learning Media Based on Lectora Inspire on Excretion System Materials

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Abstract: This development research aims to determine the feasibility of Lectora Inspire-based interactive learning media and its effectiveness on the learning outcomes of class XI students. This research was conducted at MAN Labuhanbatu by focusing on the development of Lectora Inspire-based interactive learning media on excretion system materials in class XI. This research method uses the ADDIE model development research method. This data collection technique uses questionnaires, and observation sheets. The results of the study stated that from three validators the media expert validators gave a score of 80% (Feasible). The material expert also provided an 88% final result with the category "Very Decent". The assessment response in teachers when conducting learning trials received a "very decent" score of 88%. The results of research on the application of Lectora Inspire-based interactive learning media to the subject matter of the excretory sub-system biology to student learning outcomes obtained very effective results. get a gain score of more than 29. It can be concluded that this developed medium is very effectively used in learning for class XI.

Keywords: Lectora Inspire; Interactive Media; R&D

Introduction

Educators are a need that we must meet in the process of life. The progress of a nation is influenced by the quality of education itself because higher education can produce quality Human Resources (HR). Quality human resources themselves are teachers who are able to make their students capable and achieve learning outcomes as expected (Zuraida, 2020).

Education is an effort by students to gain knowledge, be skilled, be able to compete globally and master technological developments (Fonda, 2018). Education is a conscious and structured effort that students will bring to change, where a student who is carrying out education will be educated as well as possible by educators with the age and brain development that students have. Education can be used as a place to build the character of students to become ethical people.

Learning in this global era is learning that focuses on students. The current learning model is student centered. The government also designed education with the implementation of the 2013 curriculum which led to a paradigm shift in learning, the process of learning activities was not teacher centered, but the process of learning activities was student centered. The approach used in implementing the 2013 curriculum is a scientific approach or a scientific approach. This scientific approach is very necessary because relatively students will be actively involved in building the knowledge, skills and attitudes of students. With a student-centered learning process, students can explore their skills which will encourage students to find facts through a series of scientific methods on the basis of a scientific attitude so that later it is hoped that they will produce scientific products (Rosdiana, 2019).

In this global era, it demands the world of education to always adapt technological developments to efforts to improve quality, especially adjusting the use of Information and Communication Technology for the world of education, especially in learning (Rusman & Riyana, 2011). According to Sanjaya, 2008, states that through learning media teachers can present learning materials that are abstract into concrete so that they are easy to understand and can eliminate verbalism. In the field of education, various innovations are needed

because without innovation there will be lags in education. So that it is hoped that the change in progress towards a better direction than before will be able to influence the mindset of educators in facilitating the learning needs of their students, one of which is in the use of learning media, where learning media can increase the possibility of students to learn more, understand what is being learned well. as well as providing great potential in changing the way students learn.

According to Aglillah et al., (2022) the development of science and technology greatly influences the development of the learning process in utilizing learning media. That is, media development is a plan to develop media or intermediary tools that already exist in the learning process. Learning media is anything that is used as an intermediary for educators to students which aims to stimulate students to be motivated and able to follow the learning process as a whole and meaningfully. In addition, the use of learning media will make learning more diverse, so students don't get bored quickly. By optimizing the use of media, learning can run effectively and achieve the expected goals (Arrosyida, A., 2015). According to (Rezeki, 2017) Learning media can be interpreted as a tool used by educators in the learning process. Learning media is a tool for the learning process in helping educators convey learning material to students in an effective and efficient way (Juariah, 2016). Good learning media is media that is two-way in nature to help interactions between students and teachers (Hartanti, 2019). According to (Simamora & Yogica, 2022) the media used in the learning process media acts as an intermediary used by educators during learning that is able to make it easier for educators to convey material to students.

Based on the results of interviews conducted with class XI teachers at SMAN 1 Rantau Selatan, information can be obtained that in the implementation of learning the teacher tends to use less varied methods and more lectures, questions and answers and giving assignments to students, so that learning feels boring and monotonous. Then, the use of learning media used in the learning process has not been able to attract students' attention so that students are active in learning. The media used are pictures, writing displayed on the blackboard, or media used in the form of Power Point (PPT). This resulted in students feeling bored, bored, and less interested while participating in learning which in the end made it difficult for students to understand the material during the learning process. The background to this is the teacher's lack of ability to make instructional media, limited time and costs. It would be better in the current era of technological development, technology-based media is used in the learning process.

