Responses of Pre-Service Chemistry Teachers at UIN Walisongo Semarang towards e-Learning Management System during Covid-19 Pandemic

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Abstract: This study aims to analyze the response of UIN Walisosngo Semarang students to the e-learning system during the COVID-19 pandemic. Quantitative descriptive is the method used in this study with the research instrument in the form of a response questionnaire given to students using the google form. The subjects of this research are 21 pre-service chemistry teacher. The results showed that the e-learning learning media applied during online learning was very beneficial for students. This is evidenced by the student's response to the questions given at the time of filling out the questionnaire by showing quite positive results with an average of 63.81% who answered agree. Based on the data obtained from the research, it shows that e-learning can be applied in online learning at UIN Walisongo Semarang. However, the use of e-learning must always be improved to achieve better learning goals.

Keywords: e-learning management system, pre-service chemistry teachers, covid-19 pandemic.

Abstrak: Penelitian ini bertujuan untuk menganalisis respons mahasiswa UIN Walisosngo Semarang terhadap sistem e-learning selama pandemi COVID-19. Deskriptif kuantitatif merupakan metode yang digunakan dalam penelitian ini dengan instrument penelitiannya adalah berupa angket respons yang diberikan kepada mahasiswa menggunakan google form. Subjek dari penelitian ini mahasiswa Pendidikan Kimia yang berjumlah 21 (dua puluh satu) orang. Hasil dari penelitian menunjukkan bahwa media pembelajaran e-learning yang diimplementasikan selama pembelajaran daring sangatlah bermanfaat bagi mahasiswa. Hal ini dibuktikan dengan respons mahasiswa terhadap pertanyaan yang diberikan pada saat pengisian angket dengan menunjukkan hasil cukup positif dengan rata-rata yang menjawab setuju sebesar 63,81%. Berdasarkan data yang didapatkan dari penelitian menunjukkan bahwa e-learning dapat diterapkan dalam pembelajaran online di UIN Walisongo Semarang. Namun penggunaan e-learning tersebut harus selalu ditingkatkan untuk mencapai tujuan pembelajaran yang lebih baik lagi

Kata kunci: sistem menejemen pembelajaran daring, calon guru kimia, pandemi covid-19.

▪ **INTRODUCTION**

The world of education has undergone significant changes due to the outbreak of the COVID-19 pandemic. The impact of these changes affects the concept of learning and learning media used in the learning process (Hidayah, 2019). The COVID-19 pandemic has threatened human lives in all parts of the world and has had a negative impact on various aspects of life, including economic aspects, tourism, trade, and education (Hebebci, Bertiz, & Alan, 2020).

The COVID-19 pandemic has had a significant impact on the world of education after the health sector. Learning in the era of the COVID-19 pandemic must be designed according to the circumstances. Learning activities that were originally carried out face-to-face turned into distance learning. Distance learning in Turkey, education is provided via television and the internet by The Ministry of National Education. This is done to reduce mobility which aims to suppress the increase in cases of the COVID-19 pandemic (Nengrum, Pettasolong, & Nuriman, 2021). The application of distance learning requires teachers/lecturers to find the best solution so that learning can still be delivered properly (Simamora, 2020). One of them is by providing learning materials through *online media*.

Learning carried out remotely still provides opportunities for students to be directly and actively involved in learning (Maulana & Hamidi, 2020). Distance learning must pay attention to several components, namely technology and the characteristics of teachers and students (Pangondian, Santosa, & Nugroho, 2019). Technology is important in distance learning because the learning carried out must involve existing digital technology (Nurhayati & Wahyuni, 2020). The progress of digital technology that exists today is the impact of the era of industrial revolution 4.0 where technology and information are the main actors in all aspects of life (Rymarczyk, 2020).

