Research Paper

Computer-Based Learning Media and Its Effect on Learning Difficulty and Student Learning Motivation

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ABSTRACT: *This study aims: (1) To determine the effect of computer-based learning media on the learning difficulties of class XII IIS students at SMA Negeri 3 Bulukumba. (2) To determine the effect of computer-based learning media on the learning motivation of class XII IIS students at SMA Negeri 3 Bulukumba. The variables in this study were computer-based learning media as the independent variable (X) and learning difficulties as the dependent variable (Y). The population in this study were all students of class XII IIS at SMA Negeri Bulukumba as many as 109 students at once as a sample or saturated sampling. Data collection techniques using questionnaires and documentation. The data analysis technique used descriptive percentage analysis, instrument test and hypothesis testing. Based on the results of the t-test analysis obtained a significant value of 0.001 <0.05, which means that computer-based learning media has a significant effect on learning difficulties and learning motivation of class XII IIS students at SMA Negeri 3 Bulukumba.*

KEYWORDS: *Computer-Based Learning media; learning difficulties; learning motivation*

I. INTRODUCTION

Education is a worldwide (universal) activity in human life because wherever and whenever in this world there is education. Education has a very important role, one of which is to develop the basic abilities (potential) that a child has from birth so that it is beneficial for the interests of his life as an individual and as a citizen. Therefore, children must get quality education to develop their potential. Requirements in developing education must be able to collaborate, innovate so that education is not left behind (Yamin & Syahrir, 2020).

One of the factors that influence learning difficulties is the learning media used (Alang, 2015). The difficulties experienced by students are also inseparable from the learning process carried out by conventional educators (Danny Abrianto, 2014). Learning media is a tool that can help the teaching and learning process which functions to clarify the meaning of the message conveyed so that the objectives of the lesson are better and more perfect. There are various types of learning media, namely human-based media, print-based media, visual-based media, audio-visual-based media, and computer-based media. Advanced education requires a supportive learning media that can be used in the teaching and learning process, learning media is also a tool for educators in providing information as well as related material from learning (Tafonao, 2018).

The presence of information and communication technology has now become the main facility used in the activities of various sectors of life by making a major contribution, one of which is in the world of education. Information technology that is increasingly developing in the era of globalization cannot be avoided from the world of education, an advanced world of education requires assistance from increasingly developing technology (Budiman, 2017). An example of the use of technology used in education today is the computer which is used as a learning medium. Utilization of computers in learning is known as computer assisted instruction (CAI). The use of computers also has the advantage of providing an advancement in education that has interactive speed (Arda et al., 2015).

Another thing that must be considered from the use of computer-based learning media is student motivation. Motivation to learn in a person will generate passion or increase enthusiasm in learning. Motivation to learn contains efforts to achieve learning goals, namely understanding the material and developing learning. In addition, learning motivation is a driving force that makes someone interested in learning so that they will learn

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continuously. Motivation to learn is one of the factors that encourage students in learning, which in this case encourages learning creatively, directed and full of initiative (Muhammad, 2017).

Computer-based learning is learning that applies the use of computers in it, whether it is used by teachers or students according to learning needs. There are various types of learning media, one of which is the computer. Computers have an important role in learning. One of the roles of the computer is as a tool for delivering information or learning materials. Computer technology is an invention that presents some actual information in the world of education (Suryadi, 2019). Computer-based learning is learning that applies the use of computers in it, whether it is used by teachers or students according to learning needs.

The use of computers in education is known as computer-assisted learning (CAI). CAI or computer assisted instruction is computer-assisted learning which is part of a learning system that aims to assist students in learning by using a two-way interaction pattern that uses the computer as a medium to operate it. The two-way interaction pattern maximizes the reciprocal relationship between educators and students which will make students understand the lessons given (Salahuddin, 2018).

