E-Learning Of Effective Communication Improves The Quality Of Workers' Knowledge In The City Of Padang, West Sumatra

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Abstract—E-learning is conducted to change the traditional way of learning in the classroom with learning using the internet so that students can access learning materials and study any time and place. This study aims determine the relationship and benefits of e-learning for workers participating in training at the Padang City Job Training Center, West Sumatra. Descriptive research method was employed to explain the phenomena, situations and conditions in the field as revealed in accordance with the facts in the field. Data was collected by distributing questionnaires to 200 participants at the Job Training Center, Padang, West Sumatra. The research data consists of primary and secondary data. The indicators used in the research are the learning process, benefits of e-learning, and the obstacles to using e-learning. Data analysis was performed by using Crosstabulation and Chi Square analysis. The results of the study show that (1) the e-learning learning process is more desirable than classroom learning because it is more flexible in terms of time and place while classroom learning is considered more limited and restricted as the information obtained is only from the lecturers in gthe class. (2) The benefits of e-learning for training participants, especially the information obtained is more updated and provides more references, and also is lower in costs. Therefore e-learning indeed increases the ability and transfer of knowledge for the workforce. (3) Obstacles in e-learning include incomplete facilities and infrastructure, such as low computer specifications, slow access and limited number of teachers or lecturers.

Keywords— information, competence, technology

I. INTRODUCTION

The development of information technology has had such a huge impact on relations between individuals, communities, institutions, and even between countries. The development of information and communication technology has changed and challenged new thinking for people who demand human resources such as workers to have high abilities and skills. The development of technology, especially the internet, has been able to provide virtual spaces and a variety of information that can be accessed quickly any time and any place. Therefore, the space and time of the learning process are more open, making learning activities are easier, cheaper, more efficient and more democratic.[1].

One of the big problems facing the government of West Sumatra today is the low quality of the workforce, which causes the high number of unemployed. In 2019, the unemployment rate in West Sumatra was 5.33% and in 2020, it rose to 6.88% [2]. One of the efforts made to improve the quality of the workforce is through digital learning. The most effective digital learning today is e-learning. E-larning is a communication technology that is effectively used for its easy access anywhere by anyone.[3]

Communication through technology is capable of changing the mindset, ideology, culture, and various other elements. Communication technology can be used to improve competence and learning[4][5][6]. E-learning is one of the technologies that

can be utilized by the workforce to obtain the latest information and transfer of knowledge. E-learning is also a creative and innovative learning model that needs to be further developed in order to increase the effectiveness and efficiency of learning for more variety to make it more attractice.[7]

The concept of e-learning in education has affected the process of transforming conventional education into digital form, both in terms of content and system. The concept of e-learning has been widely used by the community, especially in educational institutions such as universities. All universities nowadays have organized electronic learning activities as a supplement to the material presented. Thus e-learning becomes an option in the current learning process.

There is increasing trend to develop e-learning as an alternative to learning in training institutions is increasing, along with technological developments and infrastructure in the telecommunications sector that can support the implementation of the e-learning learning process.

E-learning is carried out to change the traditional way of learning in the classroom with learning using the internet for more flexibility in terms of time and place[8]. Today's technology can be used optimally for education and training purposes for workforce or workers, especially in West Sumatra. E-learning functions as a repository of knowledge, learning aids, educational facilities, competency standards, administrative support, management aids, security enhancements and educational infrastructure. In educational institutions, e-learning is capable of providing benefits in reducing institutional operating costs, because it is very efficient in data storage.[9][10][11]

The existence of e-learning for lecturers and students enables more optimum communication in order to exchange information, facilitate discussion and increase knowledge.[12][13][14]. Likewise, the workforce through e-learning is expected to be able to improve their capacity and quality so that they are ready to enter the world of work.

Therefore, teachers and lecturers should no longer position themselves as holders of knowledge with authorities but rather as mediators whose role is to facilitate a more participatory learning process while students or trainees are considered as partners in learning. This condition focuses more on the learning process, therefore in this condition it is possible to improve the quality of the workforce.

The average educational level of workforce in West Sumatra is of Senior High School. The number of workers every year keeps increasing, making the rate of unemployment keeps going up. Therefore, government seeks to improve the quality of the workforce by providing education and training to workers in order to improve their skills through the Job Training Center. This vocational training center provides opportunities for workers to learn so they can increase knowledge through e-learning.

Furthermore, e-learning can improve the quality of the workforce,considering the amount of information obtained as the learning process can be transformed from conventional or synchronous to non conventional or asynchronous, at any time, online through computer electronic devices. Among the benefits is the convenience obtained and the speed of access to information. The principles in technological communication are effective and efficient, optimal, interesting and creative.

II. RESEARCH METHODS

This research is a descriptive study that explains the phenomena, situations and conditions in the field which are revealed in accordance with the facts that occurred[15]. The study was conducted from February to November 2019. Data collection was carried out by distributing questionnaires to 200 participants at the Job Training Center, Padang, West Sumatra.The research data consisted of primary and secondary data. The data collection technique was carried out by asking questions in a questionnaire openly to the trainees at the Job Training Center. Meanwhile, secondary data are data published by the Central Bureau of Statistics and the Department of Manpower and Transmigration of West Sumatra Province.

