

Undergraduate Medical Students' Perspective of Online Lecture

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ABSTRACT

Online lectures provide easier and more effective access, a wider amount of information, autonomy and reflective thinking, and flexibility. This study aims to assess medical students' perspectives on the online lecture. It is a descriptive observational study that was conducted from March to June 2019. The research subjects were 87 second-year medical students of Tadulako University. After conducting online learning, students were given a questionnaire regarding the online lecture process. The results showed that the application could be operated easily, although few students still have audio, video, and internet connection problems. Some students had difficulty concentrating and hard to understand the material. This problem can be overcome by providing online learning training to lecturers to engage students in the online learning process. Also, many students experience advantages, namely flexible time management, cost-effective and increasing motivation.

Keywords: Online lecture, undergraduate, medical student

1. INTRODUCTION

Electronic (e) or online learning can be defined as using technology and electronic media to convey, support, and enhance learning and teaching by involving communication between students and teachers using online content [1,2]. Historically, there are two common e-learning methods: distance learning and computer-assisted instruction with the internet as an integration technology in these two modes. Distance learning uses information technology to convey instructions to students, while computer-assisted instruction uses computers to help deliver learning and teaching. [2].

The swift development of technology over the last few decades, with computer versions available widely in various forms: tablets, mobile phones, and laptops, is changing the educational approach and potentially improving health service delivery [3,4]. The integration of e-learning into medical education sustainably and consistently brings about a revolution in medical education, creates new learning experiences for students, resulting in the conventional method of face-to-face in lecture halls being rarely used [2,4,5].

Online lectures provide more comfortable and more effective access, a broader amount of information, autonomy, reflective thinking, and flexibility, thereby enhancing individual student learning [1,6]. However, the transition from traditional learning to online learning is not without challenges [1]. The effectiveness of online learning is influenced by many factors, such as administrative problems, social interaction, academic skills, technical skills, student motivation, time and support for studies, technical problems, costs and access to the internet, and the design and arrangement of multimedia materials. These factors must be assessed, including the learning objectives, the nature of the learning materials' design, the evaluation of learning outcomes, to name some. [7]. This study aims to assess medical students' perspectives on online learning, especially online lectures.

2. METHODS

The research is a descriptive observational study that aims to determine students' opinions about online learning conducted from March to June 2019. The research subjects were 87 second-year medical students

of Tadulako University.

Before the online learning process, students were given a short training on the procedure for online learning using a zoom program accompanied by a 90-minute practicum. Students get an online lecture on Pharmacology material for 100 minutes. Students have received worksheets totaling five numbers of relevant questions to the previous lecture material before the class. The worksheets must be done by students in groups and will be presented during the next lecture.

After conducting online learning, students are given an opinion questionnaire regarding the online lecture process. The questionnaire consisted of 20 question items divided into two parts, namely the experience of using the zoom application and the concentration of online lectures.

3. RESULTS

Table 1 Subjects' characteristic

Characteristic	Total
Sex	
Male	30 (34.5%)
Female	57 (65.5%)
Age	
17	1 (1.1%)
18	1 (1.1%)
19	30 (34.5%)
20	54 (62.1%)
21	1 (1.1%)

Students who become subjects consist of women (65.5%) and men (34.5%). Most of the participants were 20 years (62.1%). All subjects were categorized as adults.

Table 2 Descriptive data of the students' online learning process

No	Questions	Yes	No
1	I have used the Zoom application	85 (97.7%)	2 (2.3%)
2	I have used the Webinar application	5 (5.7%)	82 (94.3%)
3	I have the Zoom app on my cellphone	80 (92%)	7 (8%)
4	I have the Zoom application on my laptop / PC	69 (79.3%)	18 (20.7%)
5	I am ready to attend online learning with independent mobile and internet facilities	75 (86.2%)	12 (13.8%)
Use of the Zoom Application			
6	Applications can be operated easily	87 (100%)	0

7	The audio quality is good during the online learning process	79 (90.8%)	8 (9.2%)
8	The video quality is good during the online learning process	83 (95.4%)	4 (4.6%)
9	There is no trouble in internet network connection during the online learning process	57 (65.5%)	30 (34.5%)
10	Online learning process still need to use other learning management systems/applications in online learning (Moodle, Edmodo, etc.)	46 (52.9%)	41 (47.1%)
Concentration and other benefit in online learning			
11	During lectures and plenary session, I can	40 (46%)	47 (54%)

	concentrate fully		
12	I can thoroughly understand the material discussed during plenary session	33 (37.9%)	54 (62.1%)
13	I find online learning more practical because the lecture time is more flexible	73 (83.9%)	14 (16.1%)
14	With online learning, I can do other important things at the same time	57 (65.5%)	30 (34.5%)
15	I prefer online learning because I can do both attend lecture while reading textbooks or looking for literature on the internet to confirm or look deeper about the course material	69 (79.3%)	18 (20.7%)
16	I prefer online learning because I can share my time with organizational activities	60 (69%)	27 (31%)
17	I prefer online learning because it can save time and money	72 (82.8%)	15 (17.2%)

18	I prefer online learning because I can choose a comfortable place and conducive situation to listen to lectures	74 (85.1%)	13 (14.9%)
19	I prefer online learning because I can still attend lectures even though my body condition is not optimal	80 (92%)	7 (8%)
20	Online learning motivate me to study independently	68 (78.2%)	19 (21.8%)

Based on the results in table 2, it is found that not all students have ever used the zoom program independently. There are two students (2.3%) who have never operated their zoom. Practicum using zoom before the lecture is not counted. Moreover, two students have used the webinar program. 92% of subjects used a smartphone to operate the zoom, and 79.3% used laptops or personal computers.

