The Impact of E-Learning on Student Interest during the Covid-19 Pandemic

Fransisca Mudjijanti and Veronika Agustini Srimulyani

ABSTRACT

E-learning is an alternative method of learning that can be applied during the Covid-19 pandemic. One advantage of online learning (e-learning) is that students will get more sources of reading/references. E-learning encourages students to learn actively and autonomously during online classes. Students accept many assignments, and there are many limitations in the online learning process. When a student experiences monotony in the teaching and learning process, it will result in a setback in learning outcomes; even students become no longer interested in attending lectures. Few students feel bored with online learning; this impacts student enthusiasm in learning which tends to decline compared to direct learning. The aim of this study is to obtain information about the description of student interest in learning during the pandemic, and to find out whether online learning is affected during the Covid-19 pandemic, student interest at Widya Mandala Surabaya Catholic University (WMSCU) Madiun City Campus. This research uses an exposed facto quantitative research approach. The research population of WMSCU Madiun City Campus students who took online learning in the even semester of 2021/2022 amounted to 661. The research sample consisted of 192 people who were determined based on the Isaac and Michael table with a confidence level of 10%. The instrument of data collection was questionnaire. Data analysis method was simple linear regression. The results showed that student interest in learning during the pandemic was 1% in the low category, 35% in the moderately high category, and 64% in the high category. The hypothesis "E-learning has a strong positive effect on student interest in WMSCU Campus Madiun City" is accepted because of the value of Sig. < 0.05. The results of this study indicate that the impact of e-learning on student interest in learning at WMSCU Madiun City Campus is 42.9%.

Keywords: E-Learning, Pandemic Period, Interest in Learning.

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I. INTRODUCTION

For almost 3 years, the world has been disturbed by a coronavirus outbreak named Covid-19. Countries around the world have been afflicted by this outbreak, hence the WHO has officially declared this situation a pandemic. The outbreak's rapid spread requires every country to act immediately to reduce the spread and transmission of Covid-19. The Indonesian government has made several policies to reduce the spread and transmission of Covid-19. Authorizing health protocols, namely maintaining distance (physical distancing or social distancing), washing hands with soap, wearing masks, avoiding crowds, and reducing mobility, must be conducted during the pandemic. This followed in everyone reducing their activities outside the home. Work, worship, and studying must be done at home. To contain the spread of Covid-19, most educational institutions are temporarily closed (Hu, 2022). The rapid increase in Internet access during Covid-19 has had a huge impact on business and now has a huge impact on education as well. The Covid-19 pandemic became an important event that prompted

educational institutions to shift from a traditional classroom environment to various online learning options (Saleem *et al*., 2022).

The Circular Letter of the Indonesian Minister of Education and Culture Number 36962/MPK.A/HK/2020, dated March 13, 2020, regarding online learning and working from home in the context of preventing Covid-19 states that all teaching and learning activities in schools and college campuses use e-learning method. E-learning is an effort to prevent the development and spread of Covid-19. The Indonesian Ministry of Education and Culture instructs universities to conduct distance learning and advises students to study from home. The letter have 10 points, one of which is an appeal to shift from face-to-face learning into distance learning (Yandwiputra, 2020).

Furthermore, WHO also recommends temporarily stopping activities that have the potential to cause crowds, as an effort to inhibit the spread of Covid-19. For this reason, conventional learning which gathers many students in one room needs to be reconsidered. Learning must be done by reducing physical

contact among students or between students and lecturers. One form of alternative learning that can be accomplished during the Covid-19 pandemic is e-learning. Therefore, educational institutions around the world are trying to apply educational technologies to provide synchronous or asynchronous online learning (Hu, 2022). The results of an empirical study in the Kingdom of Saudi Arabia conducted by Hoq (2020) show that the majority of educators have a positive opinion of e-learning. Covid-19 has also made students to keep striving in maintaining good results from student learning performance which is usually done face-to-face (Thandevaraj *et al.*, 2021).

