Effectiveness of E-Learning as a Learning Model for Accounting Students in the Covid-19 Pandemic at Widyatama University Bandung

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Abstract

This study aims to determine the effectiveness of e-learning during the Covid-19 pandemic as measured by factors of flexibility, technical support, individual differences, technology acceptance, motivation, and the role of the instructor. The research sample was 194 students of the accounting study program obtained using purposive sampling. A descriptive research method was applied in this study with the results that the factors of flexibility, technical support, individual differences, technology acceptance, motivation, and the role of the instructor have been running effectively.

Introduction

Quoted from the Indonesian Dictionary (https://kbbi.kemdikbud.go.id/), a pandemic is an epidemic that spreads simultaneously everywhere or covers wide geography. Meanwhile, according to the World Health Organization (WHO), a pandemic is a situation when the entire world's population is likely to be infected and potentially some of them fall ill. Thus the pandemic is seen from the extent of its spread (https://covid19.go.id/) Pandemics of disease outbreaks have occurred before in the world and have had a considerable impact. These pandemics include (https://www.kompas.com/): Justinian Plague; black death; Smallpox; Cholera; Spanish Flu (H1N1); Severe Acute Respiratory Syndrome (SARS); Swine Flu; and Ebola. At the end of 2019, a viral infection emerged that spread rapidly, the virus was called COVID-19. This virus was first discovered in Wuhan, China. COVID-19 is spreading massively in other countries. The World Health Organization (WHO) announced on March 11, 2020, that COVID-19 was declared a pandemic. As of June 10, 2021, in 223 countries, 174,061,995 cases have been infected (https://covid19.who.int/). Indonesia is one of the countries affected by COVID-19. This virus has spread in Indonesia on June 10, 2021, has infected as many as 1,885,942 people (https://covid19.go.id/). The Covid-19 pandemic has had an impact not only on the health sector but on various other sectors of human life. The Minister of Finance, Sri Mulyani Indrawati, stated that the impact of the COVID-19 pandemic had a major impact on the Indonesian economy. This can be seen from the decline in oil and gas and non-oil exports, layoffs, and so on (Rivas & Biana, 2021). The education sector has changed drastically. Learning methods that have been carried out offline, are forced to be carried out online using various applications, such as zoom meetings, google meet, and so on. Educational institutions are ready or not ready to be able to deal with it for the smooth teaching and learning process. The Directorate General of Higher Education responded to this change by carrying out several initiations and facilitation, including:

a.   Provision of online learning platforms and learning resources on https://spada.kemendikbud/go.id;
b.   Through cooperation with Google, providing online resources and online platforms for free;
c.   Access to SPADA learning platforms and pages, as well as URLs to higher education learning sites, are white-listed toll-free;
d.   Cooperating with telecommunications providers, providing low-cost internet access for lecturers and students;
e.   Conducting training to improve the ability of the academic community in carrying out online learning;
f.   f. Provide opportunities to carry out inter-university online learning credit recognition programs; and
g.   g. Granting permission to take advantage of Massive Open Online Courses (MOOCs) from international providers (Indrajit & Wibawa, 2020).

Based on a survey at the end of March 2020, of 237,193 student respondents from 30 provinces, results related to the effectiveness of online learning were obtained many as 70% stated moderate to very good (Indrajit & Wibawa, 2020). Currently, more than a year since the outbreak of the Covid-19 pandemic, the online learning process has become accustomed. However, its effectiveness remains to be questioned, especially the effectiveness of online learning for accounting students at Widyatama University, Bandung.

Literature Review

The world is disrupted because of the rapid advancement of information technology. In addition, the education sector was also forced to be disrupted due to the COVID-19 pandemic. The e-learning model is becoming increasingly popular. In simple terms, e-learning is a collection of learning materials stored on the web plus a separate communication forum via e-mail or mailing list. In an integrated manner, e-learning is a portal that contains various learning objects enriched with multimedia and combined with academic information systems, communication, discussions, and various other educational tools. (Back et al., 2019). E-learning is part of distance learning while online learning is part of e-learning (Back et al., 2019). According to Back et al. (2019), e-learning is the delivery of learning materials through electronic media, such as the internet,

