AN ANALYSIS OF STUDENTS' LEARNING STYLES ON MICROBIOLOGY LECTURES IN THE NEW NORMAL ERA

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INFO ARTIKEL	*ABSTRACT*
  	Background: Currently, education is in the stage of knowledge, and the increase in knowledge is accelerating amazingly. This accelerating increase in knowledge is being supported by the application of digital media and technology called the Information Super Highway. **Objective:** Analyze the learning styles on microbiology lectures for students in the new normal era. **Methods:** Non-experimental with quantitative data. The population were all the third semester students majoring in Biology, Universitas Negeri Medan who studied microbiology consisting of 6 classes totaling 180 people. The sample consisted of 3 classes of 60 people who were taken randomly using random sampling technique. The data analysis technique was carried out using inferential statistics. **Results:** That the visual learning style obtained 71%, the audio learning style obtained 64% in the good category and the kinesthetic learning style obtained 63% all in the good category. Of the three learning styles, the highest percentage is in the visual learning style. **Conslusion:** It was concluded that 71% of the students' perspective learning styles, 64% of the audio learning styles belonged to the excellent category, and 63% of the kinesthetic learning styles belonged to the good category. The highest percentage of the three learning styles was found in the visual learning style.

Pendahuluan

Currently, education is in the phase of knowledge with an extraordinary acceleration of increasing knowledge. This accelerated increase in knowledge is supported by the application of digital media and technology called the information super highway. Since the internet was introduced to the commercial world in the early 1970s, information has become increasingly distributed throughout the world so that everyone can easily access knowledge and skills (Komara, 2018). Thus, it can be said that the internet or digital technology is a means of delivering information or news. With digital technology, information is distributed more quickly throughout the world,

for that it is very important to master at least know the digital technology. Thus, a person can access news, situations and even lessons that can finally make it easier for someone to know the changes.

Learning is change, meaning that learning requires digital technology as stated by North Central Regional Educational Laboratory (NCREL) and Metiri Group, 21st century technology and skills are intrinsically interrelated, because learning requires the use of technology that supports mastery skills. Information, media and technology will support the learning of 21st century skills. So that by maximizing the use of technology using software, hardware and internet networks for the needs of the learning process, they are able to master the 21st century skills needed by students.

This study is important because in the new normal era, all education circles, both students and even students, must also learn to use technology. Students must learn independently even though distance learning with lecturers uses technology. Therefore, researchers want to know the learning styles with the technological capabilities they have in this new normal era.

Based on the results of observations conducted to 40 students in the Department of Biology Education who took virtual classes, there were 20 students who did not understand the History, Microbiology and Microbial Cell Structure presented or delivered. This was caused by the lack of interaction during activities between lecturers and students. There was even a network error so that students only participated in half of the subject matter and in the end students did not do what they were supposed to do. This will affect student activity in the learning process and will affect student learning outcomes.

In following the learning process, each student has the different learning styles from one student to another. Therefore, every lecturer in teaching must pay attention to the learning style of his students. Lecturers' lack of understanding of student learning styles has a detrimental effect on students. This will result in student learning achievement is not in accordance with the level of intelligence ability of the student. Maximizing critical thinking skills by empowering their thinking skills through an approach that can be applied, one of which is by applying a contextual approach, students involve thinking processes, sharing among friends, asking questions, observing, discovering, reflecting, and constructing (Sulastri & Rochintaniawati, 2009). Therefore, lecturers must know and recognize each student's learning style so that it can facilitate the learning process (Papilaya & Huliselan, 2016). According to (Erwinsyah, 2017) suggested that learning style is a consistent way that is done by a student in capturing stimulus or information, how to remember, think and solve problems.

Internal factors are factors that come from within students and one of them is learning style. Learning style is a combination of ways to process, absorb and process information (Djalil, 2015). Meanwhile, according to (Putri et al., 2019) also shows that there is a significant influence of learning style on learning achievement. The meaning of this research is that different student learning styles or ways can cause student learning outcomes in schools to be different. If the student's learning style is good and

efficient, the level of student learning outcomes is also high. If the student's learning style is not good and efficient, then the level of achievement of student learning outcomes in schools also decreases. Therefore, this study required to be conducted in relation to learning styles.

Metode Penelitian

This study was carried out in the Biology Department, Faculty of Mathematics and Natural Sciences, Universitas Negeri Medan in 2020/2021, which is located at Jalan Willem Iskandar Pasar V, Medan, North Sumatera.

The population were all the third semester students majoring in Biology, Universitas Negeri Medan who studied microbiology consisting of 6 classes totaling 180 people. The sample consisted of 3 classes of 60 people who were taken randomly using random sampling technique.

