Difference In Effectiveness Of Conventional Learning And E Learning Using Whatsapp Application In SD Gugus IV Kecamatan Tanasitolo Kabupaten Wajo

[1]Andi Reski Febriawan, Universitas Negeri Makassar
E-mail: andireskifebriawan97@gmail.com
[2]Rohana, Universitas Negeri Makassar
E-mail: rohana@unm.ac.id
[3]Nurhaedah, Universitas Negeri Makassar
E-mail: nurhaedah7802@gmail.com

ARTICLE INFO
Original Article
Received: 19, 02.2022.
Revised: 22, 03.2022.
Accepted: 23, 04.2022.
doi:10.5937/IJESTxxx
UDK
xxx

Keywords:
Conventional learning, E-learning using the whatsapp application, Learning effectiveness.

ABSTRACT
This research is an ex post facto study that uses a quantitative approach with comparative research methods which aims to find out 1) an overview of the effectiveness of conventional learning at SD Cluster IV, Tanasitolo District, Wajo Regency 2) an overview of the effectiveness of e-learning using the WhatsApp application at SD Cluster IV, Tanasitolo District, District Wajo 3) Differences in the Effectiveness of Conventional Learning and E-learning Using the Whatsapp Application at Elementary School Cluster IV, Tanasitolo District, Wajo Regency. The independent variables in this study were conventional learning and e-learning using the whatsapp application, while the dependent variable was the effectiveness of learning. The sample selection was carried out using a quota sampling technique with the results of the sampling consisting of 30 respondents. Data collection techniques in this research are questionnaires in the form of questionnaires and documentation. Data was collected from the questionnaire on the effectiveness of conventional learning and e-learning using the WhatsApp application and then analyzed descriptively and statistically inferential using the paired sample T-Test. The results of the research that have been carried out, it can be concluded that: (1) Overview of the effectiveness of conventional learning is in the very effective category, this is from the average value of the results of filling out the questionnaire on the effectiveness of conventional learning (2) Overview of the effectiveness of e-learning using the WhatsApp application is in the quite effective category. this is obtained from the average value of the questionnaire on the effectiveness of e-learning using the whatsapp application (3) Based on the results of inferential statistical analysis, it is obtained that the probability value in conventional learning and e-learning using the whatsapp application can be concluded that there are differences in the effectiveness of conventional learning and e-learning using the application whatsapp on Elementary Scholl Gugus IV, Kecamatan Tanasitolo, Wajo Kabupaten Wajo.

INTRODUCTION

Learning is a process that can grow and encourage students to carry out the learning process. According to Pane and Dasopang (2017) "Learning is the process of providing guidance or assistance to students in the learning process" (p.337). Meanwhile, according to Fatimah, Dewi, and Sari (2018) Learning is a word that is affixed with words, which means learning is an increase in knowledge, the process of remembering, and the process of getting facts or skills that can be mastered and used as needed. According to the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, that learning is a process of interaction between educators and students and learning resources that take place in a learning environment. So it can be concluded that learning is a process of interaction between teachers and students which aims to manage or make arrangements so that it can encourage students to carry out the learning process in order to increase knowledge, get facts and various kinds of skills.

So far, the interaction process in learning is carried out directly (conventionally) between teachers and students, making it easier to get direct feedback from both students and students.

teacher. Each stage of the learning stages from beginning to end is carried out directly. However, during the Covid-19 pandemic, it required teachers to switch from conventional (face-to-face) learning to distance learning (PJJ) or online learning, this is in accordance with the Circular Letter of the Minister of Education

and Culture Number 4 of 2020 concerning the Implementation of Education Policies in the Emergency Period for the Spread of Covid-19 . The circular explains that with consideration of the physical and mental health of students, teachers, principals and all school members, learning activities are carried out at home using a distance learning system (PJJ) or online learning. Learning activities that have been carried out in a face-to-face or conventional system in the classroom have been temporarily replaced with the PJJ system or online.

