The Impact of Interest in Learning on the Use of Time to Study Physics Online

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Abstract: The development of android mobile technology has reduced student interest in learning and this will have an impact on the use of study time. Considering that this phenomenon is important to be studied in more depth, then through this study, it will be investigated the relationship between interest in learning and the use of time. The population of this study were all high school students in the city of Banda Aceh, but due to time and cost constraints, the research respondents were only taken as many as 75 students from 4 high schools in the city of Banda Aceh. Sampling using the proportional sampling method with the consideration that only classes that have implemented subject learning using online media. The data collection instrument used a questionnaire of interest and the use of learning time. Data analysis was carried out in two stages, namely descriptive and inferential analysis. Descriptive analysis was used to obtain the average data, the largest score, and the percentage. While inferential analysis is used to obtain data about the relationship between aspects of interest, aspects of time use with variables of interest and use of time. The results of data analysis showed that the correlation coefficient ($r\_xy = 0.68$) in the high and positive category and the coefficient of determination was 46.24% at a significant level of 0.05. Inference from the results of this study, teachers need to attract students' interest in learning by choosing a model or method that has been proven to be reliable, so that students are willing to manage their study time appropriately and efficiently.

Keywords: Interests; Utilization of time; Physics learning; Online media

Introduction

Various forms of expression of the definition of interest in learning have been put forward by educational research experts, including Susanto (2013) who said that interest is an impulse in a person or a factor that raises interest or attention effectively which causes the choice of an object or activity that is profitable, fun and over time will bring satisfaction in him. Another education expert, Slameto (2015) mentions that interest in learning is a form of a person's activity that encourages them to carry out a series of mental and physical activities to obtain a change in behavior as a result of individual experiences in interactions in their environment involving cognitive, affective and psychomotor. Based on the understanding of the experts above, it can be concluded that interest in learning is an impulse in oneself to do something that can make him interested and happy.

Related to interest in learning, there have been many studies conducted, including initial ability and interest in learning affect learning outcomes (Astuti, 2015), learning media and interest in learning affect learning outcomes (Supardi, et al., 2015), self-concept,

interests and study habits affect learning outcomes. learning outcomes (Hartuti, 2015), and interest in learning affect learning outcomes through the probem based learning model (Wahyuningsih, et al., 2021). Besides interest in learning, it can also be increased through the use of various types of models, methods, techniques, learning media and others. Several previous research results show that physics animation media can increase interest in learning (Sakti, 2013), online learning media can increase students' understanding and interest in learning (Maulidina and Bhakti, 2020), the talking stick learning model can increase interest and learning outcomes (Pasaribu, 2017), and direct learning models through animation media based on macromedia flash can increase interest in learning and understanding concepts (Sakti, et al., 2012).

The second variable in this study is study time. Learning time is defined as an opportunity available in order to gain knowledge, skills, habits, intelligence, and attitudes on a regular basis and to obtain a new overall change in behavior (Purwanto, 2006). Several previous research results show that learning time and interest affect learning outcomes (Lestari, 2015), learning time management affects mathematics learning achievement (Juliasari and Kusmanto, 2016), and motivation and study time affect accounting learning achievement (Devi, 2018).

Based on the results of observations that have been made at several secondary schools in the city of Banda Aceh, it shows that students still use smartphones for personal purposes such as playing games during study hours. Besides that, students only do the assignments given by the teacher, after that students use their smartphones for things that are not related to learning. Utilization of time that should be used to learn and understand the material, is misused for things that are not related to learning. This shows that students are still less interested in participating in the online teaching and learning process.

Based on the results of previous studies as well as the results of observations at the school where the study was conducted, it was shown that asking to study the sciences (physics, biology and chemistry) would be affected by the use of study time. In addition, it was also found that students who have a high interest in playing games with Android will reduce the use of time for learning. Aspects of interest measured in this study are happy without coercion, active in learning activities, participating in forums, focusing and involvement. Meanwhile, aspects of the use of study time include regular study, discipline and enthusiasm, concentration and preparation of study time. Therefore, through this study, it is important to know (a) which aspects of interest in learning are significantly related to the use of study time (Q1), (b) Overall, how is the relationship between interest in learning and use of study time (Q2), and (c) What is the form of the TAM model for the correlation between aspects of learning interest and the use of study time? (Q3).

