

## **The Effectiveness of Using E-learning at SMA Negeri 4 Gowa**

**Muh. Darwis<sup>1</sup>, Erwin<sup>2</sup>, Sirajuddin Saleh<sup>3</sup>, Jamaluddin<sup>4</sup>, Muh. Nasrullah<sup>5</sup>**  
Universitas Negeri Makassar<sup>1</sup>

Email: [muh.darwis@unm.ac.id](mailto:muh.darwis@unm.ac.id)

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### **ABSTRACT**

*This research was conducted for students of SMA Negeri 4 Gowa. This study aims to determine 1) the existence of content or learning materials that are relevant to the learning objectives, 2) use appropriate learning methods, 3) use learning media in various formats such as text, visual, video, multimedia, and others, 4) can occur synchronously or asynchronously. The research method used is quantitative research with a population of 585 people and a sample of 88 respondents. Data collection techniques used are observation, questionnaires, interviews, and documentation. The data analysis technique used is a descriptive percentage and distribution analysis. The results showed that the effectiveness of the use of e-learning at SMA Negeri 4 Gowa was classified as effective in terms of indicators of the existence of content or learning materials that were relevant to the learning objectives, using appropriate learning methods, using learning media in various formats such as text, visual, video, multimedia, etc., and can occur synchronously or asynchronously. To achieve effective use of e-learning, efforts are made to increase student interest in learning and also the availability of learning services to support the online learning process in the COVID-19 pandemic era.*

*Keywords: Effectiveness, work environment, employees*

### **INTRODUCTION**

Along with the development of the world of information technology which is currently growing rapidly, making humans experience changes and growth of a need towards a more complex direction. Starting from the fields of government, economy, education, and others (Darwis, Niswaty, & Arhas, 2021; Feller et al., 2020; Radhiyani, 2018). In the field of government, we often hear the term e-government, and also in the economic field, there is the term e-commerce which can be interpreted as buying and selling transactions carried out electronically via the internet. (Bhatti et al., 2020; Mensah, 2020; Mensah, Zeng, & Luo, 2020). Not only that, but in the economic field, there are also terms e-business, e-marketing, and so on (Al-Omoush, Simón-Moya, & Sendra-García, 2020; Octavia et al., 2020). As well as in the field of education, it is very popular among people who use information technology-based learning systems to deliver learning with the term e-learning. This learning is supported by the availability of electronic media whose quality is increasingly sophisticated (Niswaty & Arhas, 2019; Sirait, Arhas, & Suprianto, 2019; Syam & Sudarmi, 2019).

In the field of education, information technology has become the most important part of supporting learning among teachers and students. Especially in the 4.0 era or

better known as the industrial revolution, encouraging the government to make innovations to facilitate communication in the learning process. By utilizing various learning applications, group chat applications, and other applications, the interaction between teachers and students becomes more effective.

One of the countries affected by COVID-19 is Indonesia, to prevent the transmission of the virus, the government has issued several policies, one of which is social distancing or what we often call social distancing, the use of masks, to large-scale social restrictions or PSBB. With conditions like this, people are encouraged to stay at home, worship from home, work from home and study from home (Suprianto, Arhas, & Mahmuddin, 2020; Takdir, Baharuddin, Arhas, & Irman, 2021). Such conditions make the Indonesian government through the ministry of education to make an innovation in the teaching and learning process. One of them is by learning online or learning in a network (online) by utilizing e-learning.

Online learning or distance learning aims to meet educational standards by utilizing the sophistication of information technology by using computers, laptops, and mobile phones that are connected between teachers and students. (Rizun & Strzelecki, 2020; Schneider & Council, 2020; Sutiah, Slamet, Shafqat, & Supriyono, 2020; Traxler, 2018). For the communication media used in the learning process, many applications are equipped to support student learning, such as google classroom, WhatsApp group, zoom, and others.

SMA Negeri 4 Gowa, has implemented online or online learning by utilizing e-learning in the daily learning process. There are several learning media used, such as google classroom, WhatsApp group, and zoom.

Seeing the fact that some students who take part in online learning activities have difficulty following the learning process because of poor internet connections and the delivery of material by the teacher does not attract students' attention. This is indicated by the number of students who do not understand the material because they do not pay attention to the material presented by the teacher which results in the learning process being less than optimal. In addition, internet quotas are an obstacle in online learning activities because there is no quota subsidy from the government. However, this problem can be resolved because at the beginning of October the government has provided a quota subsidy to educators and also students throughout Indonesia with the aim that the learning process continues amid the COVID-19 pandemic.

## **METHOD**

The variable in this study is a single variable, namely the effectiveness of the use of e-learning in SMA Negeri 4 Gowa. The approach used in this research is quantitative. With this kind of descriptive research, as said (Sugiyono, 2015) that "descriptive research is research conducted to determine the value of independent variables, either one or more (independent) variables without making comparisons or connecting between one variable and another variable".

To measure this variable using a questionnaire instrument using a Likert scale based on variable indicators. The population is all people in an organization according to the specified characteristics which is a source of information to answer research problems. The population in this study were all students of SMA Negeri 4 Gowa, totaling 186 people.