One of the learning media that is expected to help educators to make learning effective and conducive to increasing student learning motivation is interactive learning media. Interactive learning media is computer-based learning media in which material is presented in the form of text, images, videos, various unique templates, and animations that can attract students' attention and interest. Learning using interactive media offers many advantages for both educators and students (Mahliatussikah, 2022). The use of interactive learning media is one way that educators can use to students to improve achievement in learning. The use of interactive learning media is expected to help students accept and understand the learning process carried out by educators (Shalikhah, 2016). Interactive learning media usually use easy software to create interesting learning media, one of which is using Lectora Inspire software.

Learning Media based on Lectora Inspire is a learning media that is easy to use and practical (Ulfatuzzahara, 2020). Lectora Inspire is an electronic learning development software that is relatively easy to apply or implement because it does not require an understanding of sophisticated programming languages. In other words, Lectora Inspire is a program that is able to create interactive, innovative, and creative learning media because it can display text, images, audio, music, video, and various unique templates in one display that supports each other to achieve learning goals (Athiyah, 2018). Lectora Inspire can be used in online and offline learning which can be used easily (Kadwa & Alshenqeeti, 2020). Lectora Inspire learning media can be used in learning to improve student character (Audia et al., 2021).

The use of learning media in essence functions in education. Learning media has actually become a part that can provide a meaningful experience in the learning process. In general, the function of learning media is a communication tool in the learning process (Zuraida, 2020).

Based on the background of the problems that have been described, the researchers tried to provide alternatives to the use of learning media that are in accordance with the times that are used by educators to students in learning biology on excretory system material. This study aims to develop learning media based on inspire lectora on excretory system material.

Method

This study uses the Research and Development (R&D) method. According to Sugiyono, 2018 states, R&D (Research and Development) research and development is used to produce certain products and test the effectiveness of these products. These products are not always in the form of objects such as books, stationery, and other learning tools. However, it can also be in the form of software. The development of interactive learning media based on Lectora Inspire can

be one of the teacher's alternative learning media in conveying learning. data collection used by questionnaires, documentation and observation.

Result and Discussion

The main product in the development research that has been carried out is interactive learning media based on Lectora Inspire. This study uses a development research design with the ADDIE model procedure starting from: (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation.

Analysis

The results of observations that have been made on the curriculum, student needs, learning materials and learning objectives get the results of the analysis that the development of learning media must be carried out. The results of the analysis on the learning curriculum, especially in the field of science subjects which contain excretory system material, need to be developed learning media. This development is necessary because previously at SMAN 1 they still used learning resources or media such as pictures and textbooks. The results of this analysis found problems in children's learning outcomes so that the development of learning media was needed. In this problem, the researcher proposes a solution in the form of developing interactive learning media based on Lectora Inspire. Lectora Inspire-based interactive learning media is a learning media that uses an application that provides learning templates that can be displayed in real terms to present learning materials in an interesting and easy-to-understand manner and easy to use for beginners.

Design

In the second stage, the design is carried out. In this learning media, the steps in designing media can be seen in terms of design, in terms of material, and in terms of language. In this design, the researcher first installs the Lectora Inpire software. Then only to the next stage of determining the material and development that will be carried out by developing an interactive learning media based on Lectora Inspire.
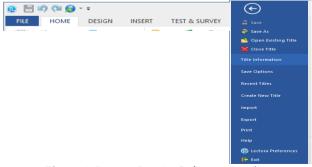

Figure 1. Lectora Inspire Software Display

Development

The development stage is the activity of realizing the product design that has been made. At this stage it is the process of producing interactive learning media products based on Lectora Inspire on excretory system material. In this development, a display of material titles and sub titles will be given which will be discussed using the templates provided by the software. After that, the products that have been made will enter into an assessment or conduct a review of learning media by validating learning media by media experts, material experts and learning practitioners to know the feasibility of the product being developed as a basis for making improvements in accordance with criticism and suggestions from experts on interactive learning media based on the Lectora Inspire so that there is a comparison of the initial media and the revised media. The following is a display of the design of the learning template that has been developed through Lectora Inspire.

