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ANALYSIS OF THE NEEDS OF ANIMATED VIDEO LEARNING MEDIA IN THE HUMAN ANATOMY AND PHYSIOLOGY COURSE IN THE SCIENCE STUDY PROGRAM AT UIN DATOKARAMA PALU

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ABSTRACT

The purpose of this study was to analyze the learning media used during lectures in the Science Education Study Program in the Human Anatomy and Physiology course. This type of research is development research with the ADDIE development model at the Analyze stage. The population in this study were all Science Education students of UIN Datokarama Palu, and the study sample was used by 22 students who have taken courses in the Human Anatomy and Physiology. Data collection techniques through observation and filling out a needs questionnaire. The instrument used was a media needs questionnaire in the form of a questionnaire in the form of a google form. The data obtained were then analyzed descriptively qualitatively. The results of the study indicate that the learning process was mostly still conventional such as lectures and presentation discussions. The learning media used was also still limited to powerpoint and handouts. The Human Anatomy and Physiology course contains several concepts that cannot be learned directly but require the help of learning media such as animated videos to visualize abstract concepts including the digestive system material.

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INTRODUCTION

The challenges of learning in the 21st century require educational institutions to develop 21st-century skills to produce competent graduates who can compete in the era of globalization. UIN Datokarama Palu is one of the State Islamic Universities under the auspices of the Indonesian Ministry of Religious Affairs. The Faculty of Tarbiyah and Teacher Training (FTIK), which oversees the Science Education study program, aims to produce graduates who are competent in the field of science education and knowledge. One of the compulsory courses taken by students of the Science Education Study Program at UIN Datokarama Palu is Human Anatomy and Physiology to achieve graduate quality that is in accordance with the expected competencies. The achievement of these competencies and the empowerment of 21st-century skills need to be supported by learning media to support the learning process. Media is utilized in learning so that the message conveyed can be conveyed to the recipient of the message and can provide motivation to students (Khomarudin et al., 2018; Riani et al., 2015).

Current learning demands emphasize mastery of higher-order thinking skills. The learning process aims to support successful information transfer and skill development (Zubaidah, 2018). With the advancement of technology in education, students no longer rely solely on textbooks in the classroom; activities using learning media must enhance the teaching and learning process. Teaching and learning activities must be more effective than memorizing concepts. Human anatomy and physiology courses contain several concepts that cannot be learned directly but require the assistance of learning media to visualize abstract concepts.

Currently, education is needed that can optimize the use of technology, thus producing graduates who can keep up with the times and demands of digital technology. Education is certainly inseparable from technology. The presence of technology can certainly change ways of thinking, changing the way we work, and changing lifestyles (Efriyanti & Annas, 2020; Roza et al., 2021). Furthermore, the presence of technology provides benefits in the role of educators in delivering learning, and this technology facilitates access to learning resources (Djannah et al., 2021; Pratiwi et al., 2021).

The rapid development of technology has resulted in changes in the world of education, one of which is the development of computer technology. Computers are not only used in office administration but can also be used to develop learning media in the field of education. Learning media that are often used and developed include PowerPoint, Student Worksheets (LKPD), and Electronic Modules. The use of mobile learning media in the learning process can attract interest in learning and increase student enthusiasm (Onde et al., 2020; Setiawan et al., 2019). In this regard, facilities and infrastructure are needed to support the learning process in the era of digital development (Rahmat et al., 2019; Syam, 2019). The science learning process has abstract concepts that give rise to misconceptions and conceptual errors that make student understanding of the learning process difficult. The role of educators is very influential in students' understanding of the material (Muharram et al., 2010; Wicaksono et al., 2020). For material that is difficult to understand, educators can utilize learning media that can help students understand the material (Darmawan, 2014; Irfan et al., 2019).

The existence of learning media can create direct interaction between students and learning resources, and students can learn

independently according to their respective abilities (Audia et al., 2021; Pratama & Prastyaningrum, 2016). One of the main factors causing low student learning achievement is the lack of educators' ability to create learning media and the low skills of educators in managing learning media (Handayani et al., 2017; Maharuli & Zulherman, 2021). Learning media is a means of conveying messages or learning that will later be delivered by educators as the message source to students or message recipients. The use of teaching media can help improve learning achievement (Hadiyati & Wijayanti, 2017; Nurhadi & Sobri, 2017).

Based on the results of observations in human anatomy and physiology lectures in the 2023/2024 academic year, it shows that the learning process is mostly still conventional with less active student activities. Learning activities are carried out through presentation discussions. The teaching materials used are PowerPoint and handouts. The solution offered is to find suitable and appropriate learning for human anatomy and physiology courses. The purpose of this study is to identify the main problems in learning human anatomy and physiology for follow-up in order to improve the quality of learning. Examining appropriate learning media for use in human anatomy and physiology courses. The use of learning media in learning activities can help mastery of thinking skills. The advantages of learning media are: (1) clarifying the presentation of messages so that they are not too verbalistic, (2) overcoming limitations of space, time, and human sensory abilities; (3) creating a passion for learning, (4) more interactive interactions between students and the environment and reality, (5) students can learn independently according to their abilities and interests, and (6) providing the same perception for students (Antari et al., 2019; Sribawana et al., 2017).

