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Application of Video-Based Learning Media with Applications to Improve Learning Activities of Vocational High School Students

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Abstract

Learning during the pandemic that was carried out in private high schools, both online and offline, encountered problems, especially in terms of low student activity and learning outcomes. This study aims to improve activities and learning outcomes of computer systems through video media at SMK IBNU SINA BATAM. This research is a Classroom Action Research with two cycles at SMK IBNU SINA BATAM. Methods of collecting data with tests, observations, and documentation. Data were analyzed descriptively quantitatively and qualitatively. The results of the study concluded that there was an increase in activity and learning outcomes of Computer Systems through video media at SMK IBNU SINA BATAM. This can be seen from the increase in student activity towards the indicators of asking questions and the average student learning outcomes that continue to increase. In the first cycle the average student learning outcomes were 63.88 or an increase of 23.80% with the percentage of student achievement of 0.23 or an increase of 23.80%. In the second cycle, the average score of students was 77.85, an increase of 57.15% with the percentage of student learning completeness at the level of 0.81 or an increase of 58%.

Keywords— activity, learning outcomes, and video media, smk

PRELIMINARY

A computer system is a collection of knowledge obtained by using a systematic method (scientific method), as well as by applying a scientific attitude. Computer systems assist humans in understanding themselves, and the natural environment. And no less important in learning computer systems has three main components that must be mastered by students, namely attitudes, processes and products.

The three main components are an ideal way for students to acquire existing competencies in learning computer systems. skills (physical, thinking, social, mathematical, and language), attitudes (appreciation and character), and concepts (ideas, facts, understanding) are inseparable and interrelated. If students get a balanced experience between skills, attitudes and concepts, it will allow students to get new ideas or facts, use certain ways of working, and positive attitudes which will then be applied in everyday life.

It was also explained that the computer system learning process emphasizes providing direct experience to develop competencies so that students can explore and understand the environment scientifically. Computer Systems Learning is directed at the process of inquiry and action to help students gain experience and a deeper understanding of the world around them. where once again it is emphasized here that the learning process of computer systems is an individual human experience that may be felt the same or differently by each individual. Therefore, the same thing can be interpreted differently because the background experience obtained is different.

The computer system learning process will be more meaningful if it can provide direct experience to students through concrete learning resources. Learning with concrete resources is

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able to present learning situations more naturally so as to ensure the success of abstract computer systems. This is because, when learning through real sources, the body's senses play an active role in conveying information to the brain.

The last component in the form of a computer system learning product is taken to obtain the maturity of concepts, principles, theories and laws. Concepts are ideas or ideas based on experience that can be generalized, for example the concept of living things, energy, light, photosynthesis, respiration, elements, compounds, and so on. principles are generalizations consisting of related concepts, for example, metals when computer systems develop, green plants can photosynthesize, respiration requires oxygen, and so on. A theory is a generalization of related scientific principles, such as the theory of evolution, the theory of relativity, the theory of plate tectonics, and so on. while the law is a statement that states a consistent relationship between natural phenomena. Because of this consistency, the law can be used to predict, for example, the law of conservation of energy and Newton's law.

In addition to having the three main components above, computer system learning also focuses on holistic objects and problems so that computer systems need to be presented by paying attention to and developing all students' potential in harmony which includes intellectual, emotional, physical, social, aesthetic and spiritual potential.

Practically in the field, Computer Systems is a subject that is very interesting and easy to understand by Computer Systems because it relates to the real life experienced by students and the environment around students. However, in the subject of the circulatory organ system, many students find it difficult and less interested. This is because the material used is very broad while the learning time is limited, it is still abstract because it involves organs in the human body that are difficult to observe directly, and there are some terms that are still unknown to students. In addition, the COVID-19 pandemic that has hit the whole world has caused the learning process to be carried out from home, where the learning system carried out by schools that are constrained by facilities is only limited to sending assignments via WA. This task is also limited to reading material and making practice questions from textbooks so that the delivery of material from the teacher to students is minimal and less interesting. This is due to the lack of understanding of teachers about the correct way of online learning, teachers are reluctant to use learning media, teachers are less creative in making learning media, and methods of presenting material are less attractive so that student activities. in learning is also reduced.