Figure 2. Lectora Inspire Template Media Development Design

The results of this media development will be assessed by media experts, material experts and teachers. This assessment is carried out to determine the feasibility of the product being developed and the improvements that need to be made so that this media can be applied to learning. The following are the results of the validation based on the assessment of media experts, materials and teachers:

Media Expert Validation

The media development assessment was carried out by Mr. M. Hasyim Ansari Berutu, M. Pd. The results of the media assessment are as follows:

Lectora Inspire-based learning media that has been developed on human excretory system material gets a feasibility value of 80%. These results indicate that this media is suitable for use in learning and needs to be revised slightly in development.

Material Expert Validation

The assessment of media development on this material aspect was carried out by Ms. Naimatussyifa

Daulay, M.Pd. The results of the assessment of the material in the Lectora Inspire-based learning media on the material aspect of Lectora Inspire-based media development on the excretory system material obtained a score of 88%. These results indicate that in terms of the media material that has been developed it is very feasible to use in learning with comments in accordance with the previous suggestions and providing some additional material contents.

Teacher Response

The assessment of the development of Lectora Inspire-based learning media for use in this lesson was carried out by Ms. Maslena, S.Pd, who is the homeroom teacher for class XI. The results of the assessment of the use of Lectora Inspire-based learning media in learning that in the use of Lectora Inspire-based media development in learning the excretory system get a score of 87%. These results indicate that in terms of the use of media in the learning process it is very feasible to use and is able to provide an easy understanding for students and the use for teacher use is very good and practical. The following is a graph of the teacher's response to the use of media:
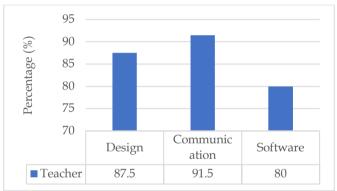

Figure 3. Teacher's Response

The results of the recapitulation of assessments from media experts, subject matter experts, and teachers in validating the media get Decent and Very Feasible scores. This situation makes the developed media successful and well used as an innovative learning medium and gives children a pleasant experience in learning by using this media. The following is a graph of the assessment recapitulation that has been developed which can be seen from the following figure:
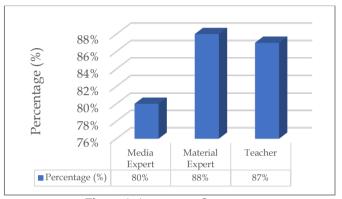

Figure 4. Assessment Summary

Implementation

The fourth stage is the implementation or application of interactive learning media products based on Lectora Inspire on the excretory system material carried out at the school chosen as the research location at MAN Labuhanbatu. Researchers carried out direct implementation with field class trials. After the learning process is complete, the teacher gives an assessment of the media used and the researcher gives the same questions that were done before and after using the media about the excretory system material. These results indicate that Lectora Inspire-based learning media is very effectively used in class XI learning on excretory system material. The following is a comparison chart of learning outcomes before and after using Lectora Inspire-based media.
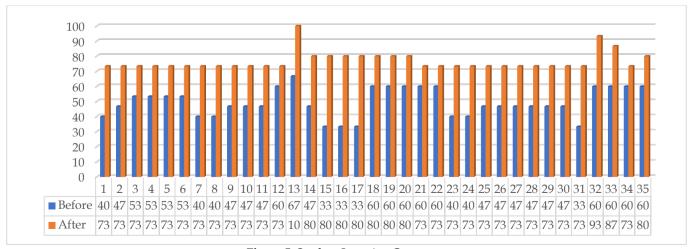

Figure 5. Student Learning Outcomes

Evaluation

At this stage, researchers will measure the achievement of development goals. After the field trials, the researchers made the final revision of the Lectora Inspire-based interactive learning media products that had been developed based on the input that had been obtained from the questionnaire. The results of this product assessment questionnaire get very good input, it's just that the material needs to be added again to make it more complete and easier for students to understand.

The results of the development research data analysis that has been described previously indicate that this research was successful. The success of this research will be described again based on the formulation of the problems in this study.

Feasibility of Interactive Biology Learning Media Based on Lectora Inspire on Labuhanbatu MAN Excretion System Material.

The results of the data analysis revealed that of the three validators who gave an assessment of the developed media, it gave values in the "proper" and "very feasible" categories. These results were obtained from the results of data analysis on the value of the media expert validator getting a score of 80%. It was stated that in terms of the design of the media being developed, it was "appropriate" to be used as a learning media for class XI high school on excretory system study material. In the assessment of the media validator, it gives a proper value on the content aspect, which means that the media designed and developed is able to contain the basic competencies achieved, the material used contains images and videos that support the material and are designed in an attractive and systematic way. In the design aspect, the validator provides a proper assessment of the selection of background colors, the selected layout is in accordance with the appearance of the learning media, the selection of fonts and sizes is also in accordance with students' infrequent views, the selection of text colors is also supported, appropriate animation so that the material is clearer, videos that also displayed according to learning objectives, sound clarity is also good, easy to operate, has navigation buttons that help and layout according to needs. The presentation of this media design also provides clear instructions, can be used on a PC or laptop and makes it easier to deliver learning material. The language used is easy to understand and simple.