In the process of learning accounting material, students are usually asked to complete accounting exercises by the teacher using a computer or laptop. However, there are still some students who are unable to complete accounting exercises because they do not have computer knowledge or skills and do not have a personal computer to use for independent study in their respective homes. The function of learning in junior high schools is to develop skills, rational attitudes, knowledge, accuracy, as well as firm decisions (Hariyanti, 2021).

SMA Negeri 3 Bulukumba is one of the senior high schools (SMA) in Bulukumba Regency. This school implements the 2013 curriculum in grades X, XI and XII with a division of departments consisting of two majors, namely: MIA and IIS. Based on the results of an initial interview with one of the teachers, it was stated that the ability of students to use computer-based learning media was still low, this was because students' knowledge and skills in using the media were still limited. This causes the level of learning difficulty in accounting material to be high with many students having scores below the KKM. High learning difficulty will be related to student learning motivation, namely the desire to be interesting in learning. Factors that cause students' learning difficulties are basic knowledge or skills that are inadequate or support the material being studied and the lack of completeness of children's learning tools at home. Therefore, students or students need special knowledge and skills about computers and students need to have computers/laptops at home so they don't experience learning difficulties in completing accounting exercises given by the teacher. Furthermore, the knowledge and skills possessed will provide motivation to students in using computer media in learning as one of the interesting things in completing accounting assignments. Teaching staff also have a responsibility in understanding students' learning difficulties which later the teacher will provide problem solving assistance in learning (Yasin & Netriwati, 2019).
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II. METHOD

This study using quantitative methods, where researchers made observations, and used questionnaires in collecting data. Variable measurement serves to make it easier to analyze data in the form of a formula. According to Sugiyono (2017: 133) "variable measurement is a measurement scale that is used as a reference for determining the short length of the interval in the measuring instrument when used in measurements it will produce quantitative data". The sample in this study was 109 XII IIS students at SMA Negeri 3 Bulukumba which were divided into four classes, namely XII IIS 1 with 27 students, XII IIS 2 with 30 students, XII IIS 3 with 28 students, and XII IIS 4 with 23 students at SMPN 15. which is located at Tanahberu, Bontobahari sub-district, Bulukumba district, South Sulawesi Province. The type of research used is quantitative research using descriptive data analysis techniques, instrument testing, and hypothesis testing. Instrument test namely validity test and reliability test. Meanwhile, hypothesis testing uses simple linear regression analysis, coefficient of determination and t-test. This study aims to determine the effect of computer-based learning media on the learning difficulties of class XII IIS students at SMA Negeri 3 Bulukumba and to determine the effect of computer-based learning media on the learning motivation of class XII IIS students at SMA Negeri 3 Bulukumba.

Table 1. Research Instruments

Variable	Indicator	Measurement Scale
Computer Based Learning Media (X_1)	1. Computers can accommodate students who are slow to accept lessons. 2. Computers can stimulate students to do exercises and carry out laboratory activities or simulations. 3. Required knowledge or special skills about computers. 4. Computers are only effective when used by one person or several people in small groups.	Likert
Learning Difficulty (Y_1)	1. Basic knowledge or skills that are inadequate or support the material being studied. 2. The way the teacher teaches is not good.	Likert

	3.	The way the teacher teaches is not good.	
	4.	Lack of completeness of children's learning tools at home.	
Learning Motivation (Y_2)	1.	There is desire and desire to succeed.	Likert
	2.	There is encouragement and need in learning.	
	3.	There are hopes and aspirations for the future.	
	4.	There is appreciation in learning.	
	5.	There is an interesting desire in learning.	
	6.	There is a conducive learning environment, so that it allows a student to study well.	

The data used in this study were obtained from questionnaires which were distributed in the form of Google Forms. The score given for each question is 1 = Strongly Disagree (STS), 2 = Disagree (TS), 3 = Doubtful (RR), 4 = Agree (S), 5 = Strongly Agree.

