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The Effect of Facilities and Infrastructure on Learning Experience of Conventional Parasitology Practicum with Distance Method on Students of the Faculty of Medicine Ciputra University

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Abstract: *The Indonesian government issued a policy of Large-Scale Social Restrictions (PSBB) to accelerate the handling of Covid-19. The impact of the Covid-19 outbreak has caused the temporary closure of all educational institutions and face-to-face learning methods in the classroom to distance learning (online). Facilities and infrastructure are one of the important supports in carrying out the learning process. The absence of facilities and infrastructure will complicate learning activities which will also affect the highs and lows of student learning experiences. Because basically, how the course of the learning process will affect how the learning outcomes will be. This research was conducted to determine the effect of facilities and infrastructure on the Parasitology practicum learning experience for students of the medical faculty of Ciputra University. This study uses analytical observation with a cross sectional design with a total research sample of 42 students of the Faculty of Medicine, Ciputra University class of 2018. Data collection was carried out by distributing questionnaires via google form. Data analysis used paired t test. This shows that there is an influence of facilities and infrastructure on the long-distance learning experience of the parasitology practicum of conventional methods.*
Keywords: *learning experience; facilities and infrastructure; medical faculty*

I. Introduction

In February 2020, Indonesia and many countries in the world faced the problem of the spread of the Covid-19 virus (coronavirus), known as the coronavirus. The virus was originally identified and developed in Wuhan, China, and quickly spread around the world. The World Health Organization (WHO) has declared it a pandemic (Luo, 2020). Many people, including Indonesia, have been infected and died. The Indonesian government has issued a regulation issued by the Ministry of Health (Kemenkes) to accelerate the handling of COVID-19 with the Mass Social Restriction Policy (PSBB). This is expected to be noticed by the general public. Regulations related to PSBB are regulated in the Minister of Health Regulation of 2020 No.9. All sectors have experienced a significant impact and will work together in different ways to anticipate contagion (Susulh, 2020).

The distance learning process (online) is a learning solution that has not been maximally implemented during the pandemic. Distance learning has several things to consider, such as the quality of student resources, but it can still be improved in terms of content, methods, and use of information technology. In addition, students tend to be less suitable for distance learning either because of the instability of the internet network or the limited provision of internet quota (Aqib et al, 2020). It is undeniable that distance learning (PJJ) during the Covid-19 pandemic caused various reactions and changes in the learning system that played a role in influencing the level of development of students in the learning process and understanding and processing the material presented, (Basar, 2021).

Distance learning or PJJ is a new learning method for students studying at universities during the Covid19 pandemic. Willingness to start educational and learning activities based

on Permendiknas 2020 Number 467 concerning the 2020/2021 Education Calendar. During the pandemic, learning and educational activities are carried out using the PJJ method. This is in line with the Joint Decree of the Four Ministers (SKB) and the Task Force Act to speed up three responses to Covid 19. Sihombing (2020) state that Covid-19 pandemic caused everyone to behave beyond normal limits as usual. The outbreak of this virus has an impact especially on the economy of a nation and Globally (Ningrum, 2020). The problems posed by the Covid-19 pandemic which have become a global problem have the potential to trigger a new social order or reconstruction (Bara, 2021). This hampers the application of learning methods because the learning burden that must be borne by educators is too large (Angga, 2020). Most universities are now using distance learning alternative zoom conferencing apps. Zoom Meeting is an application that provides remote conferencing or conference services with the concept of screen sharing. The advantages of this application in addition to being able to make video calls can also make group calls in large numbers. Zoom itself has a basic function. This means that up to 100 participants can use it for free in a 40-minute meeting, but to use more features, you can subscribe to Zoom Business (Angelina et al., 2020). This learning process is experienced throughout the university, including learning at the medical school.