The condition of online learning at WMSCU, Madiun City Campus, besides being shown in the research results of Mudjijanti (2021), the experience of researchers during teaching with online learning found the fact that students were often late for online classes, less active in discussion forums, late in submitting assignments.

Previous researchers have researched online learning, but there are still differences in the results of research such as that conducted by Cahyani *et al.* (2020), which states that student learning motivation has decreased due to the implementation of online learning programs during the Covid-19 pandemic. Meanwhile, the results of the Wahyuni and Utami (2022) show that e-learning increases students' interest in learning in the Covid-19 era. Likewise, Faridah *et al.* (2020) showed the positive impact of e-learning on student learning motivation during the Covid-19 pandemic. This research is expected to provide information about the picture of student interest in learning while participating in e-learning during the Covid-19 pandemic, as well as whether or not there is an influence of e-learning during the Covid-19 pandemic on student interest in learning.

E-learning is learning transferred through internet technology with synchronous and asynchronous techniques (Saleem *et al.*, 2022). E-learning is a learning activity that utilizes the internet and local networks to interact in learning, such as delivering material (Mustofa *et al.*, 2019). E-learning may be performed using computer, laptop, or smartphone facilities connected to the internet. With these equipment, lecturers and students can study concurrently using platforms such as WhatsApp, Telegram, Zoom, Google Meets, and Google Classroom (Fitriah, 2020). In addition, e-learning may be done through social media such as Facebook and Instagram (Kumar & Nanda, 2019). Most of the characteristics of online learning are related to the flexibility of time and home, the involvement of students and instructors (Simamora, 2020). The success of online learning depends on several components of being integrated with each other, namely students, educators, learning resources, and learning technology used (Hermanto & Srimulyani, 2021).

Technical issues surrounding the technological devices used and the presence of interference from various social media applications in online learning can affect the student experience in online learning (Yan *et al.*, 2021). Students in the State of Palestine who participated in the Yaseen and Salah (2021) study experienced increased body pain during the e-learning process, and pain duration and severity increased if the duration of use of electronic devices increased. Furthermore, the results of other studies conducted by Hendrawaty *et al.* (2021) show that most EFL undergraduate students have a positive experience and feel comfortable operating some popular online learning applications, and prefer to use WhatsApp Groups, Email, Google Classroom, and YouTube channels during online learning. Therefore, the online learning model must be appropriately designed because not all students are familiar with online learning, especially lecturers who are not all accustomed to teaching using the internet or social media (Purwanto *et al.*, 2020). One advantage of online learning (e-learning) is that students will get more sources of reading or references.

In contrast to the direct learning situation in the classroom, students tend to be reluctant to ask questions about their understanding. Written communication without face-to-face in online classes allows students to express all the problems they face. Other students can help provide solutions. Because there is no time limit for students to access the learning site provided in detail and complete with reading materials, practice questions, discussion forums, it is hoped that online classroom learning can significantly affect student learning outcomes or academic achievement.

Students must prepare several things in the online learning process, namely (1) Enthusiasm of learning, namely high morale for independent learning. Students are imposed to seek knowledge and insight of the material independently. (2) Technological literacy, namely students' mastery of technology as a medium for accomplishing success in online learning. (3) Intrapersonal communication, namely the skill needed by students to interact with other students as social beings, even though the online learning process is carried out individually. (4) Collaborating, namely the need for effective cooperation between students in online lectures and with lecturers and the surrounding environment. (5) Independent learning skills, namely the ability to learn independently in a skilled manner. During the e-learning process, students will search, find and conclude the material they have learned individually (Dabbagh & Bannan-Ritland, 2005). Hasanah and colleagues' research results (2020) explain that in online teaching and learning, the lecturer's role turns into a facilitator and is not the only crucial factor in student learning experiences, hence students need to be more active during the process.