intranet/extranet, satellite broadcast, audio/videotape, interactive TV, CD-ROM, and computer-based training (CBT). Meanwhile, according to Back et al. (2019), e-learning is the delivery of learning materials to anyone, anywhere, and anytime by using various technologies in an open, flexible, and distributed learning environment. Teo, Kim, and Jiang (2020), said that the characteristics of e-learning are a combination of various practical applications and easy access to learning resources, teachers, and fellow students via the internet. Therefore, the term e-learning is often equated with online courses, online learning, internet-enabled learning, virtual learning, or web-based learning. While online learning is learning that makes it easier for both parties because teaching materials are delivered online. Virtual learning, learning is done only by using the internet or LAN/WAN intranet. Web-based learning, learning is done by accessing learning materials that have been stored by the teacher on the web (Teo et al., 2020). From this description, it can be concluded that e-learning is not the same as online, virtual learning, or web-based learning. However, online, virtual learning, and web-based learning are part of e-learning (Teo et al., 2020). According to Teo et al. (2020), e-learning has a function in learning as a supplement (additional); complement; and substitute. While the benefits of e-learning for students, including a) students can communicate with other students about learning materials at any time; and b) learning materials can be accessed by students anywhere and anytime. For teachers, including a) make it easier to update materials; b) increasing insight and as a means for self-development; c) can find out the duration of time, the material being studied, the frequency of the material being studied, and controlling the activities of the students; d) can find out the questions that are done by students; and e) can check assignments and provide the results directly to students (Teo et al., 2020). The most widely used e-learning model is the Learning Management System (LMS). LMS is not just a media, but it contains rules or methods related to learning strategies (Teo et al., 2020). According to Teo et al. (2020), LMS is an application with a learning concept that manages the learning process, provides and delivers content, and tracks online activities. Meanwhile, Teo et al. (2020), states that LMS is a software-based application that is connected online and offline. The main features of LMS can be seen in Figure 1.
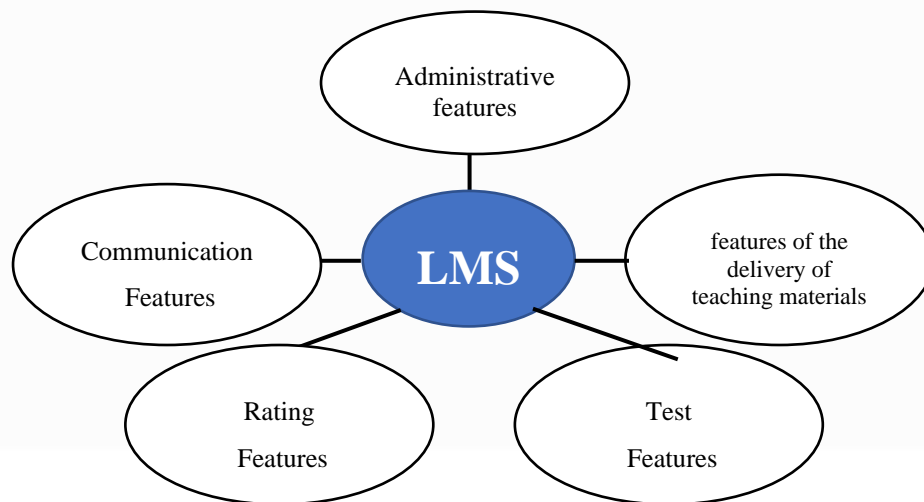

Figure 1. Main Features of LMS (Teo et al., 2020)

Many studies on e-learning have been carried out including Abbad and Jaber (2014), evaluating the effectiveness of the e-learning system, show the results that, in general, students have a good perception of the use of e-learning systems. This study shows that technology is a contributing factor to students' perceptions and satisfaction regarding the e-learning system. Diab and Elgahsh (2020), researching e-learning during the Covid-19 period in nursing students. The results showed that there was a significant negative correlation between the barriers faced by nursing students and the barriers to their attitudes towards e-learning. Budur (2020) examined the use of online learning through various platforms so that the academic process can run during the Covid-19 pandemic. The results showed that a small part of the respondents' answers was satisfied with carrying out online education because it was considered their first experience. In addition, although 40% of them are happy with online education, more than half of the respondents feel that it is not as they expected. Kusumaningrum, Budiarti, Triwiyanto, and Utari (2020), examined the influence of the online learning system on student learning satisfaction during the Covid-19 pandemic. The results showed that online learning through the internet can increase student