Biology learning is characterized by the presence of many abstract concepts (Arsyad, 2014). Abstract concepts are more difficult to understand than concrete ones. Therefore, efforts are needed to make abstract concepts concrete. One way to do this is through visualization by developing media in the form of animated videos equipped with materials and evaluation tools. One such abstract biology topic is the human digestive system. Therefore, this study analyzed the need for learning media in the learning process to visualize abstract concepts.

RESEARCH METHODS

This research was conducted in June 2024 at the Science Education Study Program, UIN Datokarama Palu. The data collection method used the ADDIE development model in the Analyze stage.

Data collection techniques included observation and questionnaires. The instrument used was a media needs questionnaire in the form of a Google Form. The questionnaire was distributed to 22 students who had taken the Human Anatomy and Physiology course.

The stages in this needs analysis process refer to the Analyze Design Develop Implement Evaluation (ADDIE) development model, Analyze stage (Branch, 2009). The results of the needs analysis will then be used as a basis for determining learning media that are appropriate to the needs of students in the Human Anatomy and Physiology course to support 21st century skills. The ADDIE development model was chosen because it is clearly structured, each stage has an evaluation so that deficiencies in each stage can be identified, and is flexible because the stages form a cycle so that repetition and improvement can be done at any time.

RESULTS AND DISCUSSION

Based on the results of a needs analysis conducted in June 2024 in the Science Education Study Program at UIN Datokarama Palu, with 22 students, it was shown that 33.3% of respondents found it difficult to learn Human Anatomy and Physiology. 66.7% of respondents reported no difficulties (Figure 1).

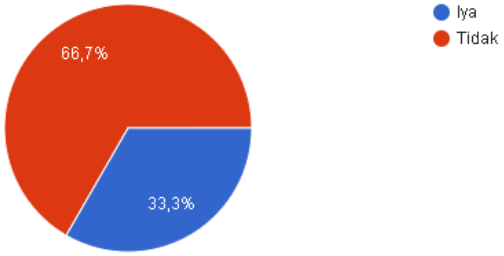

Figure 1. Student Difficulty in Human Anatomy and Physiology Material

Fifty-two percent of student respondents stated that lecturers had never used technology-based learning media to explain human anatomy and physiology. Forty-seven percent of student respondents believed that lecturers had used technology-based learning media (Figure 2).

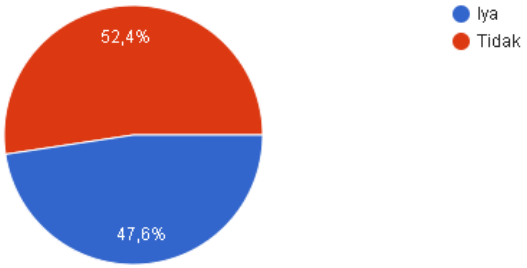

Figure 2. Lecturer Achievements Using Technology-Based Learning Media

95.2% of student respondents stated that they needed animated learning media in their Human Anatomy and Physiology courses. The remaining respondents felt they did not yet need similar learning media (Figure 3).

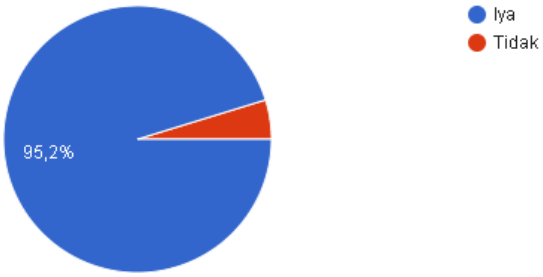

Figure 3. Student Achievements Need to Use Animation Learning Media

95.2% of student respondents believed that learning media equipped with videos, images, and animations would be more engaging. Meanwhile, 4.8% did not (Figure 4).

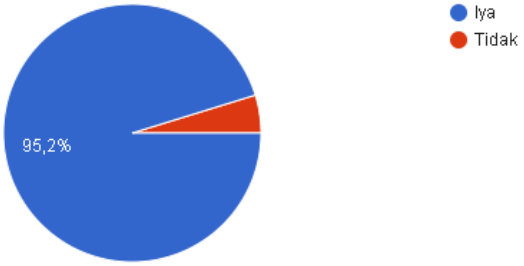

Figure 4. Learning media acquisition is more interesting if it is equipped with videos, images and animations.

As many as 95.2% of student respondents agreed that animated learning media can help students master the concepts of Anatomy and Physiology (Figure 5).