Based on the findings, all elementary schools in Cluster IV, Tanasitolo District, Wajo Regency, which consisted of 6 schools, namely SDN 215 Tonralipue, SDN 269 Mannagae, SDN 32 Mannagae, SDN 31 Inalipue, SDN 33 Lowa, and SDN 405 Inalipue carried out E-learning using the WhatsApp application. In distance learning except SDN 405 Inalipue which still carries out face-to-face learning. The use of e-learning assisted by the WhatsApp application is seen as more potential to be used in learning, because on average both students and parents have the application, besides that the WhatsApp application is easy to use, this is in line with Jumiatmoko (2016)'s opinion, "The WhatsApp Messenger application is very useful. potential to be used as a learning tool" (p.52).

Based on the explanation above, the success of learning both conventional learning and e-learning using the WhatsApp application can be seen from the extent to which educators can facilitate students to learn well. With this interaction, it will produce an effective learning process as expected. Effective measures in the teaching and learning process or learning, various experts express their respective opinions. According to Uno (2015) revealing the results of his study that learning indicators are said to be effective including material organization, effective communication, mastery and enthusiasm for learning, positive attitudes towards students, giving fair values, flexibility in learning approaches, and good student learning outcomes. According to Yusuf (2017) "Effective learning mostly boils down to the learning process and the final result" (p.15).

The results of previous research conducted by Ucu, Paturusi & Sompie (2018) entitled Analysis of the use of e-learning for the learning process showed that the use of e-learning using social media facilitates communication between teachers and students so that the learning process can occur, but in this study It was also found that from several respondents who were taken from each cluster, they still tended to conventional learning. Another study conducted by Astuti, Sari, & Azizah (2019) which compared the effectiveness of the learning process using e-learning and conventional methods showed that conventional (face-to-face) methods were still considered better than e-learning because they were easier to understand and easier to understand. also interact with teachers. This is in line with the opinion expressed by Rohana, Azzahra, and Taufiqurrahman (2020) The application of e-learning results in gaps due to uneven internet use throughout Indonesia, in the sense that there are gaps in internet access in several regions.

This study will examine further the differences in the effectiveness of conventional learning and e-learning using the WhatsApp application by referring to indicators of learning effectiveness, namely classroom management, student activities, and student learning outcomes. Based on descriptive and inferential analysis, conventional learning is still considered more effective than e-learning using the WhatsApp application. When viewed from each indicator of learning effectiveness, conventional learning on the three indicators is in the very effective category, while e-learning using the WhatsApp application is in the quite effective category.

METHOD

Research Approach

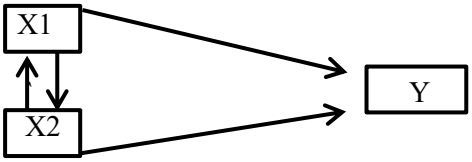
This study uses a quantitative approach. Meanwhile, the type of research conducted is ex post facto research.

Research design

Research design is essentially a strategy in managing research settings in order to obtain data and research conclusions with the smallest possible combination of other variables.

In this study there are 2 independent variables and 1 dependent variable. The independent variables in this study were conventional learning (X1) and e-learning (X2), while the dependent variable was learning effectiveness (Y). Because this type of research is comparative research or comparative research, the two independent variables will be compared with each other based on the assessment indicators of the dependent variable.

The relationship between the independent and dependent variables is described as follows:



Gambar 1. Correlation Of Variabel

Keterangan :
X1 : Conventional Learning
X2 : *E-learning* using *WhatsApp* Application
Y : Leraning Efectiveness

Instrumen Penelitian

Penelitian komparatif bertujuan untuk mengetahui apakah terdapat perbedaan efektivitas pembelajaran konvensional dan *e-learning* menggunakan aplikasi *whatsapp*. Dalam pelaksanaan penelitian ini dibutuhkan diantaranya :

