USABILITY MEASUREMENT OF GOOGLE CLASSROOM APPLICATIONS AS E-LEARNING FOR STUDENTS OF DEPARTMENT OF BUILDING ENGINEERING EDUCATION IKIP GUNUNG SITOLI

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Abstract

This study aims to determine the level of usefulness of the Google Classroom application by distributing questionnaires to respondents. This research was a case study research. The results of the questionnaire were measured using a Likert scale. Google classroom was an open source application from Google that can be used for learning systems or can be called e-learning. This application is a new application and still a few are using it in the learning system in schools and colleges. From the measurement results it will be known the level of usability value of the google classroom application which was used as e-learning for students in the IKIP Gunungsitoli Building Engineering Education study program.

Keywords: Google classroom, usability, Likert scale.

Introduction

Learning is a process, way, act of making people or living things learn. The previous definition stated that a human being can see in the changes that occur, but not learning itself. The concept is theoretical, and thus not directly observable.

In today's digital era, most of the human needs are met by online systems. There are so many applications that are made to simplify work and human needs, as well as in the world of education. Many online applications are used in the world of education, for example school and campus websites, academic information systems, and others.

This research is motivated by the implementation of lectures for students and also the learning process for students which is carried out online / online. This is caused by the Corona virus pandemic which is hitting the world, including Indonesia. Through the Minister of Education giving instructions that all learning activities must be carried out online / online to stop the spread of the corona virus.

In carrying out the intended learning process, students / learners are required to be able to master technology that can help them in learning online. One of the technologies that is widely used by Lecturers / Teachers is Google Classroom.

This application is a free service from Google that can be used in the learning system as e-learning. This application includes applications especially in the Department of Building Engineering Education of IKIP Gunungsitoli. In this study program, they started using the Google Classroom application service as e-learning. To find out the level of usability using this application, we will measure the level of usability by using the questions in the questionnaire, while to find the value, a Likert scale is used on a scale of 1 to 4. Google classroom is considered to be one of the best platforms to improve Lecturers' workflow. This application provides a powerful feature set which makes it an ideal tool.

Research Method

Population relates to all groups of people, events, or objects that are the center of research attention for research. The sample is a part of the population. This includes a selected number of members of the population. The number of respondents involved in this study were 10 respondents from a population, namely students in the Department of Building Engineering Education of IKIP Gunungsitoli.

The method of data collection was done by using a questionnaire method, which is distributing questionnaires to students via Google form. Measurement of the results of the questionnaire was carried out using a Likert scale which was divided into a scale of 1 to 4, namely Strongly Disagree (STS), Disagree (TS), Agree (S) and Strongly Agree (ST) with the scores of each scale in table 1 below:

Table 1. Scale values

Pertanyaan	STS	TS	S	SS
Nilai	1	2	3	4

This research follows the steps that will be taken to achieve the desired goals, which are as shown in Figure 1 below:
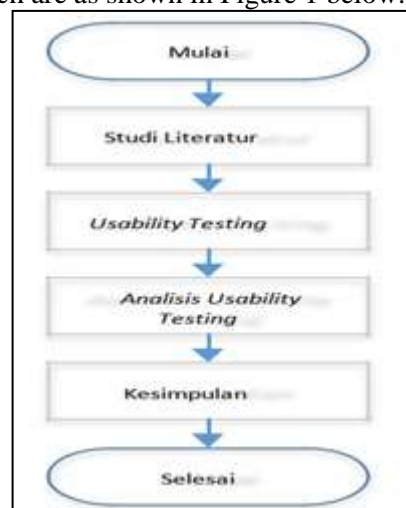

Figure 1. Research Flow

Information :
Literature Study: Search for references on google classrooms, usability and Likert scale
Usability testing: distributing questionnaires to respondents

Usability testing analysis: Recording the results of filling out the questionnaire and calculating the usability value

Conclusion: Drawing conclusions from the usability value

Result and Discussion

The first step in usability testing was arranged questions that will be used for questionnaires and distributed to respondents who have been selected in a population within the scope of the Deparment of Building Engineering Education, IKIP Gunungsitoli.

The questions in the questionnaire are 16 questions which are divided into 4 factors, namely usefulness, satisfaction, ease of use, and ease of learning.