learning satisfaction. Fiddin and Bustami (2021), examined the effectiveness of student learning through e-learning for students on the coast of the island of Sumatra. The results showed that the benefits and service quality factors influenced the use of Google Classroom media during the pandemic. Meanwhile, the use of Google Classroom affects the effectiveness of student learning during the Covid-19 pandemic. While the ease of use of Google Classroom does not affect the use of Google Classroom as a learning medium during the pandemic. According to Bahasoan, Ayuandiani, Mukhram, and Rahmat (2020), learning during the Covid-19 pandemic can be done online with the help of applications, but there are still obstacles in the form of; unstable internet network, the application used, and the knowledge conveyed has not been effective. According to Daniel (2020), online learning is an effective solution that can be applied during the Covid-19 pandemic. Expert program development can be applied to promote practicum through e-learning during the pandemic (Ana, 2020). Meanwhile, according to Tezer, Yildiz, Bozkurt, and Tangul (2019), because online learning often experiences internet network problems, learning activities are disrupted. As a result, students cannot receive learning materials properly. The advantages and disadvantages of online learning models are the focus of Keshavarz's research (Keshavarz, 2020). According to the results of Ebaid's research, accounting students do not benefit from the e-learning system, both in terms of study flexibility, communication with lecturers, and communication with fellow students (Ebaid, 2020), This e-learning system shows weaknesses in the form of lack of contact with friends, many technical problems, and dependence on computers. The results of research by Kamalia and Nuriadin (2021), concluded that students had difficulties in carrying out online learning. These difficulties can be grouped into technical difficulties, adaptation difficulties, and teacher unpreparedness. Besser, Flett, and Zeigler-Hill (2020), proved the adaptability of students in the learning process during a pandemic According to Regmi and Jones (2020), it is necessary to have support from peers and family in online learning and must have motivation. This is in line with the research of Simamora (2020), that the online learning process must be supported by student learning motivation during the covid-19 pandemic. According to the results of research Djajadikerta et al. (2021), it is necessary to have a combination of the latest information and communication technology, LMS, and blended learning experiences, although not without obstacles, they can switch to virtual systems effectively. Rasiah, Kaur, and Guptan (2020), looked at the sustainability of universities during the COVID-19 pandemic by looking at student satisfaction in implementing the e-learning system. According to Hawley et al. (2021), international students need support for their continued learning. According to Murphy, Eduljee, and Croteau (2020), students show their satisfaction to their professors who use LMS effectively. Meanwhile, El Refae, Kaba, and Eletter (2021) stated that although faculty members and students were satisfied with the readiness of the Institute in implementing distance learning. However, they are still concerned about the challenges that may be faced in the distance learning process. The research of Suprianto, Arhas, Mahmuddin, and Siagian (2020) looks more at the use of online learning media used during the Covid-19 pandemic. The results show that lecturers of the accounting education study program use WhatsApp groups (83%); google classroom (10%), and email (7%).

Research Method

The research method is the method used by researchers in collecting research data. By using the research method, it will be known that there is a significant relationship between the variables studied to produce conclusions that will clarify the picture of the object under study. The method used in this research is descriptive. Hennink, Hutter, and Bailey (2020) states that descriptive research methods are carried out to determine the existence of independent variables, either only on one or more variables (stand-alone variables or independent variables) without making comparisons of the variables themselves and looking for relationships with other variables. The population in this study were students of the accounting study program at Widyatama University, Bandung. The sampling technique is based on purposive sampling with criteria; a. accounting study program students; b. currently taking the even semester of the 2020-2021 academic year; c. using e-learning as a learning method; and d. students taught by the lecturer who wrote this article. The effectiveness factors of e-learning adopting Abbad and Jaber (2014) research consist of flexibility, technical support, individual differences, technology acceptance, motivation factor, dan instructor role. The questionnaire was submitted using a google form due to the Covid-19 pandemic. The Likert scale was used to measure the responses of the students with the answer

choices; Strongly Agree (SA)=5; Agree (A)=4; Undecided (U)=3; Disagree (D)=2; Strongly Disagree (SD)=1. Validity test using product moments Pearson correlation coefficient and reliability test using Cronbach Alpha coefficient (George & Mallery, 2019). Based on the mean score of the respondents' answers, the tendency of the answers is determined using a continuum line, with the following categories (Alam, Ranasinghe, & Wickramasinghe, 2020):

- 1.00 – 1.80 = bad
- 1.81 – 2.60 = poor
- 2.61 – 3.40 = adequate
- 3.41 – 4.20 = good
- 4.21 – 5.00 = very good

