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Online Learning Analysis of Botany Cryptogamae During the Covid-19 Pandemic

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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 Tadris Biology students at UIN Sumatera Utara. The purpose of this study was to determine the level of success in online learning Botany Cryptogamae. This research focuses on the Botany Cryptogamae course which is conducted online. Qualitative research model with data collection techniques carried out through a google form questionnaire and continued with qualitative descriptive analysis. The research subjects are Biology Tadris students who are in the Odd Semester of the 2020-2021 Academic Year who are taking the cryptogamae botany course with a total of 46 students as respondents. The results of student responses stated that online learning of Botany Cryptogamae was not going well in terms of psychology and facilities.

Keywords: Botany Cryptogamae, Covid-19 Pandemic, Online Learning

Introduction

Covid-19 is a disease caused by acute respiratory syndrome coronavirus 2 or SARSCov 2 which can attack animals and when it attacks humans it causes respiratory tract infections. This virus entered Indonesia on March 2, 2020 with the announcement from President Joko Widodo. The entry of this virus into Indonesia has claimed many victims and it was recorded that on February 6, 2021, more than 1.13 million cases of Covid-19 infection were found in Indonesia with the number of patients dying as many as 31,202 people (JHU CSSE COVID-19 Data).

As the number of positive Covid-19 patients in Indonesia increases, the Government of Indonesia conveys information about online learning through Circular Letter Number 3 of 2020 concerning Prevention of COVID-19 in Education Units issued by the Ministry of Education and Culture. In following up on the Circular, the Chancellor of UIN Sumatera Utara announced that lectures were carried out in the form of online learning according to Circular Letter Number B-06/ITK/ITK.V.3/KS.02/04/2020 concerning the Implementation of Lectures, Seminar Proposals, Thesis/Thesis Supervisor, Comprehensive Examination, 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.

UIN Sumatera Utara 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 is a course on Botany Cryptogamae or better known as Taxonomy of Low Plants. This course is a branch of biology and includes theoretical and practical learning. As prospective biology teachers, students are required to have skills according to their field of science because in biological sciences which includes Botany Cryptogamae, students must be able to master cognitive aspects and skills or psychomotor. One of the learning methods for this course is to do practical work so that the knowledge gained by students can be implemented in everyday life.

Practicum is a learning carried out in a laboratory where students are expected to be able to apply the knowledge they have acquired in lectures, especially the biological branch of Botany Cryptogamae. However, in the current situation, it is not possible to carry out offline/face-to-face learning & practicum so that all student learning activities are carried out online. Based on previous research conducted by Hariyanti et al., 2020 concerning "Identification of Student Barriers in the Implementation of Online Biology Learning During the Covid-19 Pandemic in Jember Regency" explains that the practicum conducted online is in the category of the highest obstacle with a percentage of 37.1% among other sub-indicators.

To determine the level of success 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 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 Botany Cryptogamae learning that had been carried out by Biology Tadris Students with the research subject being Third Semester Biology Students who were running this Botany Crytpgamae

course. As we know that in learning this course it is not only limited to delivering material by lecturers but also requires independent practicums carried out by students in implementing related materials and often many students experience obstacles & obstacles in this online learning so that researchers carry out learning analysis online for this course by looking at the responses of Tadris Biology students.

Methods

This research was conducted in order to analyze and see the learning outcomes and responses of Tadris Biology students at UIN Sumatera Utara towards the implementation of online learning in the subject of botany cryptogamae. This study uses a qualitative approach using descriptive methods. The approach used is a survey and analysis approach by looking at student responses through questionnaires and using data from related research journals. This research was conducted in December-February 2020.

The data collection technique was carried out through a goggle form questionnaire which was distributed online through the WhatsApp group with the research subjects being students of Biology Tadris Semester III who were undergoing the Botany Cryptogamae course. In this study, there were 46 respondents as a sample of Biology Tadris students at UIN Sumatera Utara.

