

The Effect of Online Learning on Interest in Studying Chemistry Courses

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ABSTRACT: The Covid-19 virus in 2020 had a tremendous impact on almost all fields, one of which was in the field of education. Online learning is a solution for teaching and learning activities during the Covid-19 pandemic. The learning process becomes transformed from face-to-face to distance learning. Online learning was also applied at Nahdlatul Ulama Al Ghazali Cilacap University during the covid-19 pandemic using several applications such as Google Classroom, Zoom, Google Meet, Whatsapp Group, Edlink. Materials provided in the form of powerpoints and reading materials. Online Learning-based learning influences students' learning interests because online learning is a new thing that previously still uses classroom learning. Interest in learning is the driving force from within the individual to do learning activities to increase knowledge and skills and experience. So it is necessary to do research on online learning on learning interests, especially in chemistry courses. This study aims to determine the effect of online learning on interest in learning in chemistry courses during the Covid-19 pandemic. Respondents taken were students of the Faculty of Industrial Technology, University of Nahdlatul Ulama Al Ghazali, Cilacap. The research design used linear regression analysis, with the data collection method in the form of a questionnaire. The results of the analysis for the normality test show a sig value of 0.200 more than 0.05 which means the data is normally distributed and the results of the linearity test show a sig value of 0.393 more than 0.05 which means that the correlation between online learning variables and interest in learning is linear. Based on the results of the linear regression test, the regression coefficient of 0.779 is positive, so it can be said that the direction of the influence of the variable x on y is positive. Based on the significance value: the table coefficients obtained a significance value of 0.001 < 0.05, so it can be concluded that the online learning variable (x) has an effect on the learning interest variable (y). Based on the t-count value of 3.607 > t-table 2.0484, it can be concluded that the online learning variable (x) affects the learning interest variable (y).

Keywords: Online Learning, Interest in Learning, Chemistry

INTRODUCTION

Covid-19 virus in 2020 had a tremendous impact on almost all fields, one of which was in the field of education. With the COVID-19 virus, the learning process has changed from face-to-face to distance learning, but in these circumstances, the teacher still has to carry out his obligations as a teacher, where the teacher must ensure that students can obtain information/knowledge to give to students. This policy makes teaching and learning activities in the context of face-to-face which are usually carried out in schools until universities are temporarily suspended. The government replaces learning with an online learning system. With this policy, online learning, which was previously not optimally implemented, becomes the only form of learning option during this pandemic. The online learning system (in the network) is a learning system without face-to-face directly between teachers and students but is carried out online using the internet network. With the use of the internet and multimedia technology is able to overhaul the way of knowledge delivery and can be an alternative learning that is implemented in traditional classrooms [12]. Students do online learning and interact with teachers using several applications that are used such as Google Classroom, Zoom, Google Meet, What's app Group, Edlink. This daring learning also needs to be well designed so that the learning experience of students is memorable and can also achieve learning

objectives. With online learning, students must remain enthusiastic in participating in teaching and learning activities. Because students' interest in learning is one of the most important factors for the success of students' learning, interest arises from within the students themselves. Factors from outside the interest in learning are how the teacher teaches. The teacher's role is very important to foster student interest in learning, one of which is by teaching a fun way, providing constructive motivation [1]. Thus, online learning can be an effective solution in learning at home to break the chain of the spread of Covid-19, physical distancing (maintaining a safe distance) is also a consideration for choosing this learning. With the pandemic and the implementation of online learning. So, this research will focus on the effect of online learning on students' interest in learning during the pandemic.

METHOD

The type of research used in this research is quantitative research. The quantitative type used is causal research. Cause and effect research is a causal correlation if X then Y [2]. Usually, it is done to examine the possible relationship due to certain factors that may be the cause of the symptoms that may occur [3]. This study was conducted by researchers aimed at testing the effect of bold learning (X) on interest in learning (Y). The analysis used by the researcher to determine the influencing variable uses a simple linear regression analysis technique. The research subjects were students of the Faculty of Industrial Technology, Nahdlatul Ulama University, Al Ghazali, Cilacap, who took chemistry courses during the COVID-19 pandemic. Methods of data collection using a questionnaire or a questionnaire through a google form. The questionnaire given is used to determine student interest in learning chemistry courses. The questionnaire was in the form of a student response questionnaire after participating in a daring lesson on interest in learning. The questionnaire used using a Likert scale with four alternative answers. The data used are quantitative with each answer given a score of 1,2,3 and 4.

$$\text{Percentage} = \frac{\text{Total Score}}{\text{Maksimum Score}} \times 100$$

In this study, the classical assumption test was carried out, namely the Normality Test and Linearity Test, to find out the variables to be analyzed were normally distributed and the variables had a linear relationship. Because there is only one independent variable and one dependent variable, the analysis used is the regression analysis method. The regression analysis method is able to measure the relationship/influence between the dependent variable and one or more independent variables. The regression analysis method used is simple linear regression. The software to assist this analysis process is SPSS.

RESULTS AND DISCUSSION

Online learning is carried out during the covid-19 pandemic to limit direct interaction between humans and avoid crowds to avoid the spread of the covid 19 virus. This policy makes teaching and learning activities that have been carried out face-to-face in classrooms shifted to learning from home. Online learning is carried out in various schools and colleges. Nahdlatul Ulama Al Ghazali University is one of the universities that also implement online learning during the COVID-19 pandemic by using various learning platforms such as Edlink, WA Group, Google Classroom, Google Meet. When learning from home, students are given material such as studying in a campus classroom. Lecturers provide material during online learning in the form of PowerPoint (PPT) containing material that is adapted to online learning taking place. During online learning, students can discuss with friends about the material being studied, ask questions to the lecturer if the material is still considered not to understand, and students work on practice questions given by the lecturer during online learning. At the end of the lesson, the lecturer also gives assignments to be done and collected via e-mail or via WA. Lecturers will respond to work or assignments that have been done by students if the work done is still incomplete in the process, feedback from lecturers and students like this is also one of the goals so that students arise interest or enthusiasm in learning, especially in studying chemistry courses. Data retrieval by giving questionnaires via google form to students after teaching and learning activities are completed. The following are the results of the interest in learning questionnaire which are presented in the Table 1.