III. RESULT AND DISCUSSION

A. Research Results

1. Respondents and Data Description

The research conducted at SMA Negeri 3 Bulukumba had the target of this research being all students of class XII IIS at SMA Negeri 3 Bulukumba. The data of respondents in this study are as follows:

Table 2. Respondent Data

Class	Respondents		Amount
	Man	Woman	
XII IIS 1	11	16	27
XII IIS 2	11	19	30
XII IIS 3	15	13	28
XII IIS 4	10	14	24
Amount	**47**	**62**	**109**

Source: Results of Questionnaire Data Processing

The description of the data that will be presented from the results of this study is to provide a general description of the collection of data obtained from the research location. In this description, the frequency distribution per indicator, frequency percentage, and score acquisition will be presented.

a. Description of Computer-Based Learning Media Variables

Based on the indicators of computer-based learning media, the conclusions of respondents' responses regarding the variables of computer-based learning media can be seen in Table 3.

Table 3. Conclusions on Respondents' Responses to Computer-Based Learning Media Variable

No	Indicator	Actual Score (%)	Description
1	Computers can accommodate students who are slow to accept lessons	72,0	Tall
2	Computers can stimulate students to do exercises and carry out laboratory activities or simulations	73,8	Tall
3	Special knowledge or skills about computers are required	71,0	Tall
4	Computers are only effective when used by one person or several people in a small group	73,5	Tall
	Amount	**72,6**	**Tall**

Source: Results of Questionnaire Data Processing

Based on Table 3, the percentage of the actual score obtained for the computer-based learning media variable is 72,6 percent, classified as high category. However, there are still two indicators that are still below the average actual score, namely the computer indicator that can accommodate students who are slow to receive lessons by 72,0 percent. This means that the use of computers as a learning medium has not been able to meet the needs of students who are slow in learning because there are still some students who have not been able to understand accounting material quickly, and the indicator requires special knowledge or skills about computers at 71,0 percent. This means that there are still some students who do not have specific knowledge or skills about computers, so they are not able to complete the accounting exercises properly and correctly given by the teacher.

b.   Description of Learning Difficulty Variables

Based on the indicators of learning difficulties, the conclusions of respondents' responses to the variable learning difficulties can be seen in Table 4.

Table 4. Conclusions on Respondents' Responses to Learning Difficulty Variables

No	Indicator	Actual Score (%)	Description
1	Basic knowledge or skills that are inadequate or support the material being studied	65,7	Tall
2	The way the teacher teaches is not good	62,3	Tall
3	Inadequate learning tools or media	65,0	Tall
4	Lack of completeness of children's learning tools at home	74,1	Tall
	Amount	**66,8**	**Tall**

Source: Results of Questionnaire Data Processing

Based on Table 4, it means that the actual percentage score obtained for the learning difficulty variable is 66,8 percent which is classified as high category. However, there are still three indicators that are below the average actual score, namely the basic knowledge or skills indicator that is inadequate or supports the material being studied by 65,7 percent. This means that there are still many students who do not have the knowledge or skills in using computers as a medium for learning accounting materials. The teacher's teaching method indicator is not good at 62,3 percent. This means that there are still some students who have not been able to understand how to complete the accounting exercise even though it has been explained by the teacher, and indicators of inadequate learning tools or media are 65,0 percent. this means that schools still do not have adequate computers to support the success of learning accounting material.

c.   Description of Learning Motivation Variables

Based on the indicators of learning motivation, the conclusions of respondents' responses to the learning motivation variable can be seen in Table 5.

Table 5. Conclusions on Respondents' Responses to Learning Motivation Variables

No	Indicator	Actual Score (%)	Description
1	There is passion and desire to succeed	78,2	Tall
2	There is a drive and need for learning	77,5	Tall
3	There are hopes and aspirations for the future	78,4	Tall
4	There is an appreciation in learning	74,6	Tall
5	There are interesting activities in learning	78,8	Tall
6	There is a conducive learning environment	79,1	Tall
Amount		**77,8**	**Tall**

Source: Results of Questionnaire Data Processing

2.   Test Instruments

To find out the influence of computer-based learning media on learning difficulties in accounting material in class XII IIS students at SMA Negeri 3 Bulukumba, the researcher first tested the instruments used in the study. This test aims to describe the level of validity and reliability of the instrument from the data obtained in the field using the SPPS version 28 application. The conclusions of the validity test and reliability test of computer-based learning media variables (X), learning difficulties (Y1), and motivation Learning (Y2) is described in Table 30.