Results and Discussion

Results

Respondents who filled out the questionnaire were 194 students. Demographics of respondents by gender can be seen in Figure 2.
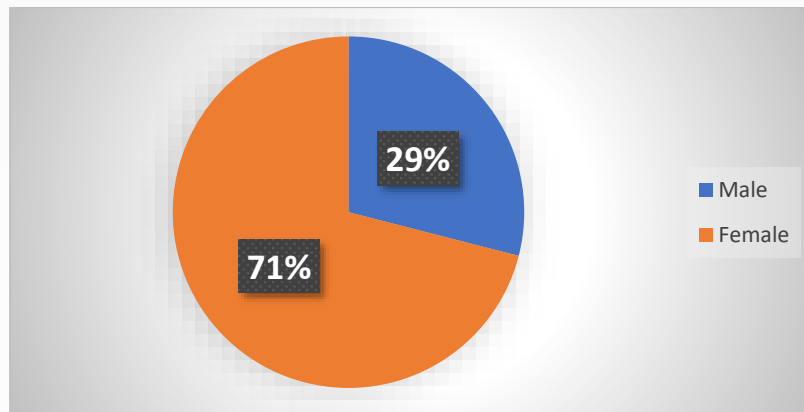
Figure 2. Respondents based on Gender

A total of 29% of respondents (56 students) were male and 71% of respondents were female (138 students). Based on the achievement of GPA can be seen in Figure 3.
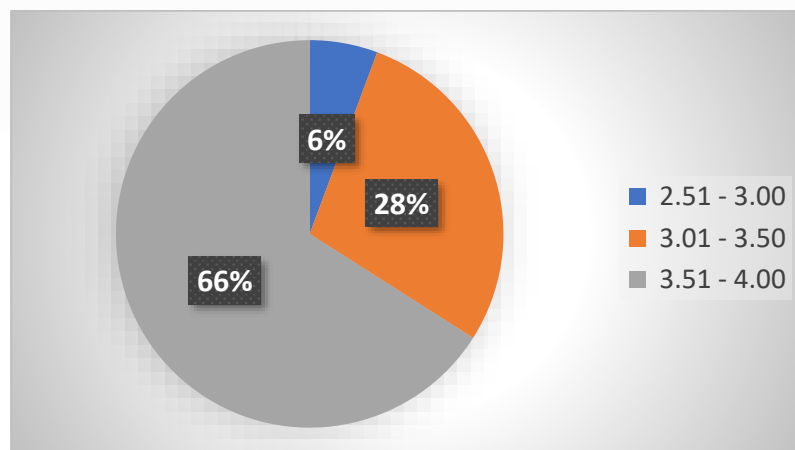
Figure 3. Respondents based on GPA

As many as 6% of respondents (11 students) obtained GPAs between2.51 – 3.00; 28% of respondents (55 students) obtained GPAs between 3.01 – 3.50, and the remaining 66% of respondents (128 students) obtained GPA between 3.51– 4.00. Judging from the GPA achievement, it can be concluded that the majority of respondents have very good academic achievements. Descriptive analysis (table 1) was conducted to describe the observations (N), mean, median, maximum value, minimum value, and standard deviation (a) for each factor.

Tabel 1
Descriptive Analysis

	Flexibility	Technical Support	Individual Differences	Technology Acceptance	Motivation	Instructor Role
Mean	7.92	15.20	6.83	14.84	19.57	7.52
Median	8	15	7	15	20	8
Minimum	3	6	2	7	10	2
Maximum	10	20	10	20	25	10
Std. Dev.	1.21	2.07	1.63	1.97	2.28	1.37
Observations	194	194	194	194	194	194

Sumber: output SPSS version 22

The results of testing the validity of the 19 questionnaire items show that all r count values > r table values (0.178) so that it can be concluded that they are valid.

Table 2
Validity Test

No.	r Count Value	r Table Value	Description
1	0.547	0.1178	Valid
2	0.568	0.1178	Valid
3	0.706	0.1178	Valid
4	0.611	0.1178	Valid
5	0.523	0.1178	Valid
6	0.596	0.1178	Valid
7	0.555	0.1178	Valid
8	0.623	0.1178	Valid
9	0.619	0.1178	Valid
10	0.665	0.1178	Valid
11	0.605	0.1178	Valid
12	0.564	0.1178	Valid
13	0.687	0.1178	Valid
14	0.640	0.1178	Valid
15	0.600	0.1178	Valid
16	0.723	0.1178	Valid
17	0.343	0.1178	Valid
18	0.716	0.1178	Valid
19	0.703	0.1178	Valid

Source: SPSS version 22 output

The results of the reliability test showed that the value of Cronbach's alpha was 0.904 > 0.70, so it was concluded that the research instrument was reliable.