Meanwhile, online learning requires a student to be more active in independent learning while taking online classes. Students accept many assignments, and there are many limitations in the e-learning process. Student dissatisfaction during e-learning causes students to find it difficult to perceive lecture material and makes students feel pressured. Many students feel that face-to-face learning can make understanding the lecturer's explanation easier. Things like this make students feel afraid of their academic progress—a sense of failure in achieving the expected target. The pressure to be able to study independently, high concentration in paying attention to the lecturer's explanation during lectures which is often constrained by signals so that the lecturer's voice is not heard, tired of piling up assignments as evaluations during the learning process, pressure from parents, and swelling internet quota fees make students stressed by academic life. There is a sense of worry about the value of the academic results that will be obtained.

Research conducted by Widiyono (2020) explains that the application of online learning illustrates the lack of optimal

understanding of the material by students, and too many assignments are given to students, so that learning is considered less efficient. Previous research by Firman and Rahayu (2020) also stated that online lectures cause difficulties for many students, especially in comprehensible learning material.

Students are failed to apprehend the course material and think that reading and doing assignments alone is not enough. Students need face-to-face contact to get a verbal explanation of the lecture material from the lecturer as in face-to-face lectures in class. Ningsih (2020) stated that 100% of students in the TP Study Program at Baturaja University apply online learning; however, 93.5% of students prefer face-to-face learning.

During online learning, students become disinterested in disclosing their aspirations and thoughts, leading to monotonous learning. This is evident from the results of research by Mudjijanti (2021) at the WMSCU, Madiun City Campus. A similar study was also carried out by Tafdhila *et al.* (2021), and 92.9% of respondents were bored with online learning. When a student experiences detachment in the teaching and learning process, it will result in the student getting a setback in learning outcomes. Even students become no longer interested in attending lectures. To understand a learning process, it is also essential to be interested in learning.

Djamarah (2015) argues that interest is an acceptance of a relationship between something inside oneself and something outside oneself. Individuals who have an interest in a subject tend to continue to pay attention and observe the subject. Interest is a person's sense of an activity that is liked and carried out with pleasure. Plenty students feel bored with online learning; this impacts student interest in learning which tends to decrease compared to direct learning. E-learning discourages students from actively participating in classes, resulting in the dull learning process (Rimbarizki & Susilo, 2017). Student learning motivation in the online learning process began to decline; one of the reasons was that students began to feel bored with the online learning process (Tafdhila *et al.*, 2021).

The ability of lecturers to deliver learning material in a varied and interesting manner influences student interests during online learning. Therefore, interest is very influential in teaching and learning activities. If someone has no interest in learning, he will not learn voluntarily and not enthusiastically because there is no love or interest in doing so. Interest also determines a person's learning outcomes.

The results of an interview conducted by Sutarto et al. (2020) on SDIT student Rabbi Radhiyya Curup stated that there are two kinds of student responses to learning with an online system, enjoyable and unpleasant. Students feel satisfied with online learning, because students could do learning activities and playing simultaneously, watch videos shared by teachers and could make videos related to the learning topics carried out. Contrastingly, students also say that learning from home is not enjoyable, because during the learning process carried out at home, something is felt to be missing, namely closeness with friends, both in learning and in playing. Furthermore, the results of the research of Saleem *et al.* (2022) highlight that the role of faculty, university support, and motivational factors are positively taken into

account towards the quality of students' online learning experiences.

Referring to the previous literature review and empirical results, the hypothesis in this study is formulated as follows: e-learning increases students' interest in learning. Likewise, the framework for this research can be seen in Fig 1.
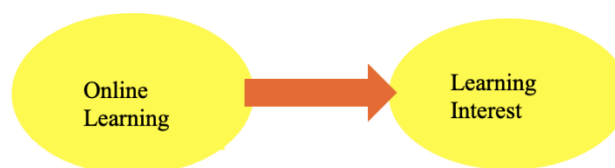

Fig. 1. Theoretical Framework.

