


Original Research Paper

The relationship of online learning to the quality of learning and the level of satisfaction of anesthesiology nursing students after the COVID-19 pandemic

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Abstrak

The COVID-19 pandemic has had an impact on the field of Education. Online learning is carried out to bring up various types of learning interactions in order to produce the quality of learning as expected. The level of student satisfaction shows how relevant the quality provided by the learning is. This study aims to determine the relationship between online learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta. This study used a Cross Sectional quantitative approach with a correlation research design. The sampling technique used Total Sampling, totaling 142 respondents with restriction criteria. Data analysis using the Spearman Rank statistical test. The results showed that online learning for Anesthesiology Nursing students after the COVID-19 pandemic was included in the poor category by 4.2%, the good category by 50%, and the very good category by 45.8%. The quality of learning in students after the COVID-19 pandemic is included in the poor category of 18.3%, the good category of 58.5% and the very good category of 23.2%. The level of student satisfaction after the COVID-19 pandemic was dissatisfied with online learning by 6.3%, the satisfied category by 62% and the very satisfied category by 31.7%. The results of the Spearman Rank correlation test to determine the relationship between online learning and student learning quality obtained results of 0.000 ($p < 0.05$). The results of the Spearman Rank correlation test to determine the relationship between online learning and student satisfaction levels obtained results of 0.000 ($p < 0.05$). There is a significant relationship between online learning on the quality of learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta. Further research is needed using other variables related to online learning, learning quality and student satisfaction levels.

Keywords : Online Learning ; quality of learning; Student Satisfaction

1. Introduction

The COVID-19 pandemic has had an impact on all aspects of human life, especially in the field of education. All educational institutions in Indonesia cannot carry out learning activities as usual which are carried out thoroughly face-to-face or offline and can only be done online. The United Nations Educational, Scientific and Cultural Organization (UNESCO) recorded that as of April 1, 2020, as many as 1.5 billion students were affected by COVID-19 from 188 countries, including 60 million students in Indonesia. Online learning is expected to reduce interaction between people and reduce the spread of COVID-19. The impact of COVID-19 requires students to immediately adapt to new learning methods.

There are challenges or obstacles in online learning like in the availability of internet services, material that is difficult to understand, economic problems and atmosphere saturated learning (Widayat, 2021). According to Risdhianto (2021), 42.5% stated that students did not understand online learning, 41.4% stated that students had difficulty interacting with lecturers, 34.1% stated that online

learning does not help hone skills, and 41% of students say they do not like online learning. According to Irawati (2020), online learning is needs to be improved, such as lecturer consistency in giving lectures, responding quickly and efficiently to student needs, motivating students to study well and understanding student difficulties. According to Priyastuti (2020), there are as many as 47.3% of dissatisfied students and 10% of students dissatisfied with online learning. According to Pangaribu (2021), 71.2% of students are quite satisfied with online learning. Evaluation of student satisfaction with online learning need to do so that this evaluation can improve the quality of learning (Syakur, 2018).

Based on the above background, researchers conducted a preliminary study of 10 Anesthesiology Nursing students class of 2020 at 'Aisyiyah University Yogyakarta. According to the results of a preliminary study, the class of 2020 is a batch that has been severely affected by the COVID-19 pandemic, starting from the beginning of learning, students have been required to take part in online learning. Face-to-face learning is only carried out in practicum of certain courses which are considered very important for improving student skills. At a minimum, face-to-face or offline learning results in students being less satisfied.

The previous research was the research of Firman, F. and Rahayu, S., 2020. Titled: Online Learning in the Middle of the COVID-19 Pandemic. The results of this study explain that online learning received very good responses from students, especially regarding the flexibility of its implementation. This learning method is also able to trigger the emergence of learning independence and encourage students to be more active in lectures. Unfortunately, interaction in online learning has limitations so that it does not allow lecturers to directly monitor student activities during lectures. Students also have difficulty understanding the teaching materials delivered online. Limited communication between lecturers and students through instant messaging applications or through virtual classes is not enough for students.

