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Online Learning Analysis of Education Statistics Department of Tadrīs Biology Faculty of Tarbiyah & Teaching Science UIN-SU Medan

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Abstract During the Covid-19 pandemic, online learning is a solution in the world of education, including learning carried out by Tadrīs Biology students at UIN North Sumatra. This research focuses on education statistics courses conducted online. The data collection technique was carried out through a google form questionnaire and followed by a qualitative descriptive analysis. The research subjects were Biology Tadrīs students who were in the Even Semester of the 2022-2023 Academic Year who took education statistics courses with a total of 86 students as respondents. The purpose of this study was to determine the level of success in online learning of educational statistics. The results of student responses stated that online learning of educational statistics was not going well in terms of psychology and facilities, but in terms of educators (lecturers) it was good in online lectures with WhatsApp as a learning medium that was often used.

Keywords: Education statistics, Covid-19 pandemic, Online learning, Student response

INTRODUCTION

Along with the announcement of the COVID-19 Virus from Mr. President Joko Widodo on March 2, 2020 and the increasing number of positive COVID-19 patients in Indonesia, the Government of Indonesia conveyed information about online learning through Circular Letter Number 3 of 2020 concerning Prevention of COVID-19 on Education Units issued by the Ministry of Education and Culture (Kemendikbud, 2020). In following up on the Circular, the Chancellor of UIN North Sumatra announced that lectures were carried out in the form of online learning in accordance with Circular Number B-06/ITK/ITK.V.3/KS.02/04/2020 concerning the Implementation of Lectures, Proposal Seminars, Thesis/Thesis Supervisor, Comprehensive Exam, Munaqasyah, Thesis Result Seminar, Thesis Examination Using Online Method (SK UIN-SU).

The existence of the Covid-19 virus has had many impacts on various aspects of life, including the world of education. Based on Law Number 20 of 2003 concerning the National Education System, it explains that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop potential such as religious spirituality, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation, and state. Education in Indonesia aims to create people who have personality by having character, character, and abilities and skills (Depdiknas, 2003).

Higher education is a level of education after secondary education which includes various programs, including bachelor's, master's and other programs and is organized based on the culture of the Indonesian nation (UU, 2012). UIN North Sumatra is one of the providers of higher education and is expected to be able to produce academic and professional education personnel who follow the progress of science and technology and are useful in society, nation, and state.

UIN North Sumatra has organized various study programs for students as students. The study program has a focus on certain scientific fields, one of which is Tadris Biology. In this Study Program, there are courses in educational statistics. This course is a subject that is offered and even includes compulsory subjects which include learning in theory. As prospective biology teachers, students are required to have skills in accordance with their field of science because in biology there are studies on biology education so that they need to study Education Statistics, students must be able to master cognitive aspects and skills or psychomotor. One of the learning methods for this course is to conduct mini-research so that the knowledge gained by students can be implemented in everyday life.

Etymologically the word "Statistics" comes from status (Latin) which has the same meaning with the word State (English) or the word Staat (Dutch). The word statistics is defined as a collection of information (data), both in the form of numbers (quantitative data). or intangible numbers (qualitative data) that have great importance and usefulness for a country. In the English dictionary there are two kinds of statistical words statistics, meaning statistical science, while statistics as a measure obtained or derived from a sample, which is the opposite of the word "parameter" which means "a measure obtained or derived from the population".

Classification of statistics based on the level of work (the stages in statistical activities) statistics as a science can be divided into two kinds, namely: a). Descriptive statistics, also known as deductive statistics, simple statistics, and descriptive statistics are statistics whose work level includes ways to collect, compile or organize, process, present, and analyze numerical data, in order to provide an orderly, concise, and accurate picture; b). Inferential statistics are statistics that provide general rules or ways of drawing conclusions.

Understanding education statistics. It has been explained that the term statistics can be defined as statistical data, educational statistics, namely science that discusses or studies and develops principles, methods and procedures that need to be taken or used, in the context of collecting, compiling, presenting, analyzing information material. in the form of numbers.