Keeping up with the pace of technological development and being able to utilize and implement technology is a form of self-improvement so as not to create a gap between education and technology. Thus, the use of technology in *online learning media* such as *e-learning* is one aspect that is able to improve self- quality in learning both synchronously and asynchronously mediated by technology without being limited by place and time (Samir Abou El-Seoud, Taj- Eddin, Seddiek, El-Khouly, & Nosseir, 2014). *E-learning* can also be interpreted as a technological system that can be used to increase student motivation and education (Mateo, Rey, & Hernández, 2010). Teaching topics can be made visually in various formats and forms that are not static and interactive so that students will be encouraged to be actively involved in the learning process (Sun, 2019). However*, online learning* through *e-learning* has obstacles when running it, such as in terms of human resources including lecturers, teachers, parents, and students who are not fully ready to face conditions like this (Azzahra, 2020). Another obstacle is the absence of direct interaction with friends and lecturers, so that it affects the decline focus on learning, material understanding, and student mentality (Hidayatulah, Astuti, & Simanjuntak, 2021). Online learning through *e-learning* is also implemented at UIN Walisongo Semarang. Based on the case study , this study aims to identify and understand the responses of students of the Department of Chemistry Education to the application of *E-learning is* a learning system used during the COVID-19 pandemic.

▪ **METHOD**

Descriptive research with a quantitative approach (Atmowardoyo, 2018) is the method used in this research. Descriptive research method aims to determine the state of an object. The population in this study were students of the Faculty of Science and Technology UIN Walisongo Semarang. The sample in this study were 21 students of the Department of Chemistry Education, Faculty of Science and Technology, UIN Walisongo Semarang. The sample was taken because it could represent the students of the Faculty of Science and Technology UIN Walisongo Semarang.

The instrument in this study was a response questionnaire given to students using a google form. Questionnaire is defined as a series of written questions regarding a particular problem with available media for answers to each question. Questionnaire is a research tool or survey consisting of a series of written questions, which aims to obtain responses from selected groups of people through personal interviews, or it can also be referred to as a list of questions. The use of the questionnaire aims to make it easier for students to give their responses because students do not need to use long answers. The response questionnaire contains 10 questions related to online learning using e-learning. Through the questionnaire, it is hoped that it can be used to identify student responses to the application e-learning during online learning.

The data analysis in this study is an analysis of student responses. Analysis of student responses from the results of the answers that have been given in the questionnaire is processed using the formula:

$$\text{Student response (\%)} = \frac{score\ obtained}{score\ maximal}$$

The student response categories are based on the table below:

Table 1. Category of Student Response Interpretation Based on the Gutman Scale Scale

Average score (%)	Category
85-100	Very positive
70-84.9	Positive
55-69.9	Pretty positive
40-54.9	Less positive
25-39.9	Negative

Student responses are declared positive if the average score of positive responses obtained is 75%.

▪ **RESULT AND DISCUSSION**
Research result

The results of the study stated that in general student responses to the use of e-learning in online learning is positive. The following is the data on the results of student responses:

Table 2. Student Response Result Data

Numb	Questionnaire	% Amount	
		Agree	**Do not agree**
1	Are learning activities through *e-learning* more effective than learning through *WhatsApp, Google Meet, Zoom, Microsoft Teams,* and *Google Class* ?	38.1%	61.9%

2	Learning through *e-learning* gives you the flexibility to access and study the materials/teaching materials provided	81%	19%
3	Does learning through *e-learning* provide an opportunity for you to be actively involved during the learning process?	52.4%	47.6%
4	Learning through *e-learning* can train your learning independence	95.2%	4.8%
5	Learning through *e-learning* makes you more interested in learning	38.1%	61.9%
6	Learning carried out through *e-learning* has been effective and efficient in carrying it out	57.1%	42.9%
7	Learning activities through *e-learning* make it easier for you to understand the material	52.4%	47.6%
8	Learning activities through *e-learning are* boring	66.7%	33.3%
9	Learning activities through *e-learning* involve showing teaching materials in the form of video, audio, discussion, and reflection is enough	85.7%	14.3%
10	Can learning activities through *e-learning* motivate you to study the material more deeply?	71.4%	28.6%
	Average	63.81%	36.19%

Are learning activities through e-learning more effective than learning through WhatsApp, Google Meet, Zoom, Microsoft Teams, and Google Class?