Previous research was the research of Gultom, R., Martina, S.E., Harefa, K. and Sari, Y.P., 2021. The Relationship of Online Learning to the Learning Quality of Nursing Students of Universitas Sari Mutiara Indonesia During the COVID-19 Pandemic. The results in this study show that there is a relationship between Google Classroom online learning on the quality of learning of nursing students of Universitas Sari Mutiara Indonesia batch 16 during the COVID-19 period. Therefore, the online learning method through Google Classroom is even more optimized and all teachers and students understand the use of Google Classroom. The results of the study were found to have good learning quality.

Previous research was the research of Priyastuti, M.T. and Suhadi, S., 2020. Entitled: Student Satisfaction with Online Learning During the COVID-19 Pandemic. The results in this study stated that the level of student dissatisfaction with understanding the material was 54.5%, the delivery of lecture material was 58.2%, the online learning method was 47.3%, the use of online learning media was 43.6%), the two-way communication between lecturers and student satisfaction and the ease of access to feedback on the material was 45.5%, the smooth network was 41.8%, and the acquisition of the results of the online learning evaluation assessment during the COVID-19 pandemic 49.1%. Most students feel dissatisfied with the online learning carried out.

The purpose to be achieved from this study is to determine the relationship between online learning on the quality of learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta.

The hypothesis of this study is as follows:

Ho: There is no relationship between online learning and the quality of learning for Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta.

Ho: There is no relationship between online learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta.

Ha: There is a relationship between online learning and the quality of learning for Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta.

Ha: There is a relationship between online learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta.

2. Method

This research is a Cross Sectional quantitative research with a correlational research design with the aim of being able to see how closely related these variables are and explain a phenomenon with the data base owned.

Information:

X : Online learning

Y1 : Quality of Student Learning

Y2 : Student Satisfaction

→ : X and Y relationship

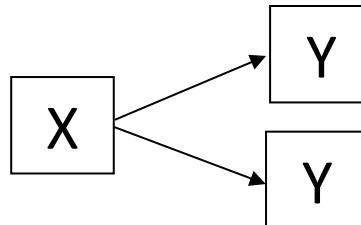


Figure 1. Research Design

The independent variable in this study is online learning. The dependent variables in this study are the quality of learning and the level of student satisfaction.

Table 1. Operational Definition

Variable	Operational Definition	Measuring Instruments	Category	Scale Measure
Dependent Variable: Quality of Learning	Learning quality is the knowledge of all learning activities carried out whether they have run according to the rules and produce output as expected or vice versa (Wardani and Jamaludin, 2018).	Questionnaire (Kristina, 2020)	If the score is <35, the quality of learning is not good If the score is 35-49, the learning quality is not good If the score is 50- 64 the learning quality is good. If the score ≥ 65 the quality of learning is excellent.	Ordinal
Dependent Variable: Student Satisfaction	Student satisfaction is a match between expectations and reality from learning obtained from the study program (Syakur, 2018)	Questionnaire (Martina, 2021)	If the score < 34 students are not satisfied If the score is 34-50, students feel less satisfied If the score is 51-67, students are satisfied If the score ≥ 68, students feel very satisfied.	Ordinal
Independent Variable: Online Learning	Online learning is a teaching and learning activity that uses the internet network with accessibility, connectivity, flexibility, and the ability to bring up various types of learning interactions (Firman and Rahayu, 2020).	Questionnaire (Irawati, 2020)	If the score < 18 <i>online learning</i> is not good If the score is 18-26, <i>online learning</i> is not good If the score is 27-35 <i>online learning</i> is good. If the score ≥ 36, <i>online learning</i> is excellent.	Ordinal

Print Questionnaire includes Online Learning questionnaire, Learning Quality and Student Satisfaction

Before conducting research, researchers submitted a research permit application letter to the ethics commission of Universitas 'Aisyiyah Yogyakarta. The researcher then submitted a letter of permission to the Academic Section of the Faculty of Health Sciences, 'Aisyiyah University, Yogyakarta. Researchers determined respondents according to inclusion and exclusion criteria Respondents who meet the criteria will be given an explanation of the research mechanism.

