

The Influence of Learning Models on Interest in Learning Economics in the Era of the COVID-19 Pandemic

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Abstract

The purpose of this study was to examine the effect of online learning models on interest in learning economics in the era of the COVID-19 pandemic among students of the Postgraduate Islamic Economics Study Program at the State Institute of Islamic Studies (IAIN) Tulungagung, Indonesia. The quantitative approach was chosen based on the questionnaire data collection method and research data in the form of quantified qualitative data. Indicators to explain the learning model are easy to communicate, work digitally, independent, effective and efficient. While the indicators of interest in learning economics are feelings of pleasure in learning economics, concentration of attention and thoughts on learning economics, willingness to learn economics, willingness to be active in learning economics and efforts to realize the desire to study economics.

Keywords: Learning Model, Online Learning, Interest in Learning, Pandemic Era, Nonparametric Regression.

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I. INTRODUCTION

The COVID-19 pandemic, which is still ongoing and global because of its transmission to more than 212 countries in the world, does not only have an impact on the health aspect. Other aspects such as social, economic and financial stability are also affected, even the education sector which previously used the direct learning model was "forced" to change its learning model into an online learning model (in Indonesia known as in the network or online). This online learning model was chosen to solve problems that arise in society regarding the basic needs of education. Shaughnessy *et al.*, (2018) explained, as one of the basic needs, education is an intellectual need that must be met by the state to answer current and future challenges.

Economic policy is no exception, where the intervention of the education sector, both formal, non-formal and informal, is needed to strengthen human resources in decision-making and compete in their time. Theodora & Marti'ah (2016) revealed that economic education can shape lifestyles so it is very important to equip people in making decisions related to finances and consumption priorities. However, the COVID-19 pandemic limits all sectors, including education, so a strategy is needed to maintain the quality of human resources while continuing to learn.

The strategy in question is the adoption of online learning as the study of Abidah *et al.*, (2020) found that to deal with COVID-19, especially to face the era of "Merdeka Belajar" a digital learning model is needed. This model is very flexible because education can be held anywhere, not limited by space and time. There is independence in learning, which is also a medium to realize and become one of the keys to success in the "Merdeka Belajar" program launched by the government of the Republic of Indonesia. Meanwhile, Darusman (2019); Fajri *et al.*, (2020); Gustiani (2020); Hidayatullah *et al.*, (2021); Suhartini (2020); Sutarto *et al.*, (2020); Yunitasari & Hanifah (2020) explained that online media in teaching and learning activities can increase student interest in learning.

This study is intended to provide an empirical explanation that in the era of the COVID-19 pandemic which is completely limited and deliberately limited by the government to prevent the spread of the virus, and on the other hand that education must continue to run by complying with strict health protocols, there is no other choice, namely by make modifications to the learning model. The learning model referred to in this study is an online learning model, which according to Toharudin (2020); Coman *et al.*, (2020), Fernando *et al.*, (2020); Lin *et al.*, (2017); Daar (2020); Herawati

(2019); Kusumaningrum *et al.*, (2020) which states that the important attributes to explain the online learning model are easy to communicate, work digitally, independent, effective and efficient.

II. LITERATURE REVIEW

2.1 Theoretical Literature

Learning model

In the world of education, learning models are not new. Each of these models is dynamic and continuously adapts to the situation, conditions and environment. Winaryati (2017) suggests that the learning model is designed by placing the characteristics of students and their environment on the most influential variables, then given cognitive, affective and psychomotor stimulation. The hope is that when students do something they know and are sure of what they are doing, from their life experiences. Likewise, the theory put forward by Rusman (2018) that educators can choose an appropriate and efficient learning model to achieve their educational goals.

Specifically it is defined that learning is a process of interaction between students and educators and learning resources in a learning environment (National Education System Law, 2003). Meanwhile, according to Gunarto (2013) the learning model is defined as a systematic procedure and pattern that is used as a guide to achieve learning objectives. It includes strategies, techniques, methods, materials, media and learning assessment tools. While the learning method is a method or stage used in the interaction between students and educators to achieve the learning objectives that have been set in accordance with the material and mechanism of the learning method.