II. RESEARCH METHODOLOGY

The research approach used is descriptive research, ex-post facto type. According to Kerlingerb (Emzir, 2013), comparative causal research or ex-post facto is a systematic empirical investigation in which scientists do not control the independent variable directly because the existence of the variable has occurred or because the variable basically cannot be manipulated.

The research population is all WMSCU students of the Madiun City Campus who actively participate in lectures in the Even Semester of the Academic Year 2021/2022 totaling 661 students. Determination of the sample size in this study using the Isaac and Michael formula, whose results are shown in Isaac and Michael's table for a population of 10 to 1,000,000. Based on the table with a confidence level of 10%, the sample size with a population of 661 is 192 (Sugiyono, 2019).

The sampling technique used is the Non Probability Sampling technique, a type of Purposive Sampling, which is a sampling technique with certain considerations (Sugiyono, 2019). The consideration in determining the sample for this research is the WMSCU students of the Madiun City Campus who actively participate in lectures in the even semester of 2021/2022, which are in semesters 2,4,6, and 8.

The variables in this study are e-learning during the pandemic as the independent variable (X) and student interest in learning as the dependent variable (Y). The research instrument used a questionnaire in the form of a scale that was developed following the Likert model with 4 alternative answers, namely 1 = Strongly Disagree (STS), 2 = Disagree (TS), 3 = Agree (S), 4 = Strongly Agree (ST). There are 2 kinds of scales used as research instruments, namely the interest in learning scale and the e-learning scale. The learning interest scale was developed based on indicators of learning interest according to Slameto (2015), which consists of feelings of pleasure, interest, attention, and student involvement. The e-learning scale was compiled by adapting online learning indicators according to the Delone and McLean success model in 2013 (Anggraini *et al.*, 2016; Rahmat *et al.*, 2019; Seliana *et al.*, 2020), namely information quality, system quality, service quality, usage, user satisfaction and net benefits derived from the use of e-learning.

The instrument validity test uses the Pearson Product Moment correlation test, provided that each item of the measuring instrument is said to be valid if the calculated r-value > the critical r- value of 0.3 (Sugiyono, 2019). The instrument reliability test used Cronbach's Alpha formula with a value of r obtained at least 0.60 (Nurgiyantoro *et al.*, 2017).

To find out whether there is an influence of online learning variable (X) on student interest in learning (Y), a simple linear regression data analysis technique is used. To get a picture of student interest in learning, it was analyzed using descriptive statistics with three categories, namely low, moderate, and high categories, as follows (Table I).

TABLE I: CATEGORY OF STUDENT INTEREST IN LEARNING

Score	Category
20 – 39	Low
40 – 59	Moderate
60 – 80	High

III. RESULT

In this study, the profiles of respondents by study program can be seen in Fig. 2a, and the profiles of respondents by semester can be seen in Fig. 2b.
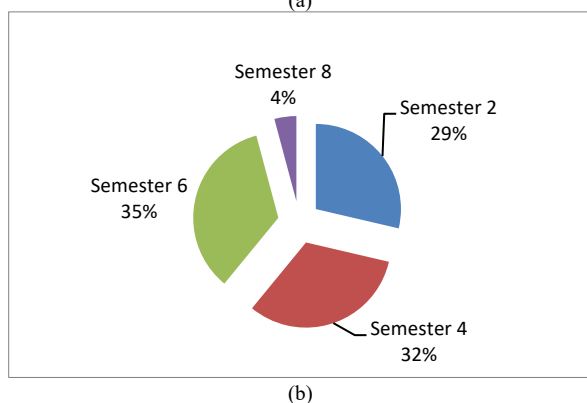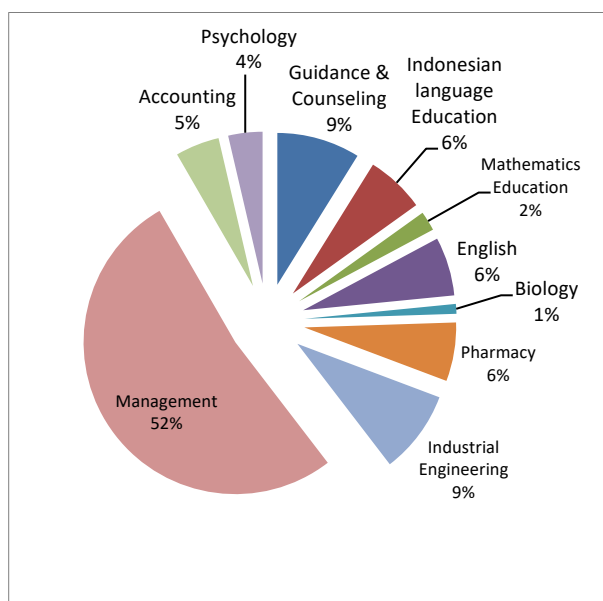