Respondents were asked to sign an informed consent sheet if willing to participate in the study. Provide questionnaires and take measurements of respondents. If the respondent cannot fill out the questionnaire, the researcher reads the questionnaire and asks the respondent for answers. Check the completed questionnaire. The population is 142 students of Anesthesiology Nursing Class of 2020 Universitas 'Aisyiyah Yogyakarta.

Total Sampling with the number of respondents is 142. This study used data analysis techniques including descriptive analysis and bivariate analysis. Descriptive analysis was used to determine the picture of respondents' demographic data, an overview of online learning variables, learning quality and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta in the class of 2020.

The results of this data analysis are presented in tables and presented in the form of percentage data. Bivariate analysis, namely Spearman Rank to determine whether there is a relationship between online learning and learning quality, the relationship of online learning to the level of student satisfaction, the closeness of online learning to the quality of learning and the closeness of the relationship between online learning to the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta

3. Result and Discussion

This research was carried out at the Anesthesiology Nursing Study Program, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta on students of the class of 2020. This research was conducted during November 2022, to determine the relationship between online learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta. Data collection was carried out using online learning questionnaires, learning quality and student satisfaction levels.

3.1. Description of Demographic Data

Based on the results of respondents' answers, it can be analyzed in the form of demographic data distribution according to the table presented below:

Table 2. Operational Definition

No.	Demographic Data	Frequency (f)	Percentage (%)
1.	Gender		
	Man	40	28.2
	Woman	102	71.8
	Total	142	100
2.	Age		
	19 Years	17	12.0
	20 Years	83	58.5
	21 Years	37	26.1
	22 Years	5	3.5
	Total	142	100

Table 2 shows that most of the study respondents were female as many as 102 (71.8%) respondents, and male respondents as many as 40 (28.2%). The age characteristics of the majority of respondents aged 20 years are

83 (58.5%) respondents, then the majority or the second most respondents aged 21 years as many as 37 (26.1%) respondents and the least or minority respondents aged 22 years as many as 5 (3.5%).

3.2. Description of Online Learning Variable Data on Students

The data from the study are presented in the form of a table of relative frequency distribution of online learning variables as follows:

Table 3. Variable Frequency Distribution of Online Learning

Variable	Frequency (f)	Percentage (%)
Online Learning		
Not Good	6	4.2
Good	71	50.0
Excellent	65	45.8
Total	142	100

Table 3 shows that online learning for Anesthesiology Nursing students at Universitas 'Aisiyiah Yogyakarta is classified in the good category as many as 71 (50%) respondents and very good as many as 65 (45.8%) respondents.

3.3. Description of Student Learning Quality Variable Data

The data from the study are presented in the form of a table of relative frequency distribution of student learning quality variables as follows:

Table 4. Variable Frequency Distribution of Online Learning

Variable	Frequency (f)	Percentage (%)
Quality of Learning		
Not Good	26	18.3
Good	83	58.5
Excellent	33	23.2
Total	142	100

Table 4 shows that the quality of learning in online learning of Anesthesiology Nursing students at Universitas 'Aisyiyah Yogyakarta in the class of 2020 was included in the good learning quality category of 83 (58.5%) respondents and the very good category of 33 (23.2%) respondents.