The sample is part of the population, or it can also mean part of several residents whose numbers are less than the population. The sample is part of the number and characteristics possessed by the population. Because the population in this study was more than 100 students, the researchers conducted a sampling with the total population taken as much as 15% so that the sample in this study was 88 respondents. The sampling technique used is simple random sampling. Data collection techniques used in this study were observation, questionnaires, interviews, and documentation.

One activity that is quite important in the research process is data processing. With data processing, it can be seen the meaning of the data that has been collected so that the results of the study can be immediately known. The data analysis technique used in this study is descriptive statistical analysis, for that the data analysis technique used is percentage analysis by presenting each statement to determine the effectiveness of the use of e-learning in SMA Negeri 4 Gowa.

## RESULTS OF RESEARCH AND DISCUSSION

Content or learning materials that are applied in the learning process in the network become a necessity. In learning by utilizing e-learning, it would be nice if there is content or material relevant to the learning objectives so that the learning process can run effectively. As for the results of data processing regarding indicators of content or learning materials that are relevant to learning objectives, namely:

**Table 1.**

**Respondents' Answers for Indicators of Content or Learning Materials Relevant to Learning Objectives**

Number	Frequency					Value X Frequency					Amount
	5	4	3	2	1	5	4	3	2	1	
1	65	18	4	1	0	325	72	12	2	0	411
2	11	21	48	6	2	55	84	144	12	2	297
3	13	32	34	8	1	65	128	102	16	1	312
4	24	31	29	4	0	120	124	87	8	0	339
<b>Total</b>											1359

Source: Research data processing, 2021

To determine the level of effectiveness of the use of e-learning in SMA Negeri 4 Gowa by looking at the results of the indicators of the existence of content or learning materials that are relevant to the learning objectives, the formula is used:

$$\% = \frac{n}{N} \times 100$$

$$\% = \frac{1359}{4 \times 5 \times 88} \times 100$$

$$\% = \frac{1359}{1760} \times 100$$

$$= 77.22 \%$$

Based on the results of observations and results of data analysis above, it shows that indicators regarding the existence of content or learning materials that are relevant to learning objectives are included in the effective category with the results obtained by 77.22 percent in the 61% - 80% category. It was reviewed that SMA Negeri 4 Gowa had provided content or learning materials that were relevant to the learning objectives. Where teachers are considered routinely deliver learning materials related to the subjects taught at the time of learning. The delivery of material from the teacher is also easy for students to understand because it uses content in the form of interesting animated images and videos. However, based on the results of data processing, several respondents think that teachers have not implemented a learning system using maximum learning content.

The learning method is a systematic and regular process carried out by teachers or educators in delivering material to their students. A teacher should use appropriate learning methods to create effective and efficient teaching and learning process.

**Table 2.**  
**Respondents' Answers for Indicators Using Appropriate Learning Methods**

Number	Frequency					Value X Frequency					Amount
	5	4	3	2	1	5	4	3	2	1	
5	54	22	12	0	0	270	88	36	0	0	394
6	35	27	19	6	1	175	108	57	12	1	353
7	16	28	37	7	0	80	112	111	14	0	317
8	27	27	29	3	2	135	108	87	6	2	338
9	20	28	34	3	3	100	112	102	6	3	323
10	61	20	7	0	0	305	80	21	0	0	406
11	59	20	7	1	1	295	80	21	2	1	399
12	22	27	31	7	1	110	108	93	14	1	326
13	46	32	9	1	0	230	128	27	2	0	387
14	59	17	10	2	0	295	68	30	4	0	397

<b>15</b>	28	27	26	6	1	140	108	78	12	1	339
<b>16</b>	27	25	30	5	1	135	100	90	10	1	336
<b>Total</b>											4315

Source: Research data processing, 2021

To determine the level of effectiveness of the use of e-learning in SMA Negeri 4 Gowa by looking at the results of indicators using appropriate learning methods, the formula is used:

$$\% = \frac{n}{N} \times 100$$

$$\% = \frac{4315}{12 \times 5 \times 88} \times 100$$

$$\% = \frac{4315}{5280} \times 100$$

$$= 81.72 \%$$

Based on the results of observations and results of data analysis above, it shows that indicators regarding the existence of content or learning materials that are relevant to learning objectives are included in the effective category with the results obtained by 77.22 percent in the 61% - 80% category. It was reviewed that SMA Negeri 4 Gowa had provided content or learning materials that were relevant to the learning objectives. Where teachers are considered routinely deliver learning materials related to the subjects taught at the time of learning. The delivery of material from the teacher is also easy for students to understand because it uses content in the form of interesting animated images and videos. However, based on the results of data processing, there are several respondents who think that teachers have not implemented a learning system using maximum learning content. According to Clark and Mayer in Prawiradilaga (2016) "There is content or learning material that is relevant to the learning objectives. That is, in the learning process on the network there is material or content related to learning objectives. This is supported by the results of research based on respondents' answers that respondents assume that in the learning process, the teacher always conveys learning material related to the subjects being taught, students sometimes easily understand the learning material delivered by the teacher if the teacher explains it with examples and when explaining the material, the internet connection is good, the teacher sometimes uses content such as animated pictures or videos in the learning process, students are often interested in the material contained in the learning content because it consists of a combination of images, sounds from the teacher's explanation and also colors of the learning content. Students also feel often enthusiastic in learning by using learning content.