The teaching methods of the medical faculty continue to evolve in line with the development of medical science. Medicine and the practice of medicine have undergone many changes and advancements with the aim of achieving human well-being. The development of distance learning in medical education affects the education and learning process. In relation to learning itself as a form of doctor professionalism, Indonesian medical competency standards require medical learning to pass through learning principles consisting of independent study, critical thinking, constructive feedback and introspection (SKDI, 2013). This is one of the biggest challenges that medical schools face while going through the learning process. Competency-based curriculum transforms competency standards into material or topics for education and teaching.

On the other hand, in medical learning according to the curriculum according to the SKDI, there are practicum materials in several medical learning subjects based on the medical curriculum, and students must meet several learning outcomes determined by the SKDI. Range of abilities, namely clinical skills, 1. History principles and skills 2. Physical Examination Principles and Skills 3. Basic Principles of Laboratory Examination 4. Other Additional Examination Principles 5. Medicine Skills Principle (see list of clinical skills) 6. Standard Treatment Principles 7. In clinical emergencies, these seven indicators are part of the internship curriculum (SKDI, 2013).

Knowledge of parasitology can be obtained in various ways. Currently, parasitology research methods have developed and are divided into four groups: plastinated specimens, surface parasitology and living anatomy, radio imaging, and artificial and virtual parasitology (Bogitsh et al, 2018). At this point, parasitology practicum learning must respond to the Covid19 pandemic, where learning takes place using completely digital or remote (online) technology. The weakness that often occurs in online learning is the quality of the internet network used, namely a learning system where educators and students do not face each other directly. Educators are obliged to continue teaching and learning activities and ensure that learning outcomes indicators are met, even when students are at home. Educators are required to use interactive media to innovate learning media (Firman et al, 2020).

Generally, teachers often take advantage of several online meeting applications such as Zoom and Google Meeting. This is inversely proportional to conventional learning activities. Indirectly, students can access deeper knowledge because they meet directly with teachers and

can interact freely with other students to add insight. Teachers in conventional learning can maximize the learning curriculum using both curriculum guidelines, semester and annual learning plans that are in accordance with Indonesian medical competency standards (Rozaliyani et all, 2020).

The facilities and infrastructure of educational institutions are one of the most important and important supporting components for the implementation of the learning process. Qomar (2007) shows that the educational process fails if there are no institutions in the educational process. This is something that should be avoided by everyone involved in the world of education. According to Bafadal (2008), facilities are all wholeness, equipment, furniture, and materials used directly in the educational process. In addition, educational facilities are devices and materials that are used directly in the teaching and learning process in schools (Qomar2007). Educational infrastructure is a means that indirectly supports the educational process.

Based on the above assumption, the importance of parasitology learning experience in learning makes researchers interested in researching medical student learning in parasitology practicum, therefore the researcher takes the title "Influence of Facilities and Infrastructure on the Learning Experience of Conventional Distance Parasitology Practicum on Students of the University Faculty of Medicine".

II. Research Methods

The research subjects used in this study were 42 students of the Medical Study Program, Faculty of Medicine, and University of Ciputra in 2018. This research was carried out at the Research Laboratory of the Faculty of Medicine, University of Ciputra Surabaya. The time of this research was 6 months starting from June 2021–November 2021.

The study sample was the same as the study population that had met the inclusion and exclusion criteria. The inclusion criteria are that the respondents are students who have followed the parasitology practicum conventionally and remotely (online) and the respondents are students who are active in the Faculty of Medicine. While the exclusion criteria are student respondents who are not active, out, or on leave from the Faculty of Medicine, researchers in this study, and students who are not willing to be respondents. Determination of the sample in this study using the method of accidental sampling (convenience sampling). Accidental sampling (convenience sampling) has a definition as a sampling procedure that selects samples from people or units that are most easily found or accessed (Santoso and Tjiptono, 2001).