Method

Types of Research

The research approach chosen in this study is a quantitative research approach with survey methods and correlational design. Based on this design, this study aims to determine the effect of the independent variable, namely interest in learning on the dependent variable, namely the use of study time.

Population and Sample of Research

The population in this study were all students in 16 senior high schools in Banda Aceh. Meanwhile, the sample schools selected using the cluster sampling technique were State Senior High Schools no.1, no.2, no.5, and no.12. Furthermore, respondents were selected using a proposive sampling technique, namely respondents who used online learning and such respondents were in class XI in 4 schools as many as 75 students.

Instruments of Research

The type of instrument used is adjusted to the research objectives and the variables studied are interest in learning and use of study time. The results of both measurements are in the form of ordinal data, so the instrument that is suitable for use is a questionnaire using a 4-point Likert scale, namely Always (Al), Often (Ot), Rarely (Rr) and Never (Nv). The scoring norms for the interest questionnaire and the use of learning time are in table 1.

Table 1. Scoring Norms of Interest Questionnaire and Study Time Utilization

Answers Alternative	Score Favourable (+)	Score Unfavourable (-)
Always	4	1
Often	3	2
Rarely	2	3
Never	1	4

(Sugiyono, 2016)

The outline of interest and time utilization questionnaires are shown in table 2 and table 3.

Data Collecting

In accordance with the survey research design, which uses a correlation technique or without treatment, the data is collected after the learning process using online media and is carried out only once. The first is

collecting data on student interest in learning with online media and the following stage is collecting data on the use of learning time during learning with online media.

Table 2. The outlines of learning interest instruments

Variables	Indicators	No.items	Sum
Interest of Learning	Happy without coercion	1, 2, 3	3
	Active in learning activities	3, 4, 5	3
	Participate in the forum	7, 8, 9	3
	Focusing	10, 11, 12	3
	Involvement	13, 14, 15	3
Sum			15

(Andry, 2018)

Table 3. The outline of Time Utilization Instrument

Variable	Indicators	No.item	Sum
Learning Time	Study regularly	1, 2, 3,4	4
	Discipline and passion	5, 6, 7	3
	Concentration	8, 9, 10, 11	4
	Study time allotment	12, 13, 14, 15	4
Sum			15

(Maya, 2017)

Data Analysis

After all the necessary data has been collected, the next step is to analyze the data to obtain information in accordance with the research objectives. Data analysis is divided into two stages, namely the initial stage of data analysis using descriptive statistics to obtain data on average, percentage, score of each item or total score for variables of interest in learning and use of study time. The next stage is to use inferential statistics to obtain information about the relationship between aspects of learning interest and aspects of the use of study time.

Results and Discussion

The Relationship between the Aspects of Varaibles

Based on the results of data analysis from interest questionnaires and learning time utilization questionnaires, several findings were obtained, including those shown in Figure 1.
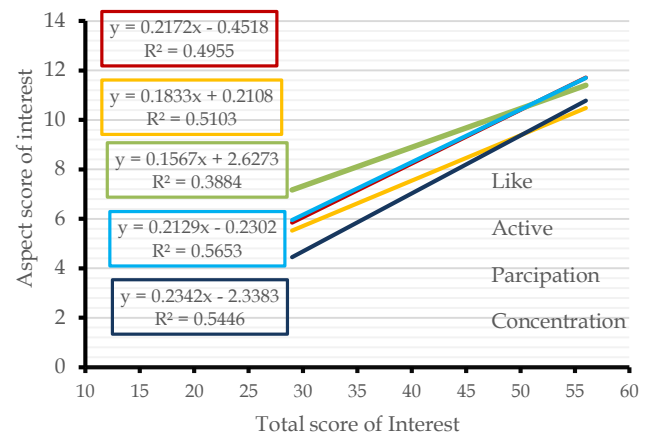

Figure 1. The relationship between the score of the aspect of interest and the total