According to Rusman (2018), the learning model is a general pattern of learning behavior to achieve the expected learning objectives. Based on the theory of Gunarto (2013) and Rusman (2018), there is a common target, that the learning model is directed at realizing learning objectives. Where in general the learning objectives are a brief description that must be achieved by students at the end of the learning period. Khan (2012) suggests that the formulation of learning objectives is very important to assess the teaching and learning process so that students have competencies according to their fields. This statement is relevant to the Law on the National Education System (2003) that the purpose of national education is to develop the potential of students to become human beings who believe and fear God Almighty.

Online Learning

Online learning is also known as a web-based learning model. Rusman (2018) defines that electronic learning (e-learning) is a learning model that utilizes web or internet technology. Belawati (2020) explained

that online learning is carried out through the internet network so it is also called online learning or online learning. The term online learning is often synonymous with other terms such as e-learning, internet learning, web-based learning, tele-learning, distributed learning and so on. In recent years, online learning is also often associated and used as the equivalent of the term mobile learning or m-learning, which is online learning through mobile communication devices such as tablet computers and smart phones.

This online learning can be implemented in the form of games, simulations, interactive e-seminars, interactive live e-classes, interactive e-mentoring, interactive e-courses, e-coaching which can be complemented by audio and video (Yuliani *et al.*, 2020). Meanwhile, the indicators used to measure online learning as stated by Rusman (2018) are: (1) easy to communicate; (2) work digitally; (3) independence; (4) can be accessed at any time or effective and (5) efficient. This effective indicator is in line with the research of Ardini (2020), Hasnidar (2020), Panyajamorn *et al.* (2018) and Nguyen (2013). While this independence indicator is relevant to the studies of Kusumaningrum *et al.* (2020), Febrianto *et al.* (2020), Herowati (2016) and Lee *et al.* (2019). Furthermore, the five indicators are useful for collecting data in this study.

Interest in Studying Economics

Two terms are used to describe this variable, namely interest in learning and economics. According to Slameto (2003), interest in learning is a form of activeness of a person who encourages 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. Akrim (2021) explains that interest in learning is a way that a person tends to choose or do in carrying out thinking activities, absorbing information, processing or processing and understanding information and remembering it in memory as information acquisition from knowledge, skills or attitudes in processing that information. Through learning or experience.

Meanwhile, economics is a branch of social science that studies the behavior of economic actors to fulfill their needs (Sujianto, 2007). Economics is the study of human beings in their business and life (Mankiw, 2018). In general, economics is divided into two parts, namely microeconomics and macroeconomics. Microeconomics deals with production, consumption and distribution on a micro or small scale. While macroeconomics examines production, consumption and distribution in a macro or aggregate manner. Furthermore, the goal of microeconomics is to calculate the equilibrium price and quantity to achieve maximum profit, while the

macroeconomic goal is to calculate the balance of interest rates and national income.

Interest in studying economics is expected to increase, where to explain quantitatively about interest in studying economics, indicators are needed. According to Friantini (2019) that indicators of interest in learning include: (1) feeling happy about learning; (2) the concentration of attention and thoughts on learning; (3) the willingness to learn, 4) the willingness from within to be active in learning and (5) the efforts made to realize the desire to learn. These indicators are then used to compile research questionnaires which are also used to collect data in the study.

2.3 Empirical Literature

Previous research that tested the effect of the learning model on interest in learning at Madrasah Ibtidaiyah (MI) around the village of Karanggayam Sidoarjo. Data collection techniques using interviews with students, parents and teachers. The results explain that the learning model using an online system greatly influences interest in learning. However, it was found that students felt bored at home, because of the lack of socializing, they did not meet their school friends and did not directly meet the teacher (Yunitasari & Hanifah, 2020). The difference between previous research and this research is in the aspect of the approach. Where previous research used a descriptive qualitative approach which was felt to be incompatible with the research objective, namely to determine the effect of online learning on student interest in learning during the Covid-19 pandemic.

The research at MTs Yasrib Batu-Batu used a descriptive qualitative approach and the research subjects were students, parents and teachers. The data collection technique chosen was Google Form to explain the effect of online learning on students' interest in learning during the COVID-19 period. The results of the study indicate that online learning is very influential on students' interest in learning. The weakness of this online learning model is that students become bored at home continuously and do not directly meet their teachers and school friends (Hidayatullah *et al.*, 2021). The concept of previous research is different from the concept of this research which uses a quantitative approach. Besides, if the approach is qualitative, it should use in-depth interviews to collect data, and not Google Forms.