1. Angket Efektivitas Pembelajaran Konvensional
   Angket efektivitas pembelajaran konvensional merupakan angket yang berisi pertanyaan pertanyaan yang sesuai dengan indikator efektivitas pembelajaran yang dijadikan acuan pada penelitian ini dalam menentukan efektif atau tidaknya pembelajaran tersebut.
2. Angket Efektivitas *E-learning* Menggunakan Aplikasi *Whatsapp*
   Angket efektivitas *e-learning* menggunakan aplikasi *whatsapp* bertujuan untuk mengukur tingkat efektivitas *e-learning* menggunakan aplikasi *whatsapp.* Angket tersebut berisi pertanyaan pertanyaan yang sesuai dengan indikator efektivitas pembelajaran yang menjadi acuan pada penelitian ini. Dikarenakan penelitian ini adalah penelitian komparatif yang membandingkan atau mencari perbedaan diantara kedua variabel maka indikator penilaian terhadap kedua variabel tersebut sama dengan mengacu kepada indikator pada tabel dibawah ini :

Tabel 1. Indikator Penilaian Efektivitas Pembelajaran

No.	Aspec	Indicator
1	Class Management	Learning is carried out optimally
		Can control student actions in learning
		Responsiveness, dividing attention and focusing students' attention
		Creating conducive learning
2	Student Activity	The majority of learning is dominated by students
		The ability of students to complete the given task
		Student enthusiasm in learning
3	Learning Outcome	Mastery of student learning (Affective, Cognitive, and Psychomotor)

Data collection technique

The implementation of this research directly involves prospective researchers in collecting, processing, and drawing conclusions from the data obtained by prospective researchers. Data collection techniques used in this study were questionnaires and documentation.

a. Questionnaire (questionnaire)
   The data collection technique in this study used a questionnaire type research technique, this questionnaire was used to determine the level of effectiveness of conventional learning and e-learning using the whatsapp application. This study uses a questionnaire (closed questionnaire) in which there has been a predetermined answer so that respondents just choose. In this study, the data collection

technique used was using a questionnaire by asking written questions to be answered in writing by the sample in the study.

b. Documentation
Documentation is supporting data in this research. In this study, documentation is used to find out and record things related to the data needed in research such as the implementation of the learning process, learning activities, educator data and others. The data obtained were analyzed to determine quantitative data which was then processed to test the hypothesis.

Data Analysis Techniques

After the data has been collected completely, the next step is data analysis. This research is a quantitative research, the data analysis technique used in this research is statistical data analysis. There are two statistical data analysis used, namely:

1. Descriptive Statistical Analysis

Descriptive statistical analysis is used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the public or generalizations. The descriptive statistics referred to in this study are describing data on the acquisition of the effectiveness of conventional learning and e-learning using the whatsapp application such as frequency, average value (mean), data mean (median), frequently occurring value (mode), standard deviation (standard deviation), the lowest data value (minimum), and the highest data value (maximum) using the Statistical Package for Social Science (SPSS) system. The data obtained are presented in tabular form and described. To find out the level of effectiveness of a lesson, it can be calculated by using the formula for evaluating the effectiveness of learning according to Pribowo (2020), namely:

Learning Effectiveness = $\frac{JB}{JK}$ x 100%

Ket :
JB : Total Score
JK : Maksimal Score

The value acquisition data is then categorized, with reference to the category according to Pribowo (2020) which is written in the table below:

Tabel 2. Learning Effectiveness Categorization Guidelines

Value Interval (Number 0-100)	Category
80%-100%	Very effective
60%-79%	Effective enough
50%-59%	Less effective
< 49%	Ineffective

Sumber : Kurniasari, Pribowo, Putra (2020)

2. Analisis Statistik Inferensial

"Inferential statistical research (often also called inductive statistics or probability statistics) is a statistical technique used to analyze sample data and the results are applied to the population" (Sugiyono, 2019, p. 207). Statistical analysis is also known as probability statistics or the truth is probability, meaning the probability of error and truth (belief) stated in the presentation. Inferential statistical analysis is intended to test research hypotheses, before testing the hypothesis, data prerequisite tests are carried out, including normality tests and homogeneity tests, all of which are processed on the SPSS Statistic Version 25 system.

a. Data Prerequisite Test

1) Normality Test

The normality test was used