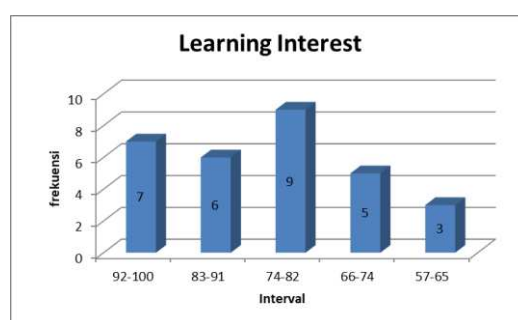
Table 1. Study Interest Questionnaire Results Statistics

Statistics	Interest Questionnaire Results
Total Sampel	30
Mean	80
Lowest Value	57
Highest Value	98

Based on Table 1 shows that the results of the interest in learning questionnaire given to 30 respondents with a mean value of 80, median 82, and mode 75, which means that the results of statistical analysis of interest in learning questionnaires in chemistry courses provide an average value in the fairly good category. The following is a table 2 for the frequency distribution of interest in learning.

Table 2. Frequency Distribution of Interest in Learning

Interval	Frequency	Criteria
92-100	7	Very Good
83-91	6	Good
74-82	9	Enough
66-74	5	Deficient
57-65	3	Not Good

**Figure 1.** Learning Interest Bar Chart

Interest means busy, interested, or involved with activity because they realize the importance of the activity [4]. In addition, interest is also a concentration of attention that contains elements of feelings, pleasure, heart tendencies, unintentional desires that are active in nature to receive something from the outside (environment). Online learning can increase students' interest in learning [5]. Students who have an interest in a lesson will study it seriously because of its attraction to him. Online learning is centralized learning and trains independence, flexible time and location, and unlimited access to knowledge development [3]. In the calculation, the coefficient of determination (R Square) is 0.317 which implies that the influence of the independent variable (online learning) on the dependent variable (interest in learning) is 31.7%. Online learning is used during this pandemic as an alternative to teaching and learning in universities because with online learning students can practice feedback related to combining collaborative activities with independent learning. Online Learning-based learning is built through several principles that play a role in determining the success of the learning process. This makes online learning-based learning has a positive influence on student interest in learning. Interest in learning is the driving force from within the individual to do learning activities to increase knowledge and skills and experience. This interest grows because of a desire to know and understand something encouraging and directing the learning interests of learners So that it is more earnest in learning it [13].

Online learning is more student-centered which causes them to be able to bring up responsibility and autonomy in learning (learning autonomy), thus making students more able to grow independence in learning [6]. Learning online requires students to prepare their own learning, evaluate, organize and simultaneously maintain motivation in learning. [10]. Online learning can be used as a distance learning solution when a natural disaster occurs. As is happening now when the government establishes a social

distancing policy. Social distancing is implemented by the government in order to limit human interaction and prevent people from crowding in order to avoid the spread of the covid-19 virus [7]. However, online learning also has challenges, namely the availability of internet services. Sometimes students, as well as lecturers, experience cellular signal difficulties during online learning. This is a challenge in itself in the application of online learning.

Online learning has weaknesses when internet services are weak, and lecturer instructions are poorly understood by students [9]. Another challenge faced is the obstacle in financing online learning. Students revealed that to take part in online learning, they had to pay additional fees to buy an internet data quota. To make online learning successful, the key is effectiveness, based on previous studies showing that there are 3 things that can have an effect related to online learning [11] namely Technology, specifically network settings must allow for synchronization and asynchronous exchanges to occur; students should have easy access (e.g. via remote access), and the network should take minimal time to exchange documents. Characteristics of the teacher, the teacher play a central role in the effectiveness of online learning, it is not a technology that is important but the instructional application of technology from the teacher that determines the effect on learning, students who attend classes with instructors who have positive attitudes towards the distribution of learning and understanding of technology will tend to produce more positive learning. In the conventional learning environment students tend to be isolated because they do not have a special environment to interact with the teacher.

CONCLUSION

In the end, this action research examines the impact of using Understanding by Design (UbD) Model on Class 10 Student's Achievement in Chemistry. The results show that using the Understanding by Design (UbD) Model on Class 10 Students showed significant differences between the control and experimental groups' academic achievement. There is an increase in the Academic Achievement of Chemistry Test score means of the experimental group compared to the control group who were taught using the UbD model. This illustrates that using the Understanding by Design (UbD) Model in teaching improves students' academic achievement.

Acknowledgments

Based on the analysis and discussion of research results regarding the effect of online learning on interest in learning in chemistry courses, it can be concluded that there is an influence between online learning and student learning interest of 0.779. The regression coefficient is positive, so it can be said that the direction of the influence of variable x on y is positive. Based on the significance value: the table coefficients obtained a significance value of $0.001 < 0.05$, so it can be concluded that the online learning variable (x) has an effect on the learning interest variable (y). Based on the tcount value of $3.607 > t_{table} 2.0484$, it can be concluded that the online learning variable (x) affects the learning interest variable (y).

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