(a)

(b)

Fig. 2. a) Profile of Respondents by the Study Program; b) Profile of Respondents by Semester.

Fig. 2a illustrates that the respondents of this study involved students from all study programs at WMSCU Madiun City Campus, with the most respondents from Management study programs (52.09%). This is because the number of students in the management study program is the most compared to other study programs. Fig. 2b shows that the research respondents have been involved in all batches/semesters, and the 8th-semester student respondents are the least (4%). This is reasonable because the 8th-semester students, on average, have not taken theoretical lectures but only need to complete the final project.

Compared to the research by Widiyono (2020), Seliana *et al.* (2020), Tafdhila *et al.* (2021), the respondents of this study involved respondents from many study programs, namely ten study programs at WMSCU Madiun City Campus (Fig. 2a).

All items in the online learning and student learning interest scales are valid because they have a calculated r-value (corrected item-total correlation) above the critical value of 0.3. Online learning scale items and student interest in learning scale items can all be used in research because they have met the validity requirements.

Table II shows that the learning interest instrument is reliable because it has a calculated Alpha value (0.969) above Cronbach's Alpha value of 0.6 and the online learning instrument is reliable because it has a calculated Alpha value (0.912) above Cronbach's Alpha value of 0.6. Because both instruments have met the reliability requirements, both instruments can be used in this study.

TABLE II: RESULT OF RELIABILITY TEST

Name of Instrument	Cronbach's Alpha	N of Items
Online Learning	0.969	27
Learning Interest	0.912	20

Before performing the analysis with a simple linear regression test, several assumptions must be met, so it is necessary to test the classical assumptions, namely the normality and linearity tests of the data.

TABLE III: NORMALITY TEST RESULT AND MODEL

Normality Test Result (Shapiro-Wilk)	Model Summary
Sig	R
0,087	0.658[a]

Table III shows the results of the normality test for the Y variable (student interest in learning), with Shapiro Wilk showing the value of Sig. (significance) or probability of 0.087. Because the value of Sig or probability > 0.05, then the data is declared normally distributed. The normality test of the data can also be explained with the normal P-P Plot probability of the regression image, as shown in Fig. 3.

From Fig. 3, it can be explained that the distribution of the residual value data (error) in the form of points is still around a straight line. This shows that the data is normally distributed, so the regression model meets the normality assumption.

The linearity of the relationship between variables can be seen through the scatter diagram or Scatter Plot in Figure 4. From Fig. 4, it appears that the residual plot does not form a certain pattern (parabola, cubic, etc.), so the assumption of linearity is fulfilled.
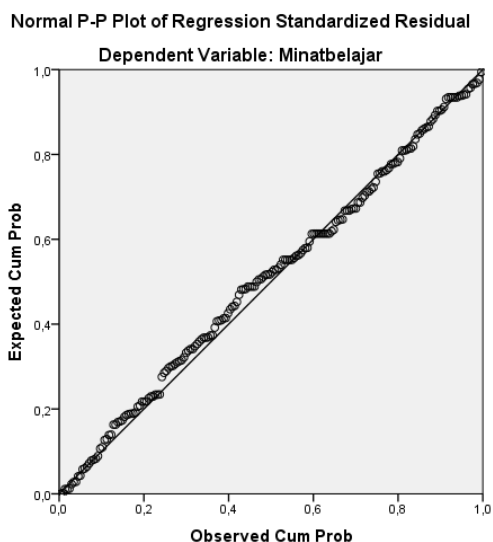
Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Minatbelajar

Fig. 3. Normality Test with P-P Plot of Regression.