Analysis of student responses showed that students who agreed were 38.1% and disagreed by 61.9%. These results indicate that according to the respondents the use of e-learning is not more effective than learning through WhatsApp, google meet, zoom, Microsoft teams, *and google classes.* Based on research conducted by (Putu Diah Pebriyanti, 2020). The ineffectiveness of using e-learning is due to a tendency to ignore academic or social aspects and instead encourage business/commercial aspects. Other studies also state that there are several weaknesses in the use of e-learning, including students who do not have a high enthusiasm for learning so they tend to fail to understand the system, not all places have internet facilities, and lack of human resources in mastering computer programming languages.

Learning through e-learning gives you the flexibility to access and study the materials/teaching materials provided?

Analysis of student responses showed that students who agreed were 81% and disagreed by 19%. These results indicate that students give a very positive response. Learning using e-learning provides flexibility for students to learn and access the material being studied. Based on the application of "patrap triloka", students have the flexibility to develop all their potential through collaborative, cooperative and contextual learning (Susianto, 2014). This can be achieved in online learning using e-learning.

Does learning through e-learning provide an opportunity for you to be actively involved during the learning process?

Analysis of student responses showed that students who agreed were 52.4% and 47.6% disagreed. These results indicate that students gave a pretty positive response.

Learning using e-learning provides opportunities for students to be actively involved in learning. The quite positive response from these students is also supported by research conducted (Astuti & Febrian, 2019), showing that students can be actively involved in online learning through e-learning. Students are free to ask questions and provide suggestions through e-learning than in face-to-face learning in class.

Learning through e-learning can train your learning independence?

Analysis of student responses showed that students who agreed were 95.2% and disagreed by 4.8%. These results indicate that students give a very positive response. Online learning using e-learning is able to train students' independence in learning. Research conducted by (Elyas, 2018), shows that learning using e-learning is able to train students to study independently. Students design and search for learning resources through their own initiative.

Learning through e-learning makes you more interested in learning?

Analysis of student responses showed that students who agreed were 38.1% and disagreed by 61.9%. These results indicate that students gave negative response. Based on the responses obtained, it shows that the use of e-learning in online learning cannot increase student interest in learning. The factors that influence these problems are the lack of creativity in utilizing the e-learning system so that students feel bored, lack of interest in learning and network constraints that are often encountered by students so that they do not feel comfortable in running the system whose impact will affect the student psychology.

Learning carried out through e-learning has been effective and efficient in carrying it out?

Analysis of student responses showed that students agreed 57.1% and disagreed by 42.9%. These results indicate that students gave a pretty positive response. According to (Balaji, Al-Mahri, & Malathi, 2016) e-learning can improve communication and learning efficiency because it gives students the opportunity to access more learning materials.

Learning activities through e-learning make it easier for you to understand the material?

Analysis of student responses showed that students who agreed were 52.4% and disagreed by 47.6%. These results indicate that students gave a pretty positive response. This is because students can access and re-learn the material that has been studied without being limited by space and time.

Learning activities through e-learning are boring?

Analysis of student responses showed that students who agreed were 66.7% and 33.3% disagreed. These results indicate that students gave a pretty positive response. Based on the responses obtained, it shows that the use of e-learning in online learning does not make students bored in learning.

Learning activities through e-learning involve showing teaching materials in the form of videos, audio, discussions, and reflections it's enough

Analysis of student responses showed that students who agreed were 85.7% and disagreed 14.3%. These results indicate that students give a very positive response.

Based on research (Ota, 2021), e-learning is a learning media used by educators to deliver learning materials in the form of pdf, word, ppt, pictures, videos, assignments, student attendance and feedback.

Can learning activities through e-learning motivate you to study the material more deeply?

Analysis of student responses showed that students who agreed were 71.4% and 28.6% disagreed. These results indicate that students give a positive response. Based on the responses obtained, it shows that the application of e-learning in online learning can motivate students to study the material more deeply.

▪ **CONCLUSION**

Analysis of the response of Chemical Education students at UIN Walisongo Semarang to the e-learning system as a learning medium is quite positive with an average of 63.81% who answered agree. Based on the data obtained from the research that has been determined, it indicates that e-learning can be applied in the online learning process at UIN Walisongo Semarang. However, the use of e-learning must always be improved to achieve better learning goals.

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