Table 6. Conclusions on the validity and reliability of research instruments

Variable	Validity			Reliability		
	r count	r table	Ket .	Cronbach's Alpha	Standard	Ket .
Learning media based Computer	0.501 to 0.947	0.188	Valid	0.945	0.60	Reliable
Learning difficulty	0.710 to 0.852	0.188	Valid	0.922	0.60	Reliable
Learning motivation	0.330 to 0.872	0.188	Valid	0.864	0.60	Reliable

Source: Processed results from SPSS version 2

Based on Table 6, it means that for computer-based learning media instruments the rcount value is between 0.501 to 0.947 which is greater than the rcount 0.188 so that it can be declared valid, and for the reliability test the Cronbach's Alpha value is 0.945 greater than 0.60. The learning difficulty instrument obtained an rcount value between 0.710 to 0.852 greater than rcount 0.188 so that it could be declared valid, and for the reliability test obtained a Cronbach's Alpha value of 0.922 greater than 0.60, and the learning motivation instrument obtained an rcount value between 0.330 to 0.872 greater than rcount is 0.188 so that it can be declared valid, and for the reliability test the value of Cronbach's Alpha 0.864 is greater than 0.60. Based on this, it can be concluded that the three variables in this study are feasible to use.

3. Hypothesis Test
a. *Simple Linear Regression Analysis*
The following results of simple linear regression calculations of computer-based learning media on learning difficulties are presented in Table 7.

Table 7. Results of Simple Linear Regression Analysis

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std, Error	Beta		
1	(Constant)	17,325	3,423		5,062	,001
	Computer Based Learning Media (X)	,451	,092	,427	4,881	,001

a. Dependent Variable: Learning difficulties (Y)
Source: Processed results from SPSS version 28

Table 7 shows that the simple linear regression equation model is as follows:
$$\hat{Y} = 17,325 + 0,451\ X$$

Based on this equation model, the constant value (a) is 17.325, which means that if the computer-based learning media has a zero value, the learning difficulty is 17.325 units. The regression coefficient (b) has a positive value of 0.451 which means that the computer-based learning media variable has a positive effect on learning difficulties. This means that if the computer-based learning media experiences an addition of one unit, the learning difficulties will increase by 0.451 units.

Table 8 shows that the simple linear regression equation model is as follows:

$$\hat{Y} = 66{,}470 + 0{,}213 \, X$$

Table 8. Results of Simple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std, Error	Beta		
1	(Constant)	66,470	2,606		25,509	,001
	Computer Based Learning Media (X)	,213	,070	,281	3,024	,003
a. Dependent Variable: Learning Motivation (Y)						

Source: Processed results from SPSS version 28

Based on the equation model, the constant value (a) is 66.470, which means that if the computer-based learning media has a zero value, then the learning motivation is 66.470 units. The regression coefficient (b) has a positive value of 0.213 which means that the computer-based learning media variable has a positive effect on learning motivation. This means that if the computer-based learning media experiences an addition of one unit, the learning motivation will increase by 0.213 units.

b. T-test

The following results of the t-test of computer-based learning media for learning difficulties can be seen in Table 9.

Table 9. T-test results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std, Error	Beta		
1	(Constant)	17,325	3,423		5,062	,001
	Computer Based Learning Media (X)	,451	,092	,427	4,881	,001
a. Dependent Variable: Learning Difficulties (Y)						

Source: Processed results from SPSS version 28

Based on Table 9, it means that the computer-based learning media variable obtained a significance value of 0.001 which is smaller than 0.05 (0.001 <0.05) which means that the hypothesis states that the computer-based learning media variable has a significant effect on the learning difficulties of class XII IIX students in Bulukumba State High School "accepted".