Functions and uses in the world of education, the progress or development of students after they have taken the educational process within a certain period of time are actually qualitative in nature, but are converted into quantitative data because in evaluating educational outcomes the most common way is to use quantitative data, then there is no doubt that statistics in this case will have a very important function as a tool, namely a tool to obtain, analyze and conclude the results that have been achieved in the assessment activities.

So to find out the success rate of an online learning, it can be known by looking at the perceptions of students who take part in the learning. Based on research conducted by Sidatul Maulah et al. (2020) regarding "Biology Student Perceptions of Online Lectures as Learning Facilities During the Covid-19 Pandemic" explains the effectiveness of learning media, learning models, learning styles & lecture effectiveness. The results showed that 40% of 50 biology students as respondents stated that they were not satisfied with the online lectures that had been implemented. Based on the description above, the researcher conducted an analysis of the online learning of educational statistics that had been carried out by Biology Tadris Students with the research subject being Biology Students in Semester VI who was running this Educational Statistics course. As we know that in learning this course it is not only limited to delivering material by lecturers but also requires implementation that is carried out independently by students in implementing related material and often many students experience obstacles & obstacles in this online learning so that researchers do

analysis of online learning for this course by looking at the responses of Biology Tadris students.

METHOD

The purpose of this study was to examine and evaluate the learning results and reactions of Tadris Biology students at UIN North Sumatra for the adoption of bold learning in the Education Statistics course. The descriptive technique is used in this investigation. The method employed is a survey and analytic strategy, which involves examining student replies through questionnaires and utilising data from linked research publications. This study was carried out between April and June of 2022.

The data was collected using a google form questionnaire that was delivered online through the WhatsApp group, with the study subjects being Biology Tadris Semester VI students taking the Education Statistics course. In this research, 86 Biology Tadris students from UIN North Sumatra participated as a sample.

The data analysis approach takes the form of positive and negative statements on a linear scale, with a score assigned to each response ("Strongly Agree" deserves 4, "Agrees" deserves 3, "Disagrees" deserves 2, and "Strongly Disagrees" deserves 1). Following that, the average score and percentage for each element were computed using descriptive analysis and then using the appropriate research publication. Hariyanti et al. (2020).

FINDINGS AND DISCUSSION

Respondent Profile

This research data is in the form of responses given by respondents from a questionnaire in the form of a Google form that has been distributed via WhatsApp. Respondents in this study were students of Biology Study Program Semester VI UIN North Sumatra with a total of 46 students.

Respondents did bold learning at home, as was the policy issued by the Rector of UIN North Sumatra on April 4, 2022. Respondents came from various regencies or cities in North Sumatra ranging from Medan, Perbaungan, Coal, Asahan, Labuhan Batu, Rantau Prapat, Riau, Karo, Jambi to Aceh.

Educational Statistics Learning Analysis

The following is the result of the percentage of student responses taking the Education Statistics course. The results of the analysis can be seen in several diagrams that show learning styles, effectiveness of online learning, learning media, internal & external factors of students related to the Education Statistics learning process. In this case the

questionnaire consists of positive (+) & negative (-) statements by looking at the percentage of students who "agree" with the statements submitted in the questionnaire.

Table 1. Percentage of Educational Statistics Learning Analysis.

Aspect	Indicator	Sub Indicator	Positif (%)	Negatif (%)	Analysis category
Internal factors	Physica barriers	Health	32,6	67,4	R
		Cognitive	63	30,4	B
	Psychic block	Affective	37	30,4	B
		Psychomotor	60,9	32,6	B
		Material delivery	43,5	26,1	B
Educator (lecturer)	Duty	56,5	41,3	B	
	Practice	52,2	39,1	B	
	Timetable	39,1	26,1	B	
	Internet quota	6,5	78,3	SR	
External factors	Facility	Device	26,1	45,7	R
		Internet access	13	56,5	SR
		Book / reference	10,9	60,9	SR
	Family	Home work	17,4	50	SR
	Other activities	Outside / inside campus	32,6	32,6	C

Analysis Category Notes:

- SB : Very good
- B : OK
- C : Enough
- R : Low
- SR : Very Low

From the table above, it can be seen that the lowest indicator that affects online learning in Education Statistics is the limited internet quota, which is indicated by the high percentage of negative statements saying that "During this botanical online lecture, students often experience limited internet quotas so that it hinders lectures" by (78 ,3%). Indicators that are classified as good are Educators (Lecturers) who show that the delivery of material, assignments, lecture schedules and practicums have been carried out well with good analysis category (B).