During the COVID-19 pandemic, learning media is very important because learning that used to be face-to-face had to be done from home, both online and offline.

Giving assignments through the WA group to read books and work on worksheets that are carried out continuously makes children bored and less attractive from time to time, so innovation is needed. Distance learning requires learning media. Media as an intermediary or delivery of subject matter from teachers to students so that students become active in learning. Media and learning resources help students make observations, ask questions, conduct experiments or further observations.

Class VIII Elementary School Computer System learning material about the Circulatory Organ System is an abstract that cannot be seen directly by the eye (Fajar, 2016). The level of thinking development of elementary school students is at the concrete operational level. The presence of media is needed to visualize both in the form of images, videos, and artificial forms/models. With media children can observe, ask questions, know, relate, and convey the material being studied so that student understanding increases and student learning outcomes also increase.

A learning will be successful if students study hard and can master the subjects that have been studied. This will usually be seen in student learning outcomes with satisfactory learning outcomes or meeting the minimum completeness criteria (KKM = 70.00). "Learning outcomes are the abilities students have after receiving their learning experiences". Learning outcomes are obtained from interactions with the environment that are deliberately carried out by teachers in teaching. Learning outcomes are also influenced by student activities and the use of learning media.

Activities in learning are all physical and non-physical activities of students in the process of learning activities. While the media is a means or intermediary in conveying information from one person to another. The use of audio-visual media in learning. Certain limitations can replace the role and duties of the teacher, and the teacher does not always act as a presenter of material (teacher), but the delivery of material can be replaced by audio-visual media, so the role of the teacher can change. . become a learning facilitator, which makes it easier for students to learn. . Based on problem analysis and learning theory, video media is very important in learning computer systems at SMK IBNU SINA BATAM. This effort is very important because the learning system carried out in schools is offline and online only through WA groups so that material can reach students. The purpose of this CAR is to increase activities and learning outcomes of Computer Systems through the video media of SMK IBNU SINA BATAM.

RESEARCH METHODS

The research design developed in this study refers to the Kemmis and Taggart classroom action research model, namely classroom action research as shown in Figure 1. Each cycle of action research includes planning, action, observation and reflection. If the first action is not successful, it will be continued with the action in the next cycle. In the first cycle of learning using learning video media in the form of pictures of the circulatory organs that are narrated, while the second cycle uses animation video learning media of the circulatory system. CAR as a way to find out and improve the learning process when facing problems. The following is the design of Kemmis and Taggart's classroom action research.

This research was carried out at SMK IBNU SINA BATAM for the 2021 academic year in the odd semester from August to October 2021. The subjects in this study were all 21 students, consisting of 11 male students and 10 female students.
The data collection method in this study used data collection through tests, observations, and documentation. The test method was carried out on the pre-test, post-cycle 1 test and post-cycle 2 test through a question on google form to determine the improvement of student learning outcomes. Observations were made during online and offline learning activities in cycle 1 and cycle 2. The indicators of student activity observed included active attention to lessons/teacher explanations, activeness in answering questions from teachers, asking questions, availability of tools and books, recording lesson materials. While the documentation for student data collection is student learning outcomes during the pre-test, post-cycle 1 test and post-cycle 2 test as learning reflection material for the next level.
The data analysis technique in this classroom action research is descriptive quantitative and qualitative to find out how to improve students' activities and learning outcomes through learning video media. Learning is said to be active if 75% of students are actively involved in learning. While the increase in student learning outcomes is indicated by the average value and level of perfection of students in learning.

a. Determining the class average Using
    the formula: $NR = \sum N / SN$

Information :   NR = Average value

$\sum N$ = Total value
students SN = Total
students

b. Determining the level of Mastery Learning
    Using the formula $P = \sum T / \sum N \times 100\%$

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Information :   P   = Mastery learning
∑T = Number of students who finished studying
∑ = Total students