The graph in Figure 1 provides information on the relationship between aspects of interest in learning and the total score of the variable of student interest in learning by using online media. The involvement of students in groups through online learning significantly affects the total score of the variable interest in learning. In other words, about 54% of the variable scores of interest in learning were contributed by the aspect of student involvement in the group. While the lowest contribution is from the aspect of student participation in discussion forums, which is around 38,9%.
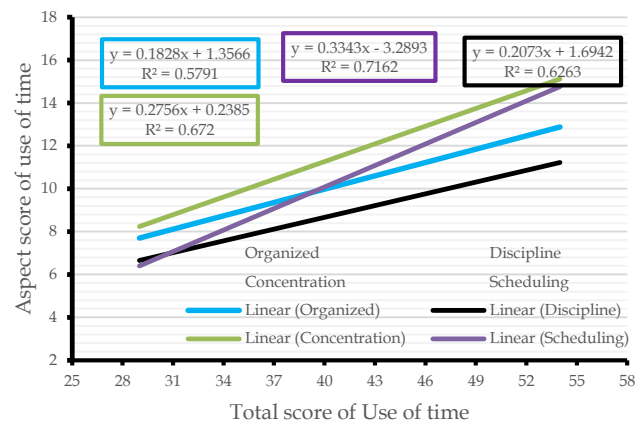

Figure 2. The relationship between the time aspect score and the total

The graphic data in Figure 2 explains the relationship between aspects of time use and the total score of the time use variable in online learning. Based on the graph, it can be understood that the discipline of time use for learning is significantly affected or contributes 71.6% to the total score of the measurement of the time use variable. The lowest aspect of the use of study time is the aspect of time management with a contribution of 57.9% to the total score of the time use variable. Based on the graphs in Figure 1 and Figure 2, it can be understood that the overall score contribution of

the aspects of the use of time to the total score of the variable of time use is higher than the contribution of the aspects of asking to learn to the total score of the variable of interest in learning.

Aspects of Interest in Learning and Use of Time (Q1&Q2)

The first objective of this study is to obtain information on the relationship between aspects of student interest in online learning (Q1 & Q2).
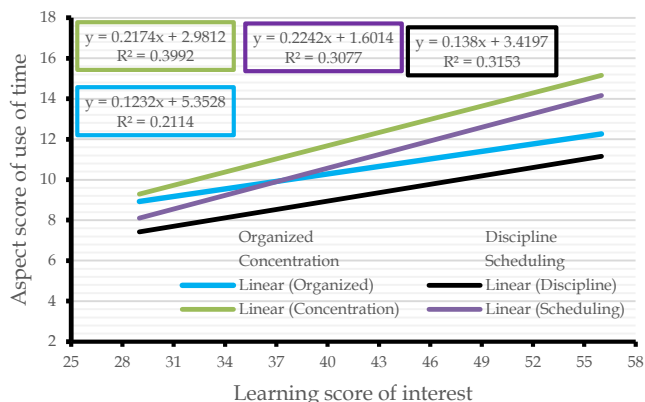

Figure 3. The relationship between scores of aspects of the use of time with a learning interest score

Based on the graph in Figure 3 shows that the influence of interest in learning online on setting learning time is the most dominant in the aspect of time focus or aspects of using time appropriately with a contribution of around 39.92%. While the influence of interest in learning on the aspect of the use of time the lowest is the aspect of setting the use of time with a distribution of about 21.14%. However, the overall effect of interest in learning on the use of online learning time is in the medium and positive category with a slope of 0.703, as shown in Figure 4.
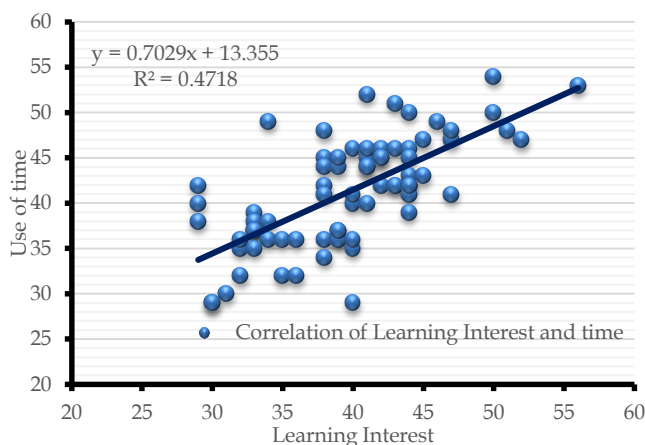

Figure 4. Correlation of Learning Interest and use of time

Furthermore, based on Figure 4, it can also be understood that online learning interest affects learning time management with a contribution of around 47.18%

with a correlation coefficient (r_xy) of around 0.687, meaning that both variables have a high and positive correlation.