The instrument in this research is a learning experience questionnaire which contains 44 questions which are grouped based on the indicators in this study, namely understanding, time, cost and infrastructure. The questionnaire is packaged in the form of a google form. Indicators of learning comprehension are in items no 1–18, cost indicators are in items no 19–2, time indicators are in items 23-32 and infrastructure indicators are in item no. 3–44. Data instrument test includes a). Validity test has a definition as the extent to which the measuring instrument is used to measure what is used. The method is to correlate the scores obtained on each question item to the individual's total score. The questionnaire has been tested for validity using Pearson correlation analysis where if the significance value of the correlation coefficient for each item with a total value of <0.05, the data is said to be valid. The results of the validity test on the conventional learning experience questionnaire obtained 20 valid items from 22 items with a correlation coefficient of 0.307 to 0.787. The results of the validity test on the online learning experience questionnaire obtained 18 valid items from 22 items with a correlation coefficient of 0.363 to 0.768. b). The reliability test is used to determine the consistency of the measuring instrument, whether the measuring instrument used is reliable and remains consistent if the measurement is repeated. In the SPSS program the method that

is often used for reliability testing is Cronbach's Alpha method. Cronbach's Alpha value in the reliability test of the conventional learning understanding questionnaire was obtained at 0.709 and the online learning comprehension questionnaire was 0.760. Cronbach's alpha value obtained is > 0.6 so that the questionnaire can be said to be reliable.

Data analysis in this study used descriptive analysis with a quantitative approach, namely statistical analysis which has a function to describe or provide an overview of the object under study through population data as it is without analyzing and making generally accepted conclusions. Paired t-test (paired t-test) was used in this study to test the hypothesis if the data distribution is normal and Wilcoxon signed text if the data distribution is not normal. The paired t-test tests the paired samples, to analyze whether the two related samples have significantly different averages or not. The two-sample paired test aims to test the pairwise mean difference between two related samples. This test was carried out on two paired samples. Paired sample is defined as a sample with the same subject, but experiencing two different treatments or measurements.

III. Discussion

3.1 Results

a. Characteristics of Respondents

The data in this study were taken from various characteristics of the respondents which were then analyzed based on the results of each respondent. Determination of respondent characteristics includes respondents based on age, respondents based on gender, respondents based on position of residence. The results of the analysis of each character of the respondents are as follows.

Table 1. Characteristics of Respondents

Respondents Data Respondents	Information	N	Percent
Age	19-21 Years	38	88,37
	22-25 Years	5	11,62
Gender	Male	15	34,88
	Female	28	65,11
Position Of	Urban	38	88,37
	Rural	5	11,62
Semester	7 Semester	42	100

Source: primary data, processed.

Based on the table of respondent characteristics above, the characteristics of respondents based on age obtained data that the majority of respondents were in the age range of 19-21 years, namely 38 respondents or equivalent to 88.37% of the total respondents, while 5 other respondents were aged 22-25 years or equivalent to 11.62% of the total respondents. Characteristics of the data for gender, it was found that there were 15 respondents male or 34.88%, then 28 respondents or 65.12% female. In the residential data, data obtained in the form of 38 respondents (88.37%) living in urban areas and the remaining 5 people (11.63%) living in remote areas. All respondents are 7th semester students, namely 42 people.

b. Normality

The Normality test aims to test whether the data used has been normally distributed or not. A good regression model is to have a normal data distribution or detect normal. To detect the normality of the data, in this study, the Saphiro Wilk test was used. The data from the normality test results from this study can be presented in the following table.

Table 2. Normality Test of Data

	n	Value of p
Difference in learning understanding (1-18)	42	0,116
Difference in cost (19-22)	42	<0,001
Difference in time (23-32)	42	0,019
Difference in facilities and infrastructure (33-44)	42	0,001
Difference in learning experience	42	0,008

Source: primary data, processed.