The indicators used in the research are (1) the learning process which consists of the classroom learning process and the e-learning learning process. (2) The benefits of e-learning that includes references, easy to trace, lower costs and more updated information. (3) Obstacles using e-learning. Data analysis was performed simply by using Crosstabulation and Chi Square analysis. Corosstab was used to see the relationship between variables. Chi Square analysis is a technique used to test the relationship between the variables used.

III. RESULTS AND DISCUSSION

3.1. Workforce Learning Process

The learning process referred to here is the learning process carried out in the classroom and the e-learning learning process or learning outside the classroom at the Padang City Job Training Center, West Sumatra.

TABLE I. STATISTICS

N	*Valid*	*200*
	Missing	0
Mean		1.6250

Table 1. Workforce Learning Process at the Job Training Center

Table 1. Represents the results of statistical tests to determine the level of validity of the data before being analyzed. It can be seen that all the data used are valid so that the data can be continued for analysis.

TABEL II. CASE PROCESSING SUMMARY

Learning process		*Frequency*	*Percentage*	*Valid percentage*	**Cumilative Percentage**
Valid	Class learning	75	37.5	37.5	37.5
	e-learning	125	62.5	62.5	100.0
	Total	200	100.0	100.0	

Table 2. Workforce Learning Process at the Job Training Center

Table 2 shows that the total number of data analyzed is 200, and the data analyzed is valid with a percentage of 100 percent. The results of the Case processing Summary test show that the workforce is happier and more satisfied with the e-learning process or learning outside the classroom as many as 125 people (62.5%). This means that e-learning is preferred by training participants because it is more freedom and flexibility to learn and can be done anywhere, anytime. In addition, the information obtained is more recent and updated so that they gain more knowledge. This is in accordance with the theory of (Alqudah, Jamal, Saleh, Khader & Obeidat, 2020; Juliette & Velandia, 2020, Kaceti & Semradova, 2020) that the existence of e-learning enables more optimum communication in information exchange, discussion and increase knowledge. While learning in class is only prefered by 75 people (37.5). Therefore, it can be concluded that the class learning process is not favored by the trainees as the class is more limited in time, the availability of facilities for access to technology is also limited.

TABEL III. CROSSTABULATION

COUNT		**Benefits of e-learning**				*Total*
		More references	*Easy access*	*Low cost*	*Up to date*	
Learning	Class	8	4	4	59	75
	e-learning	13	9	7	96	125
Total		21	13	11	155	200

Table 3. Benefits of e-learning

Table 3 shows The results of the Crosstabulation Test show that the benefits of e-learning obtained for the workforce include: more updated information, more references, easy access and lower costs with a total of 125 of the 200 samples used. This means that e-learning is more beneficial than classroom learning because the information obtained is limited to that provided by the training provider, fewer references and difficult access.

TABEL IV. Chi-Square Test

Head	Table Clumn Head		
	Value	*df*	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.282 a	3	.013
Likelihood Ratio	11.289	3	.002
Linear-by-Linear Association	7.047	1	.003
N of Valid Cases	200		
a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.13.			

Table 4. Benefits of e-learning

Table 4. Chi-Square test results count 7.282 > Chi-Square table 5,991 with a probability level (Asymp Sig 0.013 <0.05 then Ho is rejected. This means that there are more benefits of e-learning learning for the workforce, compared to learning conducted in class. The benefits of labor learning to get more information will increase insight, communication with many people making knowledge transfer easier.

3.2. E-Learning

The development of information technology has brought major changes to various segments of people's lives, including training institutions such as the Padang City Training Center, West Sumatra. E-learning allows trainees at the Job Training Center who generally have a junior high and high school education level so that they can improve the quality of the workforce because e-learning learning is not just downloading material but learning can use pictures, videos and others so that learning is not boring and can increase the understanding of learning for the trainees.

Constraints in learning e-leaning at the Padang City Training Center, West Sumatra, are the lack of available facilities and infrastructure such as old computers so that the specifications are not sufficient and cannot support acces, lack of teaching staff and applications that support the application of e-learning. This is the responsibility of the government of Padang City, West Sumatra province to improve training facilities and infrastructure so that the participants of the training are recognized for their abilities in the workplace

IV. CONCLUSION

E-learning is an effective communication for the workforce to increase the knowledge and skills of the workforce of Padang City, West Sumatra, including providing the latest information, flexibility to study anywhere and anytime, and easy knowledge transfer. The e-learning learning process can be more fun for the workforce compared to learning in the classroom.

Obstacles in e-learning learning for Job Training Centers include the lack of infrastructure, the lack of available teachers or lecturers at the Job Training Center as well as inadequate facilities and infrastructure such as systems, old computers and applications that support the implementation of e-learning.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest

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