The data analysis technique in a closed questionnaire is in the form of positive & negative statements in the form of a linear scale with a score for each answer ("Strongly Agree" is worth 4, "Agree" is worth 3, "Disagree" is worth 2, and "Strongly Disagree" is worth 1). Furthermore, the calculation of the score and the average percentage for each aspect using descriptive analysis with a percentage below 50% is said to be not good, above 50% is said to be good and 100% is said to be very good, then linked to the relevant research journal. (Hariyanti, et al. 2020).

Results and Discussion

Respondent Profile

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

Respondents conduct online learning at their respective hmes, according to the policy issued by the Rector of UIN Sumatera Utara on April 4, 2020. Respondents come from various regencies or cities in North Sumatra ranging from Medan, Perbaungan, Coal, Asahan, Labuhan Batu, Rantau Prapat, Riau, Karo, Jambi to Aceh.

Cryptogamae Botany Learning Analysis

The following is the result of the percentage of student responses taking the Cryptogamae Botany 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 learning process of Botany Cryptogamae. 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 Cryptogamae Learning Botany Analysis

Aspect	**Indicator**	**Sub Indicator**	**Positive (%)**	**Negative (%)**	**Analysis Category**
Internal factors	Physical Barriers	Health	32.6	67.4	R
	Psychic Barriers	Cognitive	30.4	63	R
		Affective	30.4	37	C
		Psychomotor	32.6	60.9	R
External Factors	Educator (Lecturer)	Submission of materials	43.5	26.1	B
		Task	56.5	41.3	B
		Practice	52.2	39.1	B
		Timetable	39.1	26.1	B
	Facility	Internet Quota	6.5	78.3	SR
		Device	26.1	45.7	R
		Internet access	13	56.5	SR
		Books/Reference	10.9	60.9	SR
	Family	House work	17.4	50	SR
	Other activities	Outside & On Campus	32.6	32.6	C

Analysis Category Notes:
SB : Very good
B : Well
C : Enough
R : Low
SR : Very low

From table 1, it can be seen that the lowest indicator that affects online learning for Botany Cryptogamae is the limited internet quota as indicated by the high percentage of negative statements saying that "During this botanical online lecture, students often experience limited internet quota so that it hinders lectures" of (78 ,3%). Indicators that are classified as good are Educators (Lecturers) who show that the delivery of material, assignments given, lecture schedules and practicums have been carried out well with good analysis category (B).

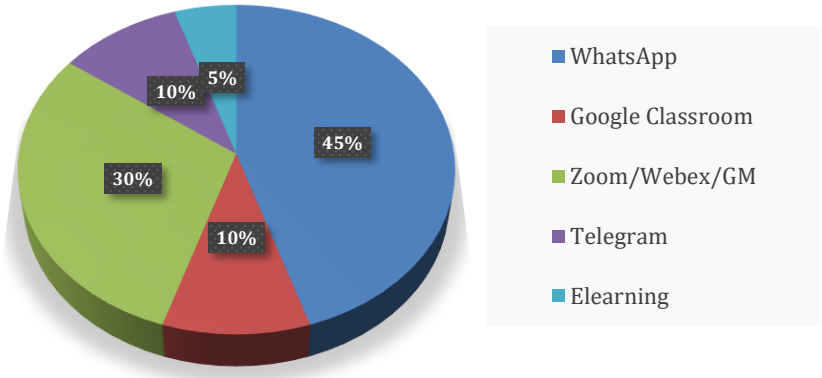

Figure 1. Percentage of Online Learning Media

The pie chart above shows the use of learning media in the Botany Cryptogamae 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 Classroom (10%), Zoom/Wbwx/GM (30%), Telegram (10%) and Elearning (5%).

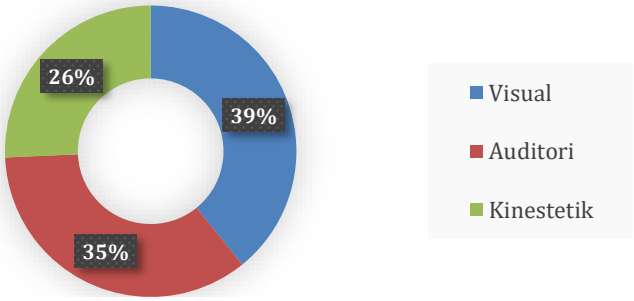

Figure 2. Perception of Learning Style

Based on the pie chart above, the results of the percentage of student learning styles show that most choose visual learning styles with a percentage of 39%, auditory learning styles 35%, and kinesthetic learning styles 26%.