After distributing the 16 questions in the questionnaire to 20 respondents, then a recap was carried out on the results of the questionnaire. The assessment was carried out using a Likert scale with a scale of 1 to 4, namely STS (1), TS (2), S (3), and SS (4). The results of the recapitulation can be seen in Table 2 below:

Tabel 2. The results of the assessment recap

Faktor	No	Pertanyaan	Penilaian	Rata-rata Penilaian Tiap Faktor
Usefulness	1	Aplikasi ini membantu anda menjadi lebih efektif	2,8	
	2	Aplikasi ini membantu anda menjadi lebih produktif	2,8	2,95
	3	Aplikasi ini berguna	3,1	
	4	Aplikasi ini dapat menghemat waktu saat anda menggunakannya	3,1	
Ease of use	5	Aplikasi ini mudah digunakan	3,25	
	6	Aplikasi ini sederhana untuk digunakan?	3,3	
	7	Aplikasi ini user friendly	3,05	3,15
	8	Anda menggunakannya tanpa intruksi tertulis	3	
	9	Anda dapat melakukannya recovery dengan cepat dan mudah ketika membuat kesalahan	3,15	
Ease of learning	10	Anda mempelajari penggunaanya dengan cepat	3,15	3,25
	11	Anda mudah mengingat bagaimana cara menggunakannya	3,35	
Satisfaction	12	Anda puas dengan aplikasi ini	3,05	
	13	Aplikasi ini menyenangkan untuk digunakan	3,2	
	14	Cara kerja aplikasi ini sudah seperti yang anda inginkan	3	3,09
	15	Aplikasi ini luar biasa	3,05	
	16	Aplikasi ini nyaman untuk digunakan	3,15	

The following is a Graph of Usability Measurement for the Google Classroom Application as E-learning in the Department of Building Engineering Education of IKIP Gunungsitoli based on the data in table 2.
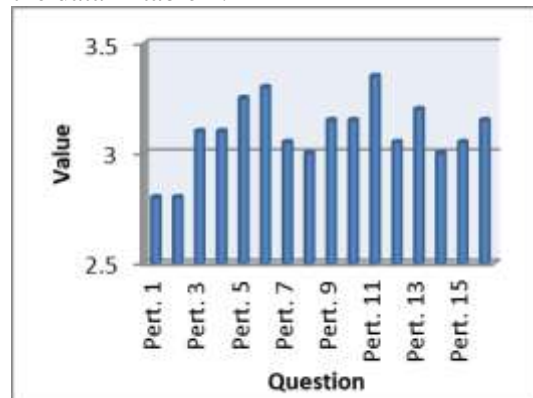

Figure 2. Graph of Usability Measurement of Google Classroom Application for E-learning in Department of Building Engineering Education of IKIP Gunungsitoli.

Table 2 shows the value of each factor contained in usefulness, ease of use, ease of learning, and satisfaction. For each factor, an average value for usefulness = 2.95; can be obtained; ease of use = 3.15; ease of learning = 3.25; and satisfaction = 3.09.

If adjusted for each factor, it can be said that the Google Classroom application used by students in The Department of Building Engineering Education of IKIP Gunungsitoli as e-learning has a good value.

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From the results of this value each factor can be interpreted as follows:

1. The usefulness factor value is 2.95 which indicates that the Google Classroom application has had a bad use, meaning that this application is not appropriate if used as e-learning.
2. The value of the ease of use factor is 3.15 which indicates that the Google Classroom application has good ease of use, meaning that this application has no difficulties in the process of using it.
3. The value of the ease of learning factor is 3.25 which indicates that the Google Classroom application has a lack of ease in learning, meaning that this application has no difficulty in the learning process to use it.
4. The satisfaction factor value is 3.09 which indicates that the Google Calssroom application has good satisfaction, meaning that this application is satisfactory in its use as e-learning. This is also influenced by the ease of use factor and good ease of learning which causes the satisfaction score to be good.

Conclusion

The recap results of usability assessments on the ease of use, ease of learning, and satisfaction factors show a good value, while the usefulness factor shows a less good value. This is because the use of the Google Classroom application is not quite useful for several courses, especially in the Building Engineering Education study program. So if the usability factor is not good, then the use of the Google Classroom application must be adjusted to the courses that can be supported by Google Classroom.

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