3.4. Description of Student Satisfaction Level Variable Data

The data from the study are presented in the form of a table of relative frequency distribution of variable levels of student satisfaction as follows:

Table 5. Variable frequency distribution of satisfaction levels

Variable	Frequency (f)	Percentage (%)
Student Satisfaction		
Less Satisfied	9	6.3
Satisfied	88	62.0
Very satisfied	45	31.7
Total	142	100

Table 5 shows that the level of satisfaction of Anesthesiology Nursing students of Universitas 'Aisyiyah Yogyakarta was satisfied with online learning as many as 88 (62%) respondents and the very satisfied category as many as 45 (31.7%) respondents.

3.5. Bivariate Analysis

Bivariate analysis was used to find the relationship and closeness of the relationship between the independent variable and the dependent variable, namely online learning with the quality of learning and online learning with the level of student satisfaction tested statistically using the Spearman Rank correlation test. The data of the correlation test results between variables are presented in the table as follows:

3.5.1 The Relationship of Online Learning to the Quality of Student Learning

The results of the correlation test between online learning and the quality of learning of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta can be shown in the following table:

Table 6. The Relationship of Online Learning with the Learning Quality of Anesthesiology Nursing Students After the COVID-19 Pandemic at 'Aisyiyah University Yogyakarta

Online Learning	Quality of Learning			Correlation Coefficient	P Value
	Not Good	Good	Excellent		
Not Good	6	0	0	0.898	0.000
Good	19	50	2		
Excellent	1	33	36		

Table 6 shows the results of the Spearman Rank correlation analysis with a significant value (P-Value) of $0.000 < 0.05$ and obtained a correlation coefficient value of 0.898 which shows a significant relationship between online learning with the quality of learning of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta.

3.5.2 The Relationship of Online Learning to Student Satisfaction

The results of the correlation test between online learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta can be shown in the following table:

Table 7. The Relationship between Online Learning and the Satisfaction Level of Anesthesiology Nursing Students After the COVID-19 Pandemic at 'Aisyiyah University Yogyakarta

Online Learning	Student Satisfaction Level			Correlation Coefficient	P Value
	Less Satisfied	Satisfied	Very satisfied		
Not Good	4	2	0	0.765	0.000
Good	4	65	2		
Excellent	1	21	43		

Table 7 shows the results of the Spearman Rank correlation analysis with a significant value (P-Value) of $0.000 < 0.05$ and obtained a correlation coefficient value of 0.765 which shows a significant relationship between online learning with the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta

3.6. Discussion

3.6.1 The Relationship of Online Learning to the Quality of Student Learning

The results of research conducted by researchers according to table 1.5 show that there is a relationship between online learning and learning quality. This is evidenced by the results of the Spearman Rank correlation test which shows a significant value (P-Value) of 0.000 and is stated to have a significant correlation or relationship, meaning that H_0 is rejected and H_a is accepted. The value of the correlation coefficient shows a value of 0.898 meaning that it has a very strong and unidirectional relationship between the two variables, the better the online learning, the better the quality of learning obtained from learning. The results of this study show that online learning for Anesthesiology Nursing students after the COVID-19 pandemic is good by 50%. The quality of learning for Anesthesiology Nursing students after the COVID-19 pandemic is good at 58.5%.

The results of this study are supported by Gultom's research (2021), stating that online learning has a relationship with the quality of student learning with the category of good learning quality during online learning by 44 (61.2%). The success of a learning activity is the creation of mastery or understanding from students of the material that has been given. Online learning after the COVID-19 pandemic has been considered not unfamiliar or new for students, but the results are also not a few students who do not understand the material provided during online lectures, in contrast to learning in the classroom that they enjoy more because of direct interaction. The results of this study are in line with the research of Wardani and Jamaludin (2021), which said that the quality of learning is the knowledge of all learning activities that have run according to the rules and produce outcomes as expected such as easy access to learning, timely learning, suitability of the material provided, and ease of sending assignments. This is emphasized by Gultom (2021), saying that learning is said to be of high quality if the learning objectives have been achieved properly. According to Prasetya and Harjanto (2020), good learning quality will produce optimal learning outcomes. Salamah (2020), emphasized that the quality of learning has outputs, such as the ability of students to master learning, the high and low enthusiasm of students in learning and the effectiveness of the teaching and learning process in achieving learning objectives and understanding of the material provided by lecturers to students.