Previous research aimed to investigate student interest in learning at SDIT Rabbi Radhiyya Curup. Researchers believe that with a high interest in learning it can increase learning motivation and ultimately learning achievement will also increase, even indirectly can improve the image of the institution. The method used is a qualitative type of phenomenological research where researchers conduct interviews with school

principals, vice principals in charge of curriculum, teachers and students. With the Miles and Huberman model, the results show that online system learning in the era of the COVID-19 pandemic is indeed enjoyable for students because teaching and learning activities are carried out at home, however, there are still weaknesses, namely the lack of socialization or togetherness with friends (Sutarto *et al.* 2020). The difference with this research is in the approach and locus of research, where this study uses a quantitative approach with the research locus of graduate students. While previous research used a qualitative approach with a locus in elementary schools.

Research on high school students in Bogor on e-learning in history learning to increase student interest and learning outcomes. The researcher uses a quantitative approach that examines the differences in the interests and learning outcomes of students who use e-learning and those who do not. The results showed that based on data analysis with correlation, the use of e-learning in history learning had a significant effect on students' interest in learning history and student learning outcomes (Suhartini, 2010). The difference with this research lies in the type of research. Previous research used comparative and this study used associative. Besides that, the locus of research is also different, where this study chose the locus in higher education and previous research in high school.

Research with a qualitative approach with a sampling technique using snowball sampling on Sriwijaya Polytechnic students. This study wants to explain student motivation for online learning during the COVID-19 pandemic. The results of the study explain that students are intrinsically motivated in online learning because of the new knowledge factor and new learning methods. Meanwhile, extrinsically, students are not motivated to take part in online learning due to inadequate supporting facilities (Gustiani, 2020). The difference with this research is the locus of research and the approach used is quantitative, while previous studies used qualitative.

Research with the aim of explaining the effectiveness of using the Zoom cloud meeting application to support online learning as a result of the COVID-19 pandemic. The research was conducted at Nurul Jadid University with descriptive qualitative research methods. Data collection techniques using online interviews. The results showed that 93.75% of students gave a positive response to the online learning method, thus e-learning was effective in increasing student interest and motivation (Fajri *et al.*, 2020).

Darusman (2019) in his research which aims to examine the effect of learning with online media on the learning interest of Wijaya Kusuma Islamic Vocational School students. The approach used is quantitative-

associative. The number of samples as many as 50 people with a questionnaire technique to collect data. With regression analysis, it can be explained that online learning has a significant positive effect on learning interest. Meanwhile, according to the correlation test, the relationship between online learning and interest in learning is in the medium category. The difference with this study lies in the analysis tool, where previous studies used simple regression while this study used nonparametric regression.

Based on theoretical and empirical literature which found that online or e-learning or online learning models contribute positively to interest in learning economics in the COVID-19 pandemic era, the hypothesis tested in this study is: "Online learning models have a significant effect on interest in learning economics. in the era of the COVID-19 pandemic".

III. METHODS

Considering the research data is in the form of quantitative data, and this research is intended to test

hypotheses, the research approach chosen is a quantitative approach. The research population was 25 students of the Postgraduate Islamic Economics Study Program at IAIN Tulungagung who in the even semester of the 2020/2021 academic year took seven courses, namely: Islamic Economic Theory, Islamic Bank Risk Management, Sharia Investment Management and Capital Markets, Sharia Financial Institutions, Sharia Accounting, Entrepreneurship, Islamic Marketing Management. Members of this population as a whole serve as research samples, so this research is a population study considering the small population.

The data collection method uses a questionnaire that is distributed to respondents with instruments developed from research descriptors and indicators as shown in table 1. Indicators and descriptors for each of these variables are derived from theory and previous research, and from these indicators are then derived into descriptors as a reference in compiling research instrument.