The results of the t-test of computer-based learning media on learning motivation can be seen in Table 10.

Table 10. T-test results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std, Error	Beta		
1	(Constant)	66,470	2,606		25,509	,001
	Computer Based Learning Media (X)	,213	,070	,281	3,024	,003
a. Dependent Variable: Learning Motivation (Y)						

Source: Processed results from SPSS version 28

Based on Table 10, it means that the computer-based learning media variable obtained a significance value of 0.003 which is smaller than 0.05 (0.003 <0.05) which means that the hypothesis states that the computer-based learning media variable has a significant effect on the learning motivation of class XII IIX students in Bulukumba State High School "accepted".

c. *Coefficient of Determination*

The results of calculating the coefficient of determination of computer-based learning media on learning difficulties can be seen in Table 11.

Table 11. Results of the Analysis of the Coefficient of Determination

		Model Summary		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,427[a]	,182	,174	7,114

a. Predictors: (Constant), Computer Based Learning Media (X)

Source: Processed results from SPSS version 28

Based on Table 11, it means that a coefficient of determination of 0.182 or 18.2 percent is obtained. This means that the effect of computer-based learning media on learning difficulties is 18.2 percent while 81.8 percent is influenced by other factors.

The results of calculating the coefficient of determination of computer-based learning media on learning motivation can be seen in Table 12.

Table 12. Results of the Analysis of the Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,281[a]	,079	,070	5,416

a. Predictors: (Constant), Computer Based Learning Media (X)

Source: Processed results from SPSS version 28

Based on Table 12, it means that a determination coefficient of 0.079 or 7.9 percent is obtained. This means that the effect of computer-based learning media on learning motivation is 7.9 percent while 92.1 percent is influenced by other factors.

B. Discussion

The results of the description of computer-based learning media variables obtained an average actual score of 72.6 percent, classified as high category. The indicator of computer-based learning media with the highest percentage level is that computers can stimulate students to do exercises and carry out laboratory activities or simulations by 73.8 percent because in the process of learning accounting material which is carried out offline the teacher concerned invites students to the school laboratory to carry out simulations to do exercises on accounting material using a computer. while the indicator that has the lowest percentage is that it requires special knowledge or skills about computers at 71.0 percent because there are still some students who do not know how to operate computers while the basic capital in order to be able to complete accounting exercises properly and correctly requires special knowledge or skills computer first. Even so, the variables of computer-based learning media have a significant influence on the difficulty of learning accounting material in class XII IIS students at SMA Negeri 3 Bulukumba.

The results of the description of the learning difficulty variable obtained an average actual score of 66.8 percent, belonging to the high category. The indicator of learning difficulties with the highest percentage level is the lack of completeness of children's learning tools at home by 74.1 percent because there are still many students who do not have their own computers/laptops so that students have difficulty solving accounting questions given by the teacher to work on at home. While the indicator that has the lowest percentage is the teacher's teaching method which is not good at 62.3 percent because there are still some students who have not

been able to understand accounting material properly even though it has been explained by the teacher because in accounting material there are several terms that must be understood before Enter the stage of working on accounting questions. This is in line with research conducted by (Fakhrurrazi, 2018) which confirms that less effective ways of teaching educators will later make students less motivated.

The results of the description of the learning motivation variable obtained an average actual score of 77.8 percent, belonging to the high category. The indicator of learning motivation with the highest percentage level is the existence of a conducive learning environment of 79.1 percent because students will study comfortably if the learning environment is conducive. This is in line with research conducted by (Jumrawarsi & Suhaili, 2021) which says that a conducive learning environment will affect the learning quality of students which will prevent students from psychological fatigue, boredom in learning, and will also provide innovation in learning. While the indicator that has the lowest percentage is the appreciation in learning of 74.6 percent because there are still some students who have not received an award even though they have gotten good grades.