From the table of normality test results above, the results show that data that are normally distributed are in the data on differences in understanding of conventional and online learning because it has a p value > 0.05 meaning the data is normally distributed, while for other data it has a p value < 0.05 so that data is not normally distributed.

c. Differences in Indicators of Understanding of Conventional and Online Learning

T-test was conducted to see differences in indicators of understanding of conventional and online learning because the normality test showed that the data were normally distributed. The results of the T test can show the difference between the conventional and online learning experience indicators which are presented in the following table.

Table 3. The Difference between Conventional and Online Learning Comprehension Indicators

Learning Comprehension	N	Mean ± Standard deviation	Mean ± Standard deviation Difference	p Value
Conventional	42	39,76 ± 3,862	-6,67 ± 6,003	< 0,001
Online	42	33,10 ± 5,318		

Source: primary data, processed.

Based on the table. 3, p value < 0.001 indicates that there are differences in understanding of conventional and online learning.

d. Differences in Conventional and Online Infrastructure Indicators

The Wilcoxon signed ranks test was conducted to see the difference between conventional and online infrastructure indicators because the data were not normally distributed in the normality test. The test results are presented in the following table.

Table 4. Differences in Indicators of Conventional and Online

Facilities and infrastructure	N	Median (min–max)	Median (min–max) Differences	p Value
Conventional	42	18 (11 – 20)	15 (4 – 20)	< 0,001
Online	42	29 (17 – 35)		

Source: processed data.

Based on the table. 6, the p value shows < 0.001 so that it shows the difference between conventional and online infrastructure facilities.

e. Differences in Conventional and Online Learning Experiences

Wilcoxon Signed Ranks Test was conducted to see the overall difference between conventional and online learning experiences. Wilcoxon test results as follows.

Table 5. Differences in Conventional and Online Learning Experiences

Facilities and infrastructure	N	Median min–max)	Median (min–max) Differences	p Value
Conventional	42	18 (11 – 20)	-9,5 (-52 – 11)	< 0,001
Online	42	29 (17 – 35)		

Source: processed data

Based on the test results above, conventional and online methods have significant differences because the p value <0.001.

3.2 Discussion

Analysis of this data shows that there is an influence of facilities and infrastructure on the learning experience of conventional parasitology practicum methods with long distances. Addressing the differences between conventional and online infrastructure facilities. Facilities and infrastructure, students have no difficulty in accessing conventional parasitology practicum learning, the conventional parasitology practicum learning atmosphere is more comfortable, has adequate learning facilities such as rooms, tables, chairs, lamps, libraries, and so on. This is in line with research conducted by Jariyah and Tyastirin (2020) which revealed that the explanation of material using online methods is often not easy to be accepted optimally by students, because direct explanations through conventional learning are considered better and more understandable by students compared to explanations through online discussions.

The influence of facilities and infrastructure on the results of the parasitology practicum learning experience of medical students using conventional methods is better than using the long-distance method. This is similar to research conducted by Astuti (2019) which states that the conventional method (face to face) is still considered better by students than *e-learning* because it is easier to understand the material and easier to interact with educators.

Research that has been conducted by Wati (2020) states that cognitive learning outcomes in students participating in online learning go up and down, but tend to decrease, this is because the online learning process tends to have many obstacles, one of which is related to facilities and infrastructure learning support infrastructure. Research conducted by Damayanthi (2020), revealed that online learning is sufficient to replace face-to-face learning, but when viewed from the effectiveness, online learning is still considered ineffective to achieve learning objectives, and has not even been able to provide virtual conducive classroom conditions, so that these things are factors that make online learning not effectively implemented. This is the reason students prefer face-to-face learning to be re-applied and get facilities and infrastructure to support their learning activities when the Covid-19 pandemic ends.

IV. Conclusion

Based on the results of research on the effect of facilities and infrastructure on the learning experience of long-distance parasitology practicum for students of the medical faculty of Ciputra University, it can be concluded that there is a significant difference in understanding of learning and infrastructure in the parasitology practicum learning experience of conventional methods with remote methods.

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