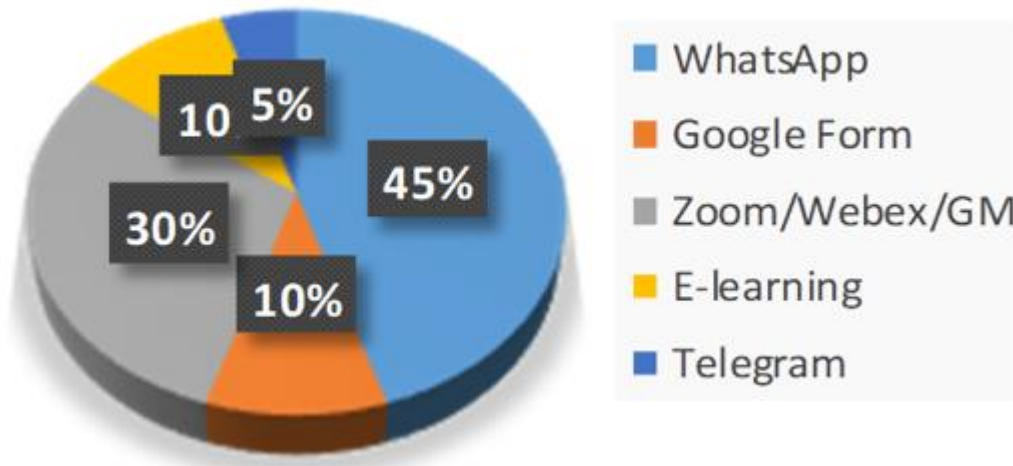


Figure 1. Percentage of online learning media used by students

The pie chart above shows the use of learning media in the Education Statistics course. Based on the results of the diagram above, it shows that the use of the WhatsApp application is mostly used in learning with a percentage of 45%, then Google Form (10%), Zoom/Wbwx/GM (30%), E-learning (10%) and Telegram (5%) .

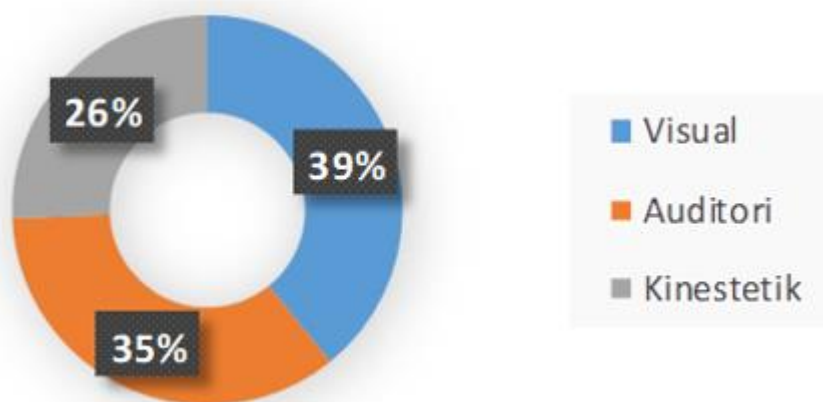


Figure 2. Students learning styles

Based on the pie chart above, the results of the percentage of student learning styles show that most of them choose visual learning styles with a percentage of 39%, Auditori. The outcomes of students' satisfaction with learning shown that 37% of students were dissatisfied, 26.1% were not satisfied, 32.6% were satisfied, 10.9% were satisfied and 0% were very satisfied. Unique learning styles characterize each learner

(Afriza & Nasution, 2022). The effectiveness of online learning can be influenced by learning models with approaches such as learning media, communication models, and appropriate learning styles. As well as the creativity of educators in teaching and appropriate learning models can make online learning run smoothly and effectively.

Based on the results of the study, there are several aspects that affect the bold learning of educational statistics. One of them is the obstacle that can be seen in Table 1. which includes internal & external factors. Internal barriers include physical and psychological burdens, while external aspects include lecturers, facilities, family, and other activities (Hariyanti, 2020).