Table 3

Reliability Statistics

Cronbach's Alpha	N of Items
.904	19

The results of the respondents' answers for each factor can be seen in the following tables.

Tabel 4
Flexibility Factor Recapitulation

No.	Statement	Frequency					Total Score	Mean	Description
		SD	D	U	A	SA			
		1	2	3	4	5			
1	With e-learning, lectures become flexible	2	7	31	114	40	765	3.94	Good
2	Lectures with e-learning make it easier to access knowledge to other web-based learning resources (ebooks/journals)	1	7	20	134	32	771	3.97	Good
	Total	**3**	**14**	**51**	**248**	**72**	**1536**	**3.96**	**Good**

Source: Questionnaire (processed)

Table 5
Technical Support Factor Recapitulation

No.	Statement	Frequency					Total Score	Mean	Description
		SD	D	U	A	SA			
		1	2	3	4	5			
1	I received sufficient training to use the e-learning system	3	23	55	105	8	674	3.47	Good
2	I have no difficulty in accessing lecture materials/modules using e-learning	1	11	33	118	31	749	3.86	Good
3	Modules in e-learning are usually updated weekly	1	1	15	120	57	813	4.19	Good
4	E-learning facilitates technical difficulties in the process of gaining knowledge	0	9	63	106	16	711	3.66	Good
	Total	**5**	**44**	**166**	**449**	**112**	**2947**	**3.80**	**Good**

Source: Questionnaire (processed)

Table 6
Individual Differences Factor Recapitulation

No.	Statement	Frequency					Total Score	Mean	Description
		SD	D	U	A	SA			
		1	2	3	4	5			
1	E-learning complements face-to-face learning	4	19	43	107	21	704	3.63	Good
2	I think e-learning can replace traditional learning	10	44	64	53	23	617	3.18	Adequate
	Total	14	63	107	160	44	1321	3.40	Adequate

Source: Questionnaire (processed)

Table 7
Technology Acceptance Factor Recapitulation

No.	Statement	Frequency					Total Score	Mean	Description
		SD	D	U	A	SA			
		1	2	3	4	5			
1	Navigation through e-learning is easy	1	3	29	135	26	764	3.94	Good
2	Using e-learning has increased the knowledge and understanding I gain from practice	6	18	76	83	11	657	3.39	Adequate
3	E-learning allows me to provide feedback to lecturers	2	10	61	112	9	698	3.60	Good
4	E-learning is a useful one-stop resource that gets me the information I might need for my studies, such as textbooks, related articles and papers, reading lists and access to lecturers	0	2	32	144	16	756	3.90	Good
	Total	**9**	**33**	**198**	**474**	**62**	**2875**	**3.70**	**Good**

Source: Questionnaire (processed)

Table 8
Motivation Factor Recapitulation

No.	Statement	Frequency					Total Score	Mean	Description
		SD	D	U	A	SA			
		1	2	3	4	5			
1	Discussion forums -a feature of e-learning- are a useful way to build my knowledge	3	9	29	129	24	744	3.84	Good
2	Quizzes posted on e-learning are a useful way to check my lecture understanding	3	2	17	150	22	768	3.96	Good
3	I use e-learning to download or view Power Point presentations and lecture notes	1	4	6	147	36	795	4.10	Good
4	I think, the features in e-learning mostly improve my learning process	0	8	40	130	16	736	3.79	Good
5	I think the library mostly improves my learning process	0	3	44	125	22	748	3.86	Good
	Total	**7**	**26**	**136**	**681**	**120**	**3791**	**3.91**	**Good**

Source: Questionnaire (processed)

Table 9
Instructor Role Factor Recapitulation

No.	Statement	Frequency					Total Score	Mean	Description
		SD	D	U	A	SA			
		1	2	3	4	5			
1	I think the e-learning discussion forum tools mostly improve my learning process	4	7	39	127	17	728	3.75	Good
2	I think tests/exams through e-learning increase my interest in learning	3	10	42	116	23	728	3.75	Good
	Total	**7**	**17**	**81**	**243**	**40**	**1456**	**3.75**	**Good**