The material expert also gave an assessment with a final result of 88% in the "Very Eligible" category. This can be interpreted that the preparation of the material in the developed media is very good for use in the excretory system material and in accordance with the desired learning outcomes. Aspects of the material in the developed media scored very worthy of use, this can be seen in terms of material in accordance with core competencies and basic learning competencies, in accordance with learning objectives and clear program titles. According to (Asmah et al., 2020) explains that learning content will be easier to understand if the information presented is arranged in a sequential or regular format. Aspects of the presentation of the material on this media are also presented in accordance with the order of the material, descriptive explanations, there are pictures in the content of the material, it is easy to understand the content of the material, the videos displayed are also in accordance with the material, the evaluation tests given are in accordance with the material presented and arranged systematically making it easier for students to answer, and the selection of material in accordance with the level of student development. Evaluation test which contains questions that are used to determine students' understanding of the material presented and is equipped with feedback in response to answers given directly to students (Shalikhah, 2017). The language aspect in this material is also easy to understand and uses enhanced spelling and uses simple language so that it is easy to understand. The use of good language can make it easier for students to study the meaning contained in the media (W, S. 2008). The benefits of this material can also motivate students to learn, and provide assistance to students who are less interested in learning so that learning becomes more interesting.

The teacher's assessment response when conducting learning trials also received a good response. The teacher stated that in terms of learning design that attracts students, appropriate visual communication and the use of software that is easy and can be installed via cellphones or laptops. The response given by the teacher for the application of this interactive learning media based on Lectora Inspire received a "very decent" score of 88%. This situation can be seen that based on the value given by the teacher in the aspect of learning design the material used is in accordance with KD and learning objectives, then choosing the right title and the definition used is very appropriate. The use of material evaluation is also well structured, the selection of interesting material so that this development is appropriate for increasing interest in learning and children's learning outcomes. The arrangement of visual communication in the media is also stated to be appropriate, the provision of navigation buttons, clear voice, easy-to-understand language, sound composition, writing, font color and size are very suitable for presentations. Aspects of the software used are also very easy to use and can be input into PCs and cellphones, and can be used repeatedly according to the needs of teachers and students.

Figure 6. Documentation with Teachers

The results of research and analysis of the data found by researchers can be said that the development of interactive learning media based on Lectora inspire was declared successful and well used in learning for class XI students. The results in this study are also in accordance with the statement Munir, 2012 which states that the use of instructional media will make educational institutions creative and innovative in developing teaching methods as well as media and learning resources. In addition, the use of this learning media will make the learning system more innovative and interactive. Teachers will also find it easier to make material more interesting by combining text, images, audio, music, images or videos in one learning material so that they can achieve learning objectives. This interactive learning media will also assist teachers in visualizing material that has been difficult to explain simply with conventional explanations or teaching aids such as excretory system material. Interactive learning media will also make students want to learn because it is easier to understand and in accordance with the development of the technological age that students like. Backed by research (Hita, 2020), Interactive learning media will have a positive impact on student learning, such as being able to provide motivation for students to participate in learning. This interactive learning media will also make students more trained to be independent in gaining knowledge and help students to be responsive in using information and communication technology that is currently highly developed.

The use of interactive learning media in this study used the Lectora Inspire software. How to use this software, namely (1) Open the lectora inspire demo software and double-click on the icon, (2) Then the getting started with lectora page appears. There are options for Create New Title, Open Existing Title, and Video Tour and Tip of The Day. In the Create New Title, Template, and Blank Title options. (3) Then a form for naming the media project to be created and a place to save the media project to be created appears, (4) Then the page size setting form appears. There are two options, namely fixed page size or taller page with scrollbar, (5) After finishing determining the display size then clicking finish, the initial page of the media that will be made will appear, (6) After completing work on making media, the next step is publish in any desired format.