Interaction between students and lecturers can affect the quality of student learning. This is in accordance with Prawatiningsih's research (2022), saying that the quality of interaction between students and students with lecturers can affect the quality of online learning and learning outcomes, namely the learning outcomes obtained by students can affect the quality of learning. The quality of learning in education lies in lecturers and students. The quality of lecturers in teaching can determine the quality of learning for students who receive material. Lecturers are expected to have broad insight and be able to master certain fields as a place to ask students questions in order to provide appropriate feedback for students.

3.6.2 The Relationship of Online Learning to the Quality of Student Learning

The results of research conducted by researchers according to table 1.6 show that there is a relationship between online learning and student satisfaction. This is evidenced by the results of the Spearman Rank correlation test which shows a significant value (P-Value) of 0.000 and is stated to have a significant correlation or relationship, meaning that H_0 is rejected and H_a is accepted. The value of the correlation coefficient shows a value of 0.765 meaning that it has a very strong and unidirectional relationship between the two variables, the better the online learning, the better the level of student satisfaction. The results of this study show that online learning for Anesthesiology Nursing students after the COVID-19 pandemic is good by 50%. The satisfaction rate of Anesthesiology Nursing students after the COVID-19 pandemic is classified as satisfied at 62%.

The results of this study are in line with the research of Anggraeni (2021) and Tantri (2021), stating that there is a significant relationship between online learning and the level of student satisfaction. Student satisfaction with the learning process is an important factor for higher education as an educational service provider for students. The results of this study can prove that students can take part in online learning after the COVID-19 Pandemic comfortably and optimally. This is in line with Prasetya and Harjanto (2020) and Jamaludin (2021), who said that the level of student satisfaction can be used as proof and guidance that students can take part in online learning well, comfortably and optimally.

The service or responsiveness of lecturers to help and provide learning according to student needs is considered good, meaning that it is in accordance with what students expect from online learning. This is in accordance with what Syakur (2018) said, that student satisfaction is a match between expectations and reality of the learning process that has been obtained. This is confirmed by Karwati (2014), who said that if lecturers provide good and satisfactory service to students. Lecturers who provide good service, in accordance with what students expect and satisfy students can achieve the goals that have been set.

The quality of student learning can affect the level of student satisfaction. This is in accordance with Prasetya and Harjanto's (2020) research, which states that there is a positive influence between the quality of learning and the level of student satisfaction. Larasati and Andayani (2019), emphasized that the level of student satisfaction can assess how relevant the quality provided from the learning is. In line with the research of Ko and Chung (2014), it proves that student satisfaction can increase the positive influence of learning quality. If the learning process can be carried out with good quality, student satisfaction will increase.

4. Conclusion

Based on the results of research and discussion, the following conclusions can be drawn: Online learning after the COVID-19 pandemic in Anesthesiology Nursing students at Universitas 'Aisyiyah Yogyakarta is good at 50%, student learning quality is good at 58.5%, and student satisfaction is satisfied at 62%. There is a significant relationship between online learning and the quality of learning of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta

with a P-Value of $0.000 < 0.05$, meaning that H_0 was rejected and H_a was accepted. There is a significant relationship between online learning to the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta with a P-Value of $0.000 < 0.05$, meaning that H_0 was rejected and H_a was accepted. The close relationship between online learning and the quality of learning of Anesthesiology Nursing students after the COVID-19 pandemic at 'Aisyiyah University Yogyakarta which has a very strong and unidirectional relationship with a correlation coefficient value of 0.898. The close relationship between online learning and the level of satisfaction of Anesthesiology Nursing students after the COVID-19 pandemic at Universitas 'Aisyiyah Yogyakarta which has a very strong and unidirectional relationship with a correlation coefficient value of 0.765.

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