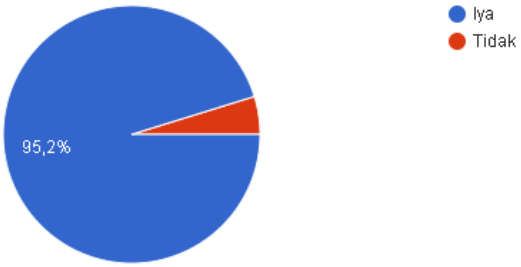

Figure 5: Student Agrees That Animation Learning Media Can Help Mastery of Human Anatomy and Physiology Concepts

Based on the results of observations in the learning of related courses, the learning

methods are mostly still conventional, such as lectures and discussions. The learning media used so far is still limited to PowerPoint and handouts that cannot visualize abstract concepts in Human Anatomy and Physiology material. Learning media should be adjusted to the needs of student achievement in understanding, identifying and even analyzing anatomical and physiological concepts in the human body. Learning using animated videos is expected to increase student interest and understanding by presenting concepts of the digestive system in the form of animated video visual displays.

Based on the results of a needs analysis conducted in June 2024 at the Science Education Study Program at UIN Datokarama Palu, most students did not experience difficulties in the Human Anatomy and Physiology lecture material. However, 33.3% of students still experienced difficulties in understanding the lecture material. The messages or concepts in the material were not optimally received by students due to the abstract and theoretical nature of the material.

Theoretical material will be easier for students to understand if it is carried out through contextual learning. This is supported by statements (Johnson 2002; Muslich, 2007) that contextual learning can make it easier for students to understand the material because it connects the concepts learned with the context of everyday life, and is oriented towards the process of direct experience, thus encouraging students to apply them in everyday life. Alternative learning supported by media that can visualize abstract concepts is expected to make learning more contextual.

Based on the needs analysis questionnaire and observation results in Human Anatomy and Physiology lectures, lecturers generally do not use technology-based learning media in explaining lecture material. The learning media used are still conventional, such as PowerPoint presentations and handouts. The results of classroom observations indicate that the methods frequently used in Human Anatomy and Physiology courses are presentations, group discussions, and assignments. The impact of the learning methods used in this course causes students to have a poor understanding of the material. Learning methods with information discussions and lectures (teacher-centered) will cause students to tend to be passive in the learning process, the concepts in the Human Anatomy and Physiology course that are obtained are not optimal, and students will tend to memorize the subject matter to meet the demands of learning objectives.

Students agreed on the need to use animated learning media in Human Anatomy and Physiology courses. They considered the use of technology-based learning media, such as animated videos, to support the learning process. This finding aligns with research suggesting that factors contributing to learning effectiveness are influenced by the type of media chosen and the learning methods applied (Khoir et al., 2020; Qistina et al., 2019).

Student respondents believe that learning media equipped with videos, images, and animations will be more interesting for them. Learning using animated videos is more successful in attracting students' attention and being more active because students are able to understand through two human sensory sensors, namely through the eyes and ears (Ermilinda, 2020). According to Dale (Sudirman, 2014), a person's learning experience is 75% obtained from the sense of sight (eyes), 13% through the sense of hearing (ears), and the rest through other senses. The use of animated video learning media can increase student motivation, interest, and learning outcomes. The use of learning media is very helpful in the learning process, and the

delivery of learning materials in an interesting way can improve student understanding.

Students generally agree with the statement that animated learning media can better assist in mastering the concepts of Human Anatomy and Physiology. This finding is in line with research stating that learning media is a tool in conveying information and teaching materials from educators to students in the learning process (Apriasa, et al. 2020). Considering the difficulty of the subject matter and the lack of use of innovative learning media, there is a need for learning innovations, one of which is by using creative animation-based video media. According to (Mahnun, 2012) animation-based videos are symbols in the form of words and sentences accompanied by images and audiovisuals, which will help recipients easily understand what will be conveyed (Talaka, et al. 2020).

To increase student effectiveness and engagement in learning, animated video media is highly recommended because it can simplify abstract concepts into more concrete and engaging visual displays. The Powtoon application is recommended for the development of animated video media as a learning tool because it has proven to be very valid, practical, and able to improve student learning outcomes (Noorhidayah et al., 2024). Canva as a learning medium is also highly recommended because it has proven valid, practical, and effective in increasing student motivation and learning outcomes (Toma and Reinita, 2023). Canva media can increase the number of students who meet learning completeness (Karim and Bahar, 2024).

CONCLUSION

Based on the results of a needs analysis conducted on students who have taken the Human Anatomy and Physiology course in the Science Education Study Program of UIN Datokarama Palu, it was concluded that in the Human Anatomy and Physiology course, lecturers generally have not used technology-based learning media in explaining the lecture material. The learning media used are mostly conventional such as Powerpoint presentations and handouts. Students agree on the need to use technology-based learning media in the form of animated videos in the Human Anatomy and Physiology course. Animated learning media is considered to be more able to help students master concepts by visualizing abstract concepts of Human Anatomy and Physiology, including the digestive system material. The development of animated video media is recommended as a priority step in learning innovation, especially for material that is difficult to understand conventionally and to increase student learning interest.

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