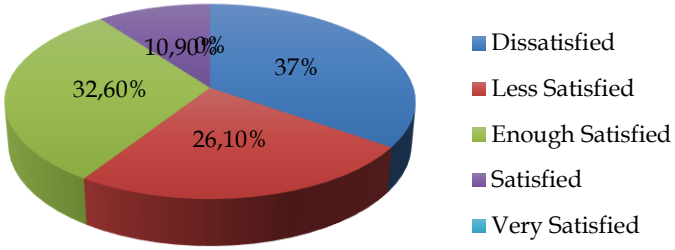

Figure 3. Effectiveness of Online Learning

The pie chart above shows the percentage of effectiveness of online learning for Biology Tadris students at UIN Sumatera Utara. The results showed that 37% of students were dissatisfied, 26.1% were less satisfied, 32.6% were enough satisfied, 10.9% were satisfied and

0% were very satisfied. 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.

Discussion

Based on the research results, there are several aspects that affect online learning of Botany Cryptogamae. One of them is the obstacle that can be seen in Table 1. which includes internal & external factors. Internal barriers include physical and psychological barriers, while external aspects include lecturers, facilities, families, and other activities (Hariyanti et al., 2020).

Internal Barriers

The internal obstacles consist of physical and psychological students of Tadris Biology UIN Sumatera Utara who take the Cryptogamae Botany course. The percentage result shows that the student's health has decreased as indicated by the high percentage of negative statements of 67.4%. This can be caused by the burden of thoughts and solid college assignments, staring at cellphone and laptop screens for too long which leads to a decline in student health. These results are in line 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 psychological demands 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),

On psychological barriers, the cognitive and psychomotor aspects of students are low. Most students agree with the negative statement that "During online learning, students feel lazy and competitiveness among students decreases due to the absence of direct interaction and limitations in operating technology can hinder 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 indicator of educators, the results show that the delivery of materials, assignments, practicums and lecture schedules is quite good. These results indicate an imbalance 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 that show that students have limited internet quota, internet access and student references. This research is in line with research conducted by Dewi Hariyanti et al., (2020) which explains that the highest obstacle is the limited internet quota with a percentage of 38.6% and Hariyanti et al., (2020) explains that the biggest obstacle in online learning in the midst of the Covid-19 pandemic is a limited quota.

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 percentage of 50%. The fourth order 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 Botany Cryptogamae lectures is WhatsApp with a percentage of 45%, then other media such as Zoom/webex/Gm at 30%, 10% using Google Classroom and telegram and 5% e-learning. 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%.

Based on Figure 3. which shows the effectiveness of online learning, 37% of students chose not satisfied, 6.1% felt less satisfied, 32.6% felt enough, 10.9% satisfied and 0% students were very satisfied. Student dissatisfaction with learning Cryptogamae Botany 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 percentage of 40% of students being dissatisfied and 0% feeling very satisfied.

Learning Evaluation

Based on the results of this study, according to Circular No. 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 Botany Cryptoagamae 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.

Conclusion

Several aspects of the implementation of online learning for Botany Cryptogamae Tadris Biology at UIN Sumatera Utara Odd Semester for the 2020-2021 Academic Year did not go well. The sub-indicators that refer to the low (R) and very low (SR) analysis categories include health aspects, cognitive aspects, psychomotor aspects, internet quotas, devices, internet access to books/references, and homework. The health sub-indicator received a negative presentation of 67.4%, cognitive 63%, psychomotor 26.1%, internet quota 78.3%, equipment 45.7%, internet access 56.5%, books/references 60.9%, and assignments. house by 50%. Apart from the aspects mentioned above, the sub-indicators show a response in the range of very good (SB) and sufficient (C).

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