Learning media is a tool used to support the implementation of the teaching and learning process, from books to the use of electronic devices in online learning. Various kinds of media formats are used to support an effective learning process such as text, visuals, videos, multimedia, and others.

**Table 3.**  
**Respondents' Answers for Indicators of Using Learning Media in Various Formats Such as Text, Visual, Video, Multimedia, and Others.**

Number	Frequency					Value X Frequency					Amount
	5	4	3	2	1	5	4	3	2	1	
17	35	38	13	1	1	175	152	39	2	1	369
18	12	33	37	6	0	60	132	111	12	0	315
19	10	37	33	8	0	50	148	99	16	0	313
20	12	32	35	8	1	60	128	105	16	1	310
<b>Total</b>											1307

Source: Research data processing, 2021

To determine the level of effectiveness of the use of e-learning at SMA Negeri 4 Gowa by looking at the results of indicators using Learning Media in Various Formats such as Text, Visual, Video, Multimedia, and others. Then the formula is used:

$$\% = \frac{n}{N} \times 100$$

$$\% = \frac{1307}{4 \times 5 \times 88} \times 100$$

$$\% = \frac{1307}{1760} \times 100$$

$$= 74.26 \%$$

Based on the results of observations and results of data analysis in table 3 shows that indicators regarding work facilities are included in the effective category with the results obtained by 74.26 percent in the 61% - 80% category. Regarding the use of learning media in various formats applied at SMA Negeri 4 Gowa, it has been effective because in the learning process the teacher provides learning materials that are supported by an attractive format so that students are more enthusiastic in carrying out the learning process. according to (Clark & Mayer, 2016) regarding indicators Using appropriate learning methods that "Using appropriate learning methods. That is, in the learning process in the network, the learning methods used to achieve the goals and objectives of learning? From the opinion above, it is the same as the results of research conducted by researchers at SMA Negeri 4 Gowa. The results of this study indicate that

teachers use several appropriate learning methods. This can be applied if the learning process is supported by an adequate network, both teachers and students. This is supported by statements from several students who said that teachers in learning usually explain the material then invite them to ask questions, direct them to discuss, and give assignments. Based on the results of the study, it can be seen that learning by utilizing e-learning at SMA Negeri 4 Gowa uses appropriate learning methods so that the learning process runs effectively and efficiently.

Synchronous means that in the learning process in the network, teachers communicate directly at the same time, such as face-to-face learning at school or virtually, while asynchronous means communicating at different times, such as students getting assignments to do at home.

**Table 4.**  
**Respondents' Answers to Indicators Can Occur Synchronic or Asynchronously**

Number	Frequency					Value X Frequency					Amount
	5	4	3	2	1	5	4	3	2	1	
21	13	21	31	16	7	65	84	93	32	7	281
22	54	20	12	1	1	270	80	36	2	1	389
23	20	43	23	0	2	100	172	69	0	2	343
24	34	23	23	8	0	170	92	69	16	0	347
25	42	27	16	3	0	210	108	48	6	0	372
<b>Total</b>											1732

Source: Research data processing, 2021

To determine the level of effectiveness of the use of e-learning at SMA Negeri 4 Gowa by looking at the results of indicators that can occur synchronously and asynchronously, the formula is used:

$$\% = \frac{n}{N} \times 100$$

$$\% = \frac{1732}{5 \times 5 \times 88} \times 100$$

$$\% = \frac{1732}{2200} \times 100$$

$$= 78.72 \%$$

According to Clark and Mayer regarding indicators that can occur synchronously and asynchronously are "Synchronous and asynchronous means that in the learning process in the network the teacher communicates directly at the same time and communicates at different times". In the online learning process, several methods

allow synchronous learning, such as video conferencing, live chat, or live streaming. The goal is to provide learning materials to students and be actively involved directly through the media in the learning process. In addition, asynchronous communication aims for teachers to continue to carry out the learning process by providing learning materials to students that can be accessed anytime and anywhere.

The results of this study indicate that teachers sometimes conduct learning using the zoom application which is easier to explain the material and there is feedback from students in the form of questions so that students can be excited to listen to the material explained directly by the teacher. However, students are also always directed to look for learning materials on the internet where the teacher only gives a few questions or subject matter to look for answers and explanations.

## CONCLUSION

Based on the results of research on the effectiveness of the use of e-learning at SMA Negeri 4 Gowa, it can be categorized as effective, this can be seen from the results of each indicator, namely the existence of content or learning materials that are relevant to learning objectives, using appropriate learning methods, using learning media in various ways. formats such as text, visuals, videos, multimedia, and others, and can occur synchronously or asynchronously. of the three indicators on average get effective results, so it can be concluded that SMA Negeri 4 Gowa has utilized e-learning in the learning process effectively.

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