RESULTS AND DISCUSSION

Based on the data obtained from classroom action research activities on learning Computer Systems at SMK IBNU SINA BATAM, it is obtained as follows:
The average value of student learning outcomes
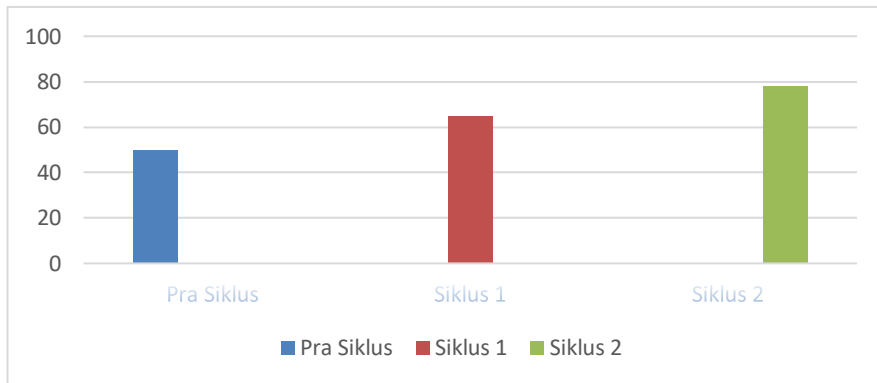
From the bar chart, it can be seen that the average value of learning outcomes in the pre-cycle is 50.02. This value is very far from the KKM (score 70) so the average value is very low. This is because learning is only done through learning from home with the task of reading books and making worksheets. In cycle 1 the average value of the class increased to 63.88 or increased by 23.80%. The average value in this cycle is still very low because it is still far from the KKM value. Then the action was taken in cycle 2 by using animated video media of the circulatory system so that the average value in cycle II increased to 77.85 or increased by 57.15%. This shows that the use of instructional video media can improve student learning outcomes. The use of video media in learning becomes more interesting so that it increases student activities in learning such as learning concentration, making assignments/answering questions, asking questions so that children understand better and improve student learning outcomes.

Student Learning Activities
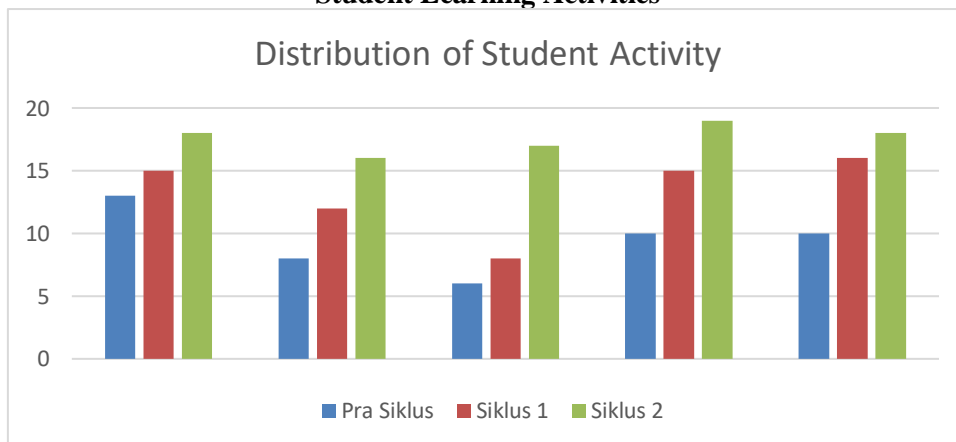
The picture above shows an increase in student activity from pre-cycle to cycle II, especially in questioning activities. This happened because many class VIII students were initially still shy to ask questions in front of their friends. After using video media used both online and offline, there was an increase in student activity, especially in asking questions, from 5 students to 8 students then to 17 students or increased in cycle II, as well as student activity in answering questions which always increased and was followed by other activity indicators. The use of video media in learning can increase student activity in learning, especially student activity in asking and answering questions. Improving student learning outcomes is a process of developing teacher professional competencies. The results of this study prove that the professional competence of teachers through research.

CONCLUSION

There was an increase in activities and learning outcomes of Computer Systems through the video media of SMK IBNU SINA BATAM. This can be seen from the increase in student activity in asking questions and the average student learning outcomes that continue to increase. In the first cycle the average student learning outcomes were 63.88 or an increase of 23.80% with the percentage of student achievement of 0.23 or an increase of 23.80%. In cycle II, the average score of students was 77.85, an increase of 57.15% with the percentage of student learning completeness at the level of 0.81 or an increase of 58%.

SUGGESTION

It is hoped that there will be a combination of video media with other learning methods that are in line with the times.

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