All students thought that the zoom application could be operated easily. Although 9.2% of students still have audio problems and 4.6% of students have problems with video applications. Furthermore, as much as an internet connection still constrains 34.5%.

86.2% of students felt that they were ready with the online learning model, although 54% of students admitted that they had difficulty concentrating during the lecture so that it had an impact on understanding the material, 62.1% of students complained that they were still unable to understand. Based on the data obtained from additional reasons, students find it difficult to concentrate due to technical problems, such as muted audio settings, slow internet connection, inadequate audio, and video quality. Other students feel unable to concentrate if they do not see the lecturer face to face. Students who find it difficult to understand online learning say that this is because they have difficulty focusing. It is different if they are in class directly. The environment created when students can meet lecturers directly creates a different atmosphere compared to only through gadgets.

74.7% of students like it because lectures can be followed even though the students are outside campus. According to students, with online learning, students can be more flexible in time management (83.9%), can do other important things (65.5%), and can attend lectures while reading the relevant literature (79.3%). Also, students argued that they could share their study time with organizations (69%).

Another positive thing raised by students is that with online learning, sick students can continue to attend courses (92%), cheaper costs (82.8%), and students can choose for themselves a comfortable place to attend lectures (85.1%). 78.2% of students said they were sufficiently motivated to attend online lectures.

4. DISCUSSION

4.1. Zoom Application Use

Research in the medical and nonmedical fields has consistently shown that students are very satisfied with e-learning. The satisfaction level of the e-learning method is higher than the conventional method in terms of ease of use and access to applications, navigation, and user-friendly application interface design [2]. The results showed that all students thought the zoom application was easy to operate. Accessibility of content through gadgets such as cellphones complements the ease of access that students like [8]. As obtained from this study, 92% of the subjects used cellphones to operate the Zoom application. However, from several studies, it was also stated that there were students who were not familiar with e-learning because their basic information technology knowledge and skills were still lacking [8]. This study results show that 9.2% of subjects were still constrained by audio, and 4.6% were constrained by video in the application.

4.2. Concentration & Online Learning

Previous studies report that students prefer e-learning because they gain more knowledge by understanding the subject better, acquire better skills, and feel more satisfied because of the ease of accessibility, flexibility, cost-effectiveness, and broader opportunities for study [9,10]. Flexibility in e-learning means that the learning process can be implemented under the students' conditions, regardless of geographic location, which does not require a specific time or binding schedule, and it is easy to access the material. It is a significant benefit compared to conventional lecture methods [8,10–12]. Based on research, 86.2% of students feel ready for an online learning model. In terms of flexibility, 74.7% of students like it because lectures can be followed even though they are outside the campus. According to students, with online learning, students can be more flexible in time management (83.9%), while doing other important things (65.5%), can attend lectures while reading the relevant literature (79.3%). Furthermore, even students who are sick can still attend lectures (92%). Also, students argued that indirectly, they could share their study time with organizations (69%).

Another study reported that students' dissatisfaction with the e-learning method was caused by a lack of interaction with teachers and in-depth group discussions to clarify concepts for complex topics [10]. Likewise, from this study, it was found that students admitted that it was difficult to concentrate if they did not see the

lecturer directly, 54% had difficulty concentrating during the lecture, 62.1% of students complained that they were still unable to understand the material being discussed so that it had an impact on understanding the material.

4.3. Motivation

Several blended learning studies use Kahoot! and Edmodo, it was found that blended learning fosters student motivation and encourages dynamic participation in the context of teaching and learning [9]. Studies in students studying radiology courses through blended learning feel more satisfied, as shown by post-course satisfaction assessments. A positive attitude towards blended learning in terms of effectiveness is 87.5%, motivation 91.7%, and active involvement 75% [5]. As in this study, the results obtained that 78.2% of students said they were motivated to attend online lectures.

4.4. Cost-effective

Research on the design and implementation of blended learning in medicine in Iran shows that this educational method can be cost-effective and is recommended for adoption. The results also showed that students were significantly more satisfied with learning through the blended learning method than traditional (face-to-face) education [10,12,13]. The research results found that students prefer online learning because it can save costs (82.8%).

5. CONCLUSION

Medical students of Tadulako University are ready to implement online learning. Although with some technical obstacles that can be overcome by providing facilities from the faculty. The shortcomings of students in understanding the material can be overcome by providing online learning training to lecturers to engage students in the online learning process. In addition, there are several benefits that students can achieve from studying online, namely flexible time management, cost-effective and increasing motivation.

ACKNOWLEDGMENT

This research was approved by the ethics committee of The Faculty of Medicine Tadulako University (No. 2553/UN28.1.30/KL/2019).

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