The choice of developing interactive media using this software is due to several features such as: (1) Lectora can be used to create websites, interactive e-learning content, and learning presentations, (2) Lectora templates are quite complete so beginners who use this will get a presentation model design. instant learning without the hassle of redesigning. The features provided, (3) Lectora Inspire makes it very easy for novice users to create learning multimedia, (4) makes it easier for teachers or instructors to make learning media more interesting, (5) Lectora really allows users to convert Microsoft Powerpoint presentations into e-content learning. (6) Lectora provides a Media Library which is very helpful for users. (7) Content developed with the Lectora software can be published to various outputs such as HTML5, single executable file (.exe), CD-ROM, as well as e-learning standards such as SCORMM and AICC.

The specialty of Lectora Inspire software will help teachers create interesting media in learning, then they can be reused for the next academic year. This software also makes it easier for teachers to develop good teaching materials that are difficult to imagine to easy ones. Storage of the results of the development of materials can also be stored easily depending on the needs of the user. Lectora inspire software can also be used by teachers and students depending on their needs.

The Effectiveness of Lectora Inspire Based Interactive Biology Learning Media on Excretion System Material on Student Learning Outcomes of Class XI MAN Labuhanbatu.

The results of research regarding the application of Lectora Inspire-based interactive learning media to the biology subject matter of the excretory sub-system on student learning outcomes obtained very effective results. The effectiveness of developing students' skills in processing information can be supported by research (Outhwaite et al., 2017) which states that the use of interactive media can develop student learning skills. The effectiveness of the application of this interactive learning media can be seen in the acquisition of student learning outcomes before and after use. Children's learning outcomes before using interactive learning media based on Lectora Inspire got low results on the excretory system material. However, children's learning

outcomes after using interactive learning media based on Lectora Inspire get learning outcomes above the KKM. The results of the data analysis on the effectiveness of the use of media also show that the value obtained is more than 29 (Purwanto et al., 2020) stated that interactive learning media based on Lectora inspire can provide benefits for students to learn independently. In another sense, students play an active role in learning to be able to assemble and arrange their own learning needs. Thus, it can be concluded that the developed media is very effective in learning for class XI. Support statement (Prawiro et al., 2012), the use of interactive learning media indirectly also increases student achievement.

Figure 7. Learning Documentation

The effectiveness of the use of the development of interactive learning media based on Lectora Inspire in this study is very effective, especially in the subject of Biology. This is because in terms of subject matter Biology has learning resources that can rarely be seen directly with the eyes. An example of a learning resource is the excretory system. The excretory system is one of the characteristics of living things, both humans, animals, and plants. Excretion is a process of removing waste products from the body's metabolism that are no longer needed. The function of the excretory system is to maintain equilibrium (homeostasis) of the body by osmoregulation. The excretory organs that make up the excretory system in humans include the lungs, liver, skin, and kidneys. Human organs belonging to the excretory system can only be seen from inside the human body. This situation makes learning material difficult to understand logically because it is too abstract. This situation makes the development of interactive media based on Lectora Inspire needed to maximize children's ability to understand learning material. This is in line with the opinion (Kurniawan & Tanjung, 2022)

the use of instructional media can improve students' thinking skills in learning. According to (Purnomo, 2021), states that Lectora Inspire obtains good results and can be said to be effective as a learning tool to support student learning.

The effectiveness of this use also has advantages, namely: students are more active in the teaching and learning process. This is due to the attractive appearance and the use of technology in accordance with the era. Innovation in learning is also a factor in children's interest in following the material. The concrete learning material also makes students understand the material better than those who previously experienced confusion now more focused. In addition to this, the developed media also improves students' understanding better than before. This development media can also be used by students who have the task of presenting according to the material they want to display.

Conclusion

The results and discussion of the research that has been described in the previous chapter has several conclusions in this study including: (1) The results of data analysis revealed that the three validators who provided an assessment of the developed media gave scores in the "decent" and "very feasible" categories. These results were obtained from the results of data analysis on the value of the media expert validator getting a score of 80%, it was stated that in terms of the developed media design it was "Decent". The teacher's assessment response when conducting learning trials also received a good response. The teacher stated that this interactive learning media based on Lectora Inspire received a "very decent" score of 88%. (2) The results of research regarding the application of Lectora Inspire-based interactive learning media to the biology subject matter of the excretory sub-system on student learning outcomes obtained very effective results. get a gain score of more than 29. It can be concluded that the media developed is very effective in learning for class XI.

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