Internal Barriers

Internal barriers consist of physical and psychological students of Tadris Biology UIN North Sumatra who take the Education Statistics course. The results of the percentage of student health decreased as indicated by the percentage of negative statements of 67.4%. This can be caused by the burden of thoughts and dense tasks, too long leaving the screens of cellphones and laptops that are opened to the decline in student health. Results like this are with the research of Pawicara et al. (2020) which explains the level of student learning saturation, one of which is caused by physical fatigue. This shows that psychic can have an impact on students' physical fatigue. Furthermore, the psychological aspects which include cognitive, affective, psychomotor or better known as the head (head), heart (heart), and hand (hand) are criteria that can be used by educators to determine the level of success of the learning process (Hariyanti, 2016; Kasenda et al. 2010). In psychic strength, the cognitive and psychomotor aspects of students are low. Most students agree with the negative statement that "During bold learning, students feel lazy and competitiveness among students decreases due to direct interaction and limitations in operating technology that can activate learning". This could be due to the lack of motivation to learn in students and the lack of mastery of technology as well as differences in reasoning in understanding the material for each student.

External Barriers

External barriers consist of four indicators, namely educators (lecturers), facilities, families, and other activities. In the educator indicator, the results show that the delivery of material, assignments, practicum and lecture schedules is quite good. These results show a balance between cognitive aspects and the delivery of lecturers in teaching because the indicators of educators are positively correlated with the cognitive aspects of students in learning.

The second order is facilities which show that students have limited internet quota, internet access and student references. This research is in line with research conducted

by Hariyanti et al. (2020) which explains that the highest obstacle is the limited internet quota of 38.6% and Hariyanti, et al. (Dindin et al., 2020) explains that the biggest obstacle in learning is daring. In the midst of the Covid-19 pandemic, the quota is limited.

The third order is family, the results show that homework can affect the quality of student learning shown in the very low category (SR) with a negative statement of 50%. The fourth sequence is other activities which include activities inside and outside the campus. This indicator does not really affect student learning which is indicated by the sufficient category (C). In addition, the learning media that is often used in Education Statistics lectures is WhatsApp with a percentage of 45%, then other media such as Zoom/webex/Gm at 30%, 10% using Google Forms and E-learning and 5% Telegram. The choice of WhatsApp as the most effective learning media can be due to the use of a small quota and easy operation. most students prefer visual learning style with a percentage of 39%.

The effectiveness of bold learning shows 37% of students chose dissatisfied, 6.1% felt less satisfied, 32.6% felt enough, 10.9% satisfied, and 0% students were very satisfied. Student dissatisfaction with learning Education Statistics occurs because of obstacles during learning by several aspects described above. This is in line with research conducted by Maulah et al. (2020) with a proportion of 40% of students being dissatisfied and 0% feeling very satisfied.

Learning Evaluation

Based on the results of this study, according to Circular Letter Number 3 of 2020 concerning Prevention of COVID-19 in Education Units published by the Ministry of Education and Culture. In following up on the circular, one of the learning tools that can be done is online learning considering the goal is to break the Covid-19 chain by limiting student social interactions in learning. However, in addition, online learning should be supported with adequate facilities. The obstacles for Biology Tadris students in learning Education Statistics can be overcome by evaluating the improvement of online lectures with various considerations: (1) The campus should provide internet quota assistance to students on an ongoing basis, (2) increase the creativity of educators in teaching, (3) provide motivation learning to students, (4) educators (lecturers) should understand the various obstacles and obstacles experienced by students in this online learning, and (5) the campus provides access to digital libraries for all students to add references in learning.

CONCLUSION

The implementation of the Biology Tadris Education Statistics lesson at UIN North Sumatra Even Semester for the 2022-2023 Academic Year was not going well from

the psychological aspect of students and facilities such as internet quota, access/network, devices and books/references; however, from an external perspective, especially (lecturers), it was good with delivery of clear material, assignments that are able to deepen understanding, good independent practicum planning and implementation, and it was successful in meeting the objectives of the lesson.

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