Table-1: Research Instruments

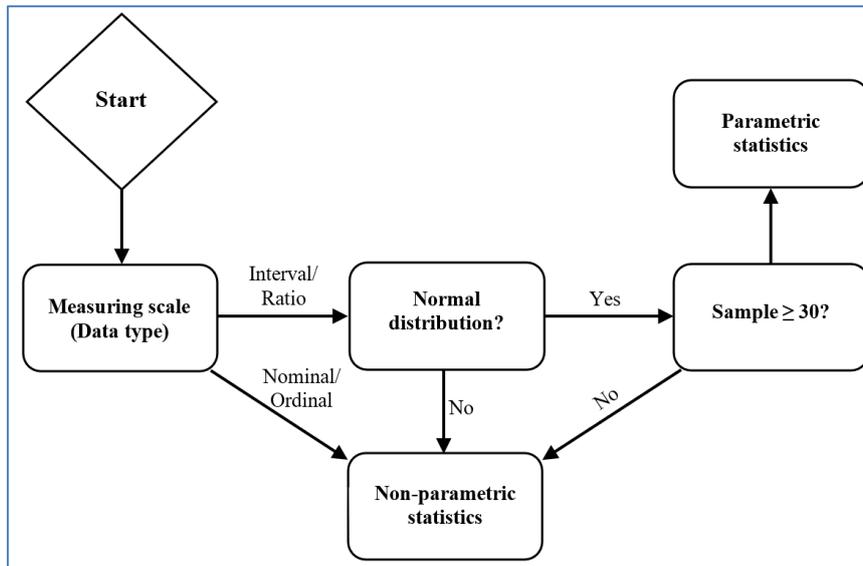
Variables and Supporting Literature	Indicator	Descriptor
Online Learning Model Toharudin (2020); Coman <i>et al.</i> , (2020), Fernando <i>et al.</i> , (2020); Lin <i>et al.</i> , (2017); Daar (2020); Herawati (2019); Kusumaningrum <i>et al.</i> , (2020); Sulistyowati & Amri (2021); Sumbawati <i>et al.</i> , (2020); Ardiani <i>et al.</i> , (2020); Nuriansyah (2020); Kuniasari <i>et al.</i> , (2020); Ramadhani (2012); Turrahma <i>et al.</i> , (2017) and Falahudin (2014).	Easy to communicate	Verbal communication Non-verbal communication
	Work digitally	Have digital knowledge Have digital skills Have behavior
	Independence	Don't depend on others Actively looking for work Self-confident
	Effective	Lesson planning Material creation Learning delivery Learning interaction Evaluation of e-learning learning.
	Efficient	Time efficient Cost efficient Energy efficient
Interest in Studying Economics Darusman (2019); Fajri <i>et al.</i> , (2020); Gustiani (2020); Hidayatullah <i>et al.</i> , (2021); Suhartini (2020); Sutarto <i>et al.</i> , (2020); Yunitasari & Hanifah (2020).	Feeling happy about learning economics	Feeling happy before attending class Feeling happy when attending lectures Feeling happy after attending lectures
	Concentration of attention and thoughts on economic learning	Focusing attention during lectures Concentrate your mind during lectures Asking the lecturer about the material that is not clear
	Willingness to study economics	Learn economics from parents' motivation Learn economics from friends' motivation Learn economics from motivation other than parents and friends
	Willingness to be active in learning economics	Actively working on structured tasks Active group discussion Actively taking notes Active in college
	Efforts to realize the desire to study economics	Economics courses help understand macroeconomic conditions Economics course helps understand microeconomic conditions Economics courses help in making economic decisions

Based on the research objectives, the analysis of this research data uses nonparametric regression with the selection flow as shown in graph 1. In this graph it

is explained that to choose nonparametric statistics based on three considerations, namely: nominal or ordinal measurement scale, data is not normally

distributed even though the measurement scale is interval or ratio and the number of samples observed

was less than 30.



Graph-1: Parametric and Nonparametric Test Selection Flow

The nonparametric regression used in this study is to compare the results of linear regression testing, 2nd order polynomial regression (quadratic) and 3rd order polynomial regression (cubic). Meanwhile, hypothesis testing is based on the coefficient of determination (R2) combined with the P-Value value based on:

Hypothesis nil = H0: The online learning model has no significant effect on interest in learning economics in the COVID-19 pandemic era

Alternative hypothesis = H1: The online learning model has a significant effect on interest in learning economics in the COVID-19 pandemic era

The decision to accept H1 if the p-value < (0.05), and the decision to accept H0 if the p-value > (0.05).

IV. RESULTS AND DISCUSSION

4.1 Result

This section presents the results of data processing using a linear regression approach, 2nd order polynomial regression (quadratic) and 3rd order polynomial regression (cubic). As explained in the methods section that this study uses nonparametric regression with considerations as in graph 1 and other considerations, namely: nominal or ordinal measurement scale, data is not normally distributed and the number of observations is less than 30. This study is based on the consideration that the number of observations is students as many as 25 people so it was decided to choose nonparametric regression. Table 2 describes a summary of research variables processed using econometrics, where each research variable processes all data collected from 25 respondents.