Source: Questionnaire (processed)

Discussion

Widyatama University Bandung has long implemented e-learning. However, its application has not yet been applied to all lecture materials. During the Covid-19 pandemic, Widyatama University was not too surprised to switch from face-to-face learning to online learning. So it doesn't take a long time to adapt to e-learning methods. Initially, only a few courses were delivered through e-learning, now it applies to all courses. As previously stated, the effectiveness of the implementation of e-learning is measured using six factors. The first discussion relates to the flexibility factor. Respondents on average stated that e-learning makes lectures flexible. This is an advantage where students can attend lectures anywhere. Especially for those who study while working. Ease of access to learning resources is also an advantage because the teaching materials to be delivered are already available in e-learning. From these two things, the respondents gave a good rating. The second factor relates to technical support. Students receive adequate training on how to operate e-learning, in addition to being supported by manuals. As previously stated, they have easy access to lecture materials because the materials have been previously uploaded by the lecturers at the appointed time. The module is adjusted to the predetermined learning plan, so every week it will be different and always updated. It is undeniable that there are still students who have problems obtaining material during face-to-face lectures. However, e-learning can make it easier for them to obtain these materials. Overall, the respondents' responses to the technical support factor were good. The third factor is individual differences. As previously stated, Widyatama University has long held blended learning, a combination of face-to-face and online learning. So it is very beneficial that e-learning is a complement to face-to-face learning. The COVID-19 pandemic has implications for the emergence of new habits. E-learning lectures can be a solution to replace the face-to-face (traditional) learning system. The individual difference factor received an adequate assessment from the respondents. The fourth factor is technology acceptance. E-learning has been designed in such a way, with many features and conveniences. The existence of clear navigation makes it easier for users. This can certainly make for an interesting experience to explore more deeply and make it a very interesting practical experience. Easy navigation and the availability of complete features allow students to directly provide input to lecturers. Other learning resources can be easily accessed. Overall, the respondents' assessment of the technology acceptance factor is good.The fif th factor is motivation. E-learning has a forum feature, in this feature the lecturer will present an issue for students to respond to. So that this forum feature becomes a place for discussion in cyberspace that can increase knowledge for students. Next is also a quiz feature. Lecturers will give quizzes to be responded to within the stipulated time. This is useful to determine the level of student understanding of a material that has been delivered by the lecturer. The previously uploaded PowerPoint (ppt) lecture material can be easily downloaded so that it can be used by students to improve their abilities. Features in the form of resources, such as books, files, and so on, then feature activities, such as assignments, chat, glossary, feedback, big blue buttons, forums, quizzes, and so on can motivate students to increase their interest in learning. Of course, this e-learning is connected to a digital library, so that it can add insight to students. Overall, students' responses to motivational factors are good. Lastly, is the factor of the instructor's role. Discussion forums will be more effective if the lecturers (instructors) actively participate. The instructor can be a moderator in the discussion forum as well as correct if there is a misunderstanding among the discussion participants. E-learning can also be used as a means to assess student understanding of the material that has been delivered. Lecturers can take advantage of the quiz and assignment features to assess students' abilities. The responses of the respondents to the factor of the instructor's role as a whole are good. This research is in line with previous research conducted by Abbad and Jaber (2014); Ana (2020); Bahasoan et al. (2020); (Besser et al., 2020); Daniel (2020); Diab and Elgahsh (2020); Kusumaningrum et al. (2020); Simamora (2020) and Regmi and Jones (2020). However, this research contradicts the research conducted by Ebaid (2020) and Kamalia and Nuriadin (2021).

Conclusions and Recommendations

Conclusions

Based on the analysis that has been submitted, it can be concluded that the factors of flexibility,

technical support, individual differences, technology acceptance, motivation, and the role of the instructor have gone well so that the implementation of e-learning is effective.

Recommendations

Even though all the factors have gone well, there are still things that need to be improved. The things that need improvement are the factors of individual differences and technology acceptance. Strong efforts are still needed to provide understanding for students that it is time to switch from traditional learning methods to modern learning methods through massive socialization. Socialization is also needed regarding the practical benefits of using e-learning.

This research has limitations. First, the researcher recommends that further researchers can add samples not only to students of the accounting study program but also to other study programs at Widyatama University Bandung or even universities in the Bandung area. Second, it is recommended to test the effectiveness of e-learning on other variables such as learning achievement.

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