The results of testing the research hypothesis using SPSS version 28. For computer-based learning media variables on learning difficulties, a simple linear regression equation model is obtained $\hat{Y} = 17.325 + 0.451 X$, this means that if the computer-based learning media variable has a value of zero then the class student learning difficulties variable XII IIS at SMA Negeri 3 Bulukumba of 17,325 units. The regression coefficient value is positive by 0.451, this means that if the computer-based learning media variable experiences an addition of one unit, then the difficulty of learning accounting material for class XII IIS students at SMA Negeri 3 Bulukumba will increase by 0.451 units. And for the computer-based learning media variable on learning motivation, a simple linear regression equation model is obtained $\hat{Y} = 66.470 + 0.213 X$, this means that if the computer-based learning media variable has a value of zero then the learning motivation variable for class XII IIS students at SMA Negeri 3 Bulukumba is 66.470 unit. The regression coefficient value is positive by 0.213, this means that if the computer-based learning media variable experiences an addition of one unit, then the learning motivation of class XII IIS students at SMA Negeri 3 Bulukumba will increase by 0.213 units.

The results of the t-test of computer-based learning media variables on learning difficulties obtained a significant value of 0.001 less than 5 percent (0.001 <0.05) which means that there is a significant influence of computer-based learning media on learning difficulties of class XII IIS students at SMA Negeri 3 Bulukumba. And the results of the t-test of computer-based learning media variables on learning motivation obtained a significant value of 0.003 less than 5 percent (0.001 <0.05) which means that there is a significant influence of computer-based learning media on learning motivation of class XII IIS students in SMA Negeri 3 Bulukumba.

As for the results of the analysis of the coefficient of determination of computer-based learning media variables on learning difficulties of 0.182 or 18.2 percent. This means that computer-based learning media has contributed to learning difficulties of 18.2 percent and 81.8 percent is influenced by other factors and the results of the analysis of the coefficient of determination of the variable of computer-based learning media on learning motivation is 0.079 or 7.9 percent. This means that computer-based learning media contributes to learning motivation of 7.9 percent and 92.1 percent is influenced by other factors. Computer-based learning media also has a role in improving the learning process by increasing students' learning motivation, this is in line with research conducted by (Priyanto, 2009).

The results of this study are in line with the theory put forward by Wahab (2015: 193) which states that the causes of students' learning difficulties are basic knowledge or skills that are inadequate or support the material being studied and the lack of completeness of children's learning tools at home. Efforts to overcome difficulties in learning are analyzing the phenomena displayed by students, helping to develop learning improvement programs, and implementing learning improvement programs (Hariyanti, 2021).

The use of learning media will really help the effectiveness of the learning process which can convey messages as well as the content of the lessons learned at that time (Rosdiana, 2013). Computer-based learning media is used as one of the learning media in accounting material economics subjects. the knowledge or skills of students in using computers is the basic capital that will support student success in learning accounting material. Therefore, students first need to have skills in using computers so that while following the learning process students do not experience difficulty learning accounting material. Further, Aditama and Satya (2019) stated that "The findings of the research indicated that computer-based instruction (simulation model) affects the students' autonomy significantly in the science learning. Thus, the researcher believes in the further study, the computer-based instructions (simulation model) can be integrated with the model or method in the learning activity to improve the students' autonomy in learning science". Strengthened by Wati et al (2022) that "The Computer-Based Technology Media to Improve Students' Motivation in Learning Process' research in three primary schools".

IV. CONCLUSION

Based on the results of data analysis and the discussion described in the previous chapter regarding the influence of computer-based learning media on learning difficulties and learning motivation of class XII IIS students at SMA Negeri 3 Bulukumba, it can be concluded that based on the results of descriptive analysis, computer-based learning media obtained an average the average actual score was 66.8 percent and the learning motivation was 77.8 percent which was classified as high category and based on the results of data processing it was obtained that computer-based learning media had a positive and significant effect on learning difficulties and motivation to study accounting material in class XII IIS students at SMA Negeri 3 Bulukumba.

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