Table-2: Variable Processing Summary

	Dependent (Y)	Independent (X)
Number of Positive Values	25	25
Number of Zeros	0	0
Number of Negative Values	0	0
Number of Missing Values	User-Missing	0
	System-Missing	0

Table 3 discusses the data on the dependent (Y) and independent (X) variables that were processed using SPSS version 23. Based on the table below, all the observed data were positive and deserved further statistical tests, namely the coefficient of determination

test (R2) and regression test both linear, quadratic and cubic. These three tests need to be carried out to compare which model has very good results and is in accordance with the real conditions of the respondents' attitudes about the research variables.

Table-3: Model Summary and Parameter Estimates

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
linear	.837	117.876	1	23	.000	22,571	.838		
Quadratic	.973	394,796	2	22	.000	-132,924	6,440	-.050	
Cubic	.973	394,796	2	22	.000	-132,924	6,440	-.050	.000

The table above contains the results of the calculation of the coefficient of determination (R2) and the estimated parameter values. It is known that the R2 value is 0.837 (for the linear equation) which means that the contribution of the online learning model to learning interest is 0.837 or about 84%. Likewise for the R2 value of the quadratic and cubic equations of 0.973 or 97%. According to Zhang (2016) and Brown (2003), that R2 explains the estimated contribution of the predictor variable to the response variable which can be measured in percent units. The calculation results also recommend that the research hypothesis be tested because the Sig Quadratic value of 0.000 is smaller than = 5% or 0.05 so that the online learning model has a significant effect on interest in learning economics in the COVID-19 pandemic era.

Then to estimate the parameters for the three equations, namely linear, quadratic and cubic, the following is the results of the linear, quadratic and cubic equations based on the calculations as shown in table 3.

$$Y_{Linear} = 22.571 + 0.838 X$$

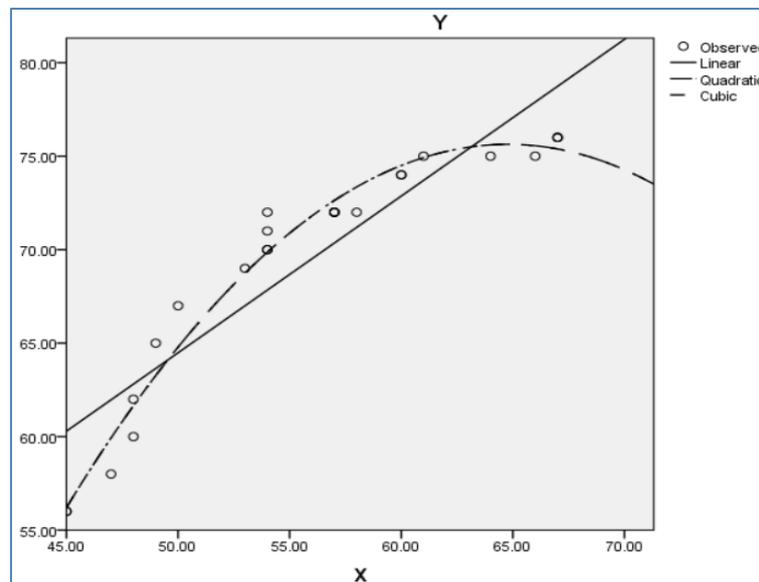
$$Y_{Quadratic} = -132,924 + 6,440 X - 0.05 X^2$$

$$Y_{Cubic} = -132,924 + 6,440 X - 0.05 X^2 + 0.000 X^3$$

In the linear equation, it is known that the constant value is 22.571 with a coefficient value of + 0.838. This value can be translated that the contribution of the online learning model variable to the interest in learning economics is very supportive. Namely, the quantity and quality of using this online learning model can increase students' interest in learning economics. While the results of calculations using quadratic and cubic regression approaches obtained the same results, both the constant value and the coefficient value on the online learning model research variable (X). The results of these calculations can also be considered that non-parametric regression was chosen to explain the contribution of the X variable to the Y variable, which is based on the R² value of the nonparametric (linear) equation > the R² value of the parametric equation (non-linear).