TAM Model Correlation between Aspects (Q3)

The final objective of this study is to obtain the relationship between aspects of the variables of interest in learning and use of study time. The results of data analysis are shown in the TAM model diagram in Figure 5 (Rafique et al, 2020).
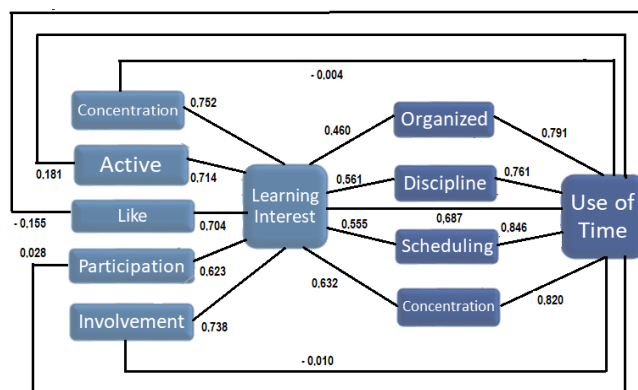

Figure 5. Correlation between aspects of the TAM model

The TAM model in Figure 5 is usually used in the world of technology acceptance research and explains the relationship between aspects of technology acceptance. The same model is also used in this study to explain the relationship between aspects that exist in the variable of interest in learning and the variable of time use.

The information in Figure 5 can be understood that on average the highest correlation between aspects is the correlation between aspects of interest and the total score of the variable interest in learning (0.706), as well as the correlation between aspects of the use of time and the total score of the variable of time use (0.805). Based on the diagram, it was also found that interest in learning online had a very significant effect (0.846) on student scheduling. In other words, students who have a very high interest in learning will encourage students to manage their study time well. However, there are some relationships that occur in reverse or negative correlations, including the relationship between the aspect of interest in learning "happy" with the variable use of study time (-0.155) and the aspect of interest in learning "concentration" with the variable use of time (-0.004). In other words, students who are highly interested in online learning tend to be not good at managing study times.

Besides the impact of interest in learning on learning time management, interest in learning also affects several other variables, including the impact of interest in learning on learning to visit the Aquarium

(Falk, and Adelman, 2003), on attitudes and learning outcomes (Walkington, 2013), and the impact on learning outcomes. the ability to read and write expository (Hidi and Anderson, 1992). On the other hand, interest in learning can also be increased by using various forms of models, methods or techniques, including using interactive multimedia (Primamukti and Farozin, 2018), using comics (Aini et al, 2017), using an inquiry learning model (Sormin et al, 2019), using Blog-based visual learning media (Mutia et al, 2020), using Handbooks on the concept of reaction rate (Handayani et al, 2021), using internet media (Nuraisyah et al, 2021), using an inquiry learning model (Rosnidar et al, 2021), using Smartphones (Suwa et al, 2020), using PBL (Maidan et al, 2020), and audio-visual-assisted discovery learning models (Afrrannisah et al, 2021). While the timing of study can affect several other variables, including the use of local study time affects student achievement, behavior and attitudes (Sanford and Evertson, 1983), and the use of student study time differs between countries (Rees, 2017).

Conclussion

Based on the results of data analysis, it can be concluded that there is a positive and significant influence between learning interest on the use of online physics learning time by high school students in the city of Banda Aceh. The aspect of the interest in learning variable that has the most significant influence on the tital score of the variable interest in learning is the aspect of concentration, while the lowest significant is participation in the learning process. While the aspect of the use of time in online learning the most significant influence is the aspect of scheduling study time and the least significant is the aspect of discipline in the use of time. Overall, all aspects of learning interest are very low in correlation with the use of study time.

Acknowledgement

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