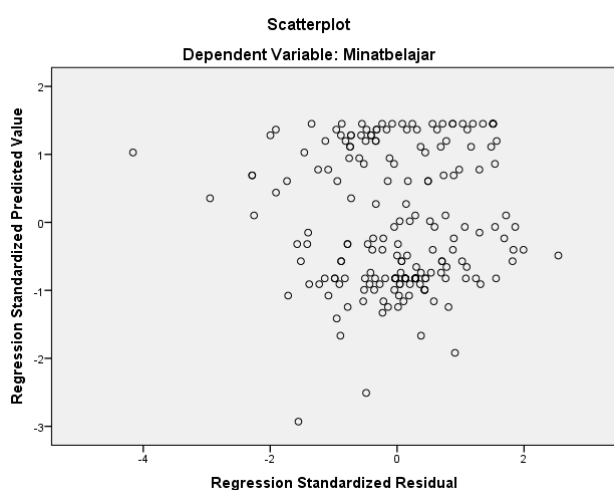Scatterplot
Dependent Variable: Minatbelajar

Fig. 4. Scatter Plot Linearity Test.

The correlation coefficient test is used to measure how big the linear relationship of the independent variable (X) under study is with the dependent variable (Y). From Table III, the correlation coefficient value is 0.658, which means that the correlation between online learning variables (X) and students' interest in learning has strong correlation. It means that variable Y (interest in learning) and variable X (online learning) have a strong positive correlation, meaning that an increase will follow an increase in variable X in variable Y.

The coefficient of determination (R-Squared) test is a test to determine and predict how big or significant the contribution of the influence of the independent variable to the dependent variable is. From Table III, the adjusted R-square value is 0.429 (42.9%). This means that the ability of the online learning variable affects the student's learning interest variable by 42.9%.

As the single variable that affects the Y variable in the context of this research, it can be said that the influence of the online learning variable is quite strong because many other variables affect interest in learning but are not included in this study.

TABLE IV: REGRESSION COEFFICIENTS

Model	B	t count
Constant	20.812	5.928
Online learning	0.461	12.032

From Table IV, the regression equation Y = 20,812 + 0.461X can be made. The meaning of the regression line equation is as follows: a constant number of 20,812 means that if there is no online learning variable (X), the student's interest in learning is 20,812; X regression coefficient of 0.461 means that if online learning (X) increases by one unit, student interest in learning (Y) will increase by one unit.

Based on the data in table IV, the significance value (Sig) is 0.000. Because of the value of Sig. < 0.005, the research hypothesis, "Online learning increases students' interest in learning," is accepted. This means that online learning during the pandemic has positively and strongly influenced the interest in learning of WMSCU Madiun City Campus. The results of this study support previous research, such as Hendrawaty *et al*. (2021), Wahyuni and Utami (2022) which shows the positive effect of online learning on students' interest in learning. One of the positive impacts of online learning is that students can access learning materials from anywhere and anytime. This may increase student learning motivation (Faridah *et al*., 2020). If students are motivated in learning, then students are more likely to engage with e-learning, therefore students are more likely to be interested in achieving learning goals.