Figure 2 describes curves for linear, quadratic and cubic approaches, where the curve pattern is like a parabola with one curve, so it can be decided that the equation uses a nonparametric or non-linear regression approach of order 2 with a polynomial equation of order 2, namely:

$$Y_i = 0 + 1 X_1 + 2 + iX_1^2$$



Graph-2: Curvefit for Y

4.2 DISCUSSION

Based on the results of the study, it can be stated that the online learning model has a positive effect on interest in learning economics. The results of

this study are relevant to research that focuses on elementary schools, junior high schools and even universities, namely polytechnics and universities. This means that the Covid-19 pandemic has changed the

style, model and system of learning in Indonesia, which previously used a face-to-face approach and now uses an online or online approach. Of course this online learning model must be supported by the system, and human resources must also be responsive to this online learning. The human resources in question are teachers, students, parents, and are strengthened by networks and technology as the main support for the realization of online learning in the midst of the Covid-19 pandemic.

This study supports the research of Yunitasari & Hanifah (2020) and Sutarto *et al.*, (2020) who investigated the implementation of online learning at Madrasah Ibtidaiyah and SDIT Rabbi Radhiyya Curup. The result of this research is that online learning has a positive effect on students' interest in learning. Besides, students' knowledge about the world of information technology (IT) has also increased. However, this model also has weaknesses where students feel bored at home and lack of socialization with their peers.

Likewise in junior high school and high school, where this research is relevant to the study of Hidayatullah *et al.* (2021) that the learning interest of junior high school students in the Covid-19 pandemic era is largely determined by online learning. This conclusion is based on observations of students and teachers and parents of students. The implementation of learning in senior high schools also uses an online system so that this research supports the findings of Suhartini (2010) and Darusman (2019), especially in social science subjects such as history where online learning contributes significantly to student learning interest. This online learning system is very effectively applied in higher education, as Fajri *et al.* (2020) however, if it is associated with a lack of supporting facilities such as an internet network, online media does not motivate student interest. Meanwhile, if it is related to new knowledge, Gustiani's research (2020) at the Sriwijaya Polytechnic explains that student interest in learning increases with learning with this new method.

So it can be concluded that the Covid-19 pandemic in Indonesia is changing the order of learning life in educational institutions, primary schools, secondary schools and universities. While the instrument developed to explore information about this online learning model is based on research Toharudin (2020) that this learning model is very easy to establish communication both verbally and nonverbally. So the results of this study support the study conducted by Toharudin. In relation to the digitalization aspect, the results of this study support the findings Coman *et al.*, (2020); Fernando *et al.*, (2020); Lin *et al.*, (2017) that this online learning model that works digitally can motivate students to add digital knowledge and skills so that they can have digital behavior in the teaching and learning process, especially in the field of economics in the classroom.

One thing that is very important in building the level of student independence in economics learning is that online learning can encourage students not to depend on others. Not only that, online learning in this economics group course can educate students to be active in finding and completing assignments. In addition, students' self-confidence increases with this online learning as previous research, namely Daar (2020); Herawati (2019); Kusumaningrum *et al.*, (2020); Sulistyowati & Amri (2021); Sumbawati *et al.*, (2020). Economic learning using an online approach is also relevant to the findings of Ardiani *et al.*, (2020); Nuriansyah (2020); Kuniasari *et al.*, (2020);

In relation to efficiency, this research is relevant to Falahudin's (2014) study that online learning models can reduce costs. This online learning can also be a lesson for the economic world that the COVID-19 pandemic on the one hand does disrupt the activities of economic entities, but on the other hand it can microeconomically reduce budget items, namely the achievement of time, cost and energy efficiency. Even according to Turrahma *et al.*, (2017), e-learning is not only useful for realizing effective and efficient learning but can also improve the quality of learning in the classroom.

V. CONCLUSIONS

Interest in studying economics in the era of the COVID-19 pandemic, especially for students of the Postgraduate Islamic Economics Study Program at IAIN Tulungagung has increased because learning is held online. Learning that integrates hardware and software is increasingly in demand by students and they feel happy about learning economics, the willingness to learn economics increases, participates actively in teaching and learning activities, so that the desire to learn economics also increases. This desire to learn economics can be reflected in several aspects, namely that economics courses help understand micro and macroeconomic conditions and help in making economic decisions.

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