Perception of Biology Student Universitas Negeri Medan towards Biology Cell Learning Based on E-Learning

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Abstract. The purpose of this research is to know the students’ perceptions of learning biology cell based on e-learning. This descriptive research was done by questionnaire in collecting the data. The source of the data was students of biology of FMIPA Unimed class of 2018. Based on the questioners that have been analyzed, 80.76% students feel that e-learning support them in learning teaching process and 96.15% argue that e-learning can help them to access subject matter. But 50% students face some problems to interact, not only with other students but also with lecturer. Further research is needed to develop e-learning content in biology cell to make it easier for students to understand and to improve the interaction between student and lecturer in e-learning.

1. Introduction

Internet today has become an integral part of the lifestyle of various Indonesian community groups. The survey data conducted by the Indonesian Internet Network Organizing Association (APJII) in 2016 showed that students are the largest internet users in Indonesia with 89.7%. But internet access to education is still very lacking. This problem is necessary to be addressed by educators by directing students to better use the internet in education.

E-learning is one of the forms of internet use that can enhance the role of students in the learning process. Various e-learning services are available both independently managed by institutions using the Learning Management System (LMS) as well as those freely provided by third parties. E-learning is instrumental in complementing a conventional class (face-to-face) instead of replacing a conventional class [1]. According to Novak [2] by using e-learning can improve interactivity and learning efficiency as it gives students higher potential to communicate more with lecturers, colleagues, and access more learning materials.

The willingness of someone in using technological products is heavily influenced by perception. Perception is a process that starts from using the five senses in receiving the stimulus, then organized and interpreted so that it has an understanding of what it senses [3].

FMIPA Universitas Negeri Medan has been for a long time owned e-learning and it has been used as in one form of learning which has been acknowledged by the leader of the university. The lecturers in biology departemen have used e-learning to uploading learning material and doing learning activity by online discussion. The implementation of the learning through e-learning need to examine more to know response of the students on the learning process by e-learning in order to know the form of e-learning desired by student.
research aims to understand biology student perception in learning cell biology matter based on e-learning.

2. Method
This research is descriptive research, with conducted a survey of biology students FMIPA Unimed. Data collected by survey, with sample students of biology department 2018. The step of this research:
1. First, drafting instrument survey for collecting data. Information that is contained in instrument among others: the knowledge of e-learning, the accessibility of e-learning, benefit and problem faced in learning biology cell based e-learning.
2. Second, the survey were tested validity using expert opinions.
3. Third, compiled data with the survey of the biology student 2018 as much as 25 student.
4. The data collected of the students in the form of qualitative and quantitative, who were conducted analysis a sort of descriptive set.

3. Result and Discussion
The data obtained by the survey in response to perception of students in e-learning. The data were converted to percentages based on the aspect of which is observed as well as were presented a sort of descriptive set qualitative based on the student response. Based on the data knowledge about e-learning, as much as 100% of students stated to know e-learning and have access e-learning.

Based on the student's opinion about e-learning, students define e-learning as an online study, in the form of access to learning materials, task collection and discussion. The opinion is according to the definition of e-learning according to [4] stating in the e-learning between learning providers (educators) and students are separated by cyberspace.

In the implementation aspect of learning process by e-learning, obtained data from students as much as 80.76% expressed consent, and 19.24% of students expressed doubt that e-learning support the learning teaching activities as show in Figure 1.

![Fig. 1. Student perception to learning by using e-learning](image-url)

The results of a similar study stated that students demanded the implementation of lectures with full e-learning [5]. The effect of technological developments affecting academics to change their learning [6]. According to Walker [7], technology used in the interactive guide with discussion and can be an instrument for think a high degree of skills. It is very according
to the forms learning using e-learning. In e-learning students have opportunities to obtain information deeper through a discussion and guides material provided by lecturer.

In addition to support student in learning teaching process, e-learning also give positive impact in another aspect according to the student perception. As much as 96.15% student argue that e-learning can help them to access subject matter (Fig 2). It is influenced by the ease of accessing e-learning. In the aspect of ease of access, analysis results show that 100% of students stating e-learning is easy to access. Accessibility is a level of comfort for a person to achieve objectives related to communication behavior [8]. Most of the students access e-learning by going through a web browser both from smartphone and laptop.

Fig 2. Student perception to e-learning in aspect of access subject matter

In the aspects of ease of use, based on the results of the analysis obtained that 52% of students stated e-learning is easy to use, while 48% of students say it is not easy to use (Figure 3). This is caused by students who are not accustomed to use e-learning, and still lack of lecturers who use e-learning so that students do not routinely use e-learning in the learning process. In addition, a person's perception of e-learning affects the willingness to use it or not, and the ease of someone in using technology (e-learning), will influence to the user behavior. [9].

Fig 3. Student perception to e-learning in aspect of ease of use
Although it has many advantages, e-learning has some weaknesses and constraints. According to student perception, e-learning causes them difficulty in understanding the material. A total of 44% of students disagree that e-learning makes it easier for them to understand the material, while the 32% expressed doubt (Fig 4). The remaining 24% said agrees that e-learning helps them understand the material.

The high percentage of students who do not agree that e-learning makes it easier for them to understand the material because of lack of guidance from lecturers in understanding the material. Although they easily access the material through e-learning, they only read the material but not to understand it because there is no guidance from the lecturer to understand the material. It also causes susceptible students to have misconceptions in understanding the material. Based on data analysis, 56 students agreed that e-learning caused the occurrence of misconceptions in learning, while 12% of students expressed disagreement and the remaining 32% expressed hesitation (Fig 5).

In aspect of interaction between students and lecturers, as much as 36% of students do not agree if e-learning facilitates their interaction with lecturers, 12% expressed doubt while the
remaining 52% expressed concur (Fig 6). This is due to the difficulty of student interaction with lecturers than face to face learning. They can only interact through the discussion room. But lecturers are not always active in the discussion room. This causes students to be less interested in e-learning. A total of 48% of students expressed disagreement if e-learning was more attractive than face to face learning, while 16% expressed doubt and 36% expressed concur.

![Fig 6. Student perception to e-learning in aspect of interaction between students and lecturers](image)

4. Conclusion

Students have a good perception of e-learning, it is influenced by the knowledge and experience of students in using e-learning. As much as 100% of students stated to know e-learning and have access e-learning. In the implementation aspect of learning process by e-learning, 80.76% expressed consent that e-learning support the learning teaching activities. A total of 96.15% student argue that e-learning can help them to access subject matter. Although it has many advantages, e-learning has some weaknesses and constraints. According to student perception, e-learning causes them difficulty in understanding the material. A total of 44% of students disagree that e-learning makes it easier for them to understand the material because of lack of guidance from lecturers in understanding the material. Based on data analysis, 56 students agreed that e-learning caused the occurrence of misconceptions in learning. In aspect of interaction between students and lecturers, as much as 36% of students do not agree if e-learning facilitates their interaction with lecturers. Further research need to addressed this problems.

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