TABLE V: OVERVIEW OF STUDENT LEARNING INTEREST

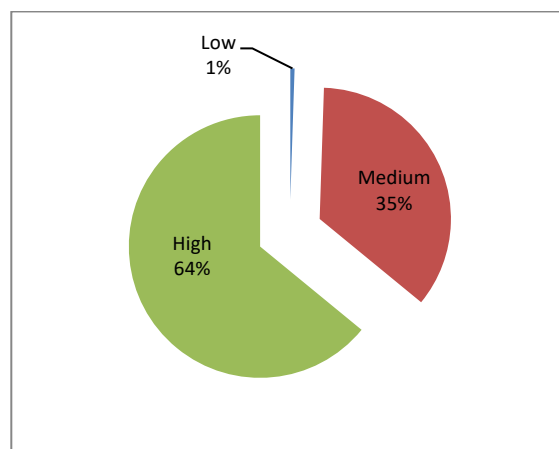| No	Category	Amount	Percentage
1	Low	1	1%
2	Medium	68	35%
3	High	123	64%

Fig. 5. Overview of Student Learning Interest.

Descriptive statistical analysis to obtain an overview of student interest in learning to take part in e-learning during the Covid-19 pandemic. Based on Table V and Fig. 5, it can be explained that the description of student interest in learning to take part in e-learning during the Covid-19 pandemic is 1% in the low category, 35% in the fairly high category, and 64% in the high category. This condition illustrates that most students are satisfied with e-learning, are actively involved during the e-learning process, are always present even though the lectures are not face-to-face, and actively listen during e-learning.

IV. Discussion

However, it should also be noted that other conditions describe students' interest in learning to take part in e-learning, namely, students feel bored attending online lectures, lack enthusiasm for participating in online learning, are less active in asking questions in online lectures, are less responsive in attending online lectures, late for class attendance. In online learning, there is a tendency for students to like to procrastinate on assignments from lecturers; if the student has difficulty doing it, what is done is to copy the work of a friend; students feel that the lecture material becomes less interesting to study, and students do not make lecture notes because all the material is already available in the Learning Management System (LMS) "Bella" owned by WMSCU. Online learning is influenced by the behavior and characteristics of educators as well as the techniques and media used for the delivery of online instruction (Saleem *et al.*, 2022). Therefore, synergism between educators and parents also needs to be conducted to provide students with an understanding of the significance of learning, even though the learning process is carried out online.

The need for the role of parents to foster students' interest in learning by providing motivation so that they remain enthusiastic while studying even though not through face-to-face, giving motivation does not always have to be by giving gifts to children, it can also be by giving enthusiasm for learning verbally with positive constructive sentences children's learning interest (Arlavinda & Pujiastuti, 2022).

According to Cahyati and Kusumah (2020), there are four roles for parents during online learning, namely: parents as teachers at home, where parents guide their children to study online from home; parents as facilitators, where parents provide assistance and resource needed for their children in doing online learning; parents as motivators, where parents provide encouragement and support to their children in doing learning, so that children have the enthusiasm to learn, and get satisfying results; parents as directors.

The ability to develop engaging learning methods is a skill that must be possessed by teachers, because compelling learning can increase student learning interest. Constructive and positive affirmations is one way to foster students' interest in learning. Teachers may also pay attention to when e-learning takes place, create learning material in an interesting way so students don't think that online learning is monotonous (Arlavinda & Pujiastuti, 2022).

V. Conclusion

The descriptive of student interest in learning to take part in e-learning during the pandemic is 1% in the low category, 35% in the moderately high category, and 64% in the high category; Hypothesis: e-learning increases students' interest in learning is accepted because of the value of Sig < 0.005; The result of the influence of e-learning on student interest in learning at WMSCU Madiun City Campus is 42.9%.

Based on the results of this study it is recommended to WMSCU lecturers, the Madiun City Campus : presentation of lecture material to be made more interesting so that students do not get bored following online learning, to reduce student boredom in online learning, it is necessary to vary methods in the learning process and billing requests; to students : the need to the awareness that online learning has become a necessity in the current era, so it is no longer optional; therefore, it must be followed by students seriously and enthusiastically; get used to keeping taking lecture notes, even though the material is already in Bella.

Conflict of Interest

The authors declare no potential conflicts of interest with respect to the publication of this article.

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