This study was a non-experimental with quantitative data. In describing the correlation between variable X and variable Y, this study was classified as Ex-post Facto with a correlational approach, because the independent variables have occurred when the researcher starts by observing the dependent variable. In addition, this study involved the act of collecting data to determine whether there was a relationship and the degree of relationship between the five variables.

In quantitative research, the instrument was a set of questionnaire based on the Google Form application. In the google form, it contains the characteristics of each learning style. The extension of the researcher's participation allows an increase in the degree of confidence in the data collected.

After the data was collected from the results of data collection, data analysis was then immediately carried out. The data analysis technique was carried out using inferential statistics, because Ex-Post Facto with a correlational approach whose purpose is not only to describe, but also to generalize the results of research conducted on samples to the population. This was supported by (Kadji, 2016) who mentioned that if the research wants to make conclusions that apply to the population, the data analysis technique used is inferential statistics

Hasil dan Pembahasan

From the results of students' learning styles were grouped into three types: visual, audio, and kinesthetic. The data obtained as presented in Table 1.

Table 1
Results of Students' Learning Styles

No	Learning Styles	Total of Students	Total	Percentage (%)	Average	Category
1	Visual	22		71		
2	Audio	8	60	64	66	Good
3	Kinesthetic	30		63		

From the table aforementioned, it could be explained that all of students' learning styles were in the good category with 66%. The description of each learning style followed by: students' visual learning style was 71% in the good category, the audio learning style was 64% in the good category and the kinesthetic learning style was 63% in the good category. Of the three learning styles, the highest was found in the visual learning style. It could be interpreted that visual learning style was more dominantly used by students than audio and kinesthetic learning styles.

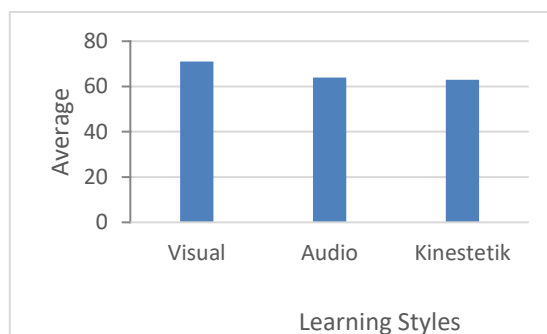The results of frequency distribution of students' learning styles as presented in Figure 1.

Figure 1
Frequency Distribution of Students' Learning Styles

The results of students' learning styles were in the good category. The mean score was obtained by 66% in microbiology lectures for students in the Biology Department during the new normal era. As mentioned that students' visual learning style was 71%, audio learning style was 64% and kinesthetic learning style was 63% were all in the good category.

According to (Rijal & Bachtiar, 2015) explained that students who have a visual learning style possess a relatively good tendency than students who have an audio and kinesthetic learning styles. According to (Irawati et al., 2021) suggested that students who have a visual learning style possess a relatively good tendency than students who have an audio and kinesthetic learning styles.

According to (Papilaya & Huliselan, 2016) stated that students' learning styles have more visual learning styles compared to auditory and kinesthetic learning styles: 43.1% students have more than one learning style; 6.9% have visual-auditorial learning styles; 6.9% have a visual-kinesthetic learning styles and 6.9% have an auditory-kinesthetic learning styles. Likewise, (Sembiring & Situmorang, 2015) explains that students who have a tendency for visual learning styles are relatively good than students who have auditory learning styles and kinesthetic learning styles.

Explained that students who have a tendency to visual and auditory learning styles are relatively good than students who only have kinesthetic learning style. According to (Ahisya et al., 2020) explained that students have a relatively better kinesthetic learning style tendency than students who have visual and auditory learning styles. According to

(Tanta, 2010) explained that students who have a visual learning style possess a relatively good tendency than students who have an audio and kinesthetic learning styles.

Learning styles can determine a child's learning achievement. If given a strategy that suits their learning style, children can develop much better (Thobroni, 2015) Students with visual learning styles have elements of both auditory and kinetic learning styles. Students with auditory learning style have elements of visual and kinesthetic learning styles as well as students with kinesthetic, it turns out that they also have elements of visual and auditory learning styles (Purwoko, 2014). In general, learning styles are the way we prefer and make us comfortable in doing activities of thinking, processing and understanding information. According to (Situmorang, 2013) states that learning style is a way of recognizing various preferred learning methods that may be more effective for these students.

Kesimpulan

It could be concluded that students' visual learning style obtained 71%, audio learning style obtained 64% in the good category and kinesthetic learning style obtained 63% were all in the good category. Of the three learning styles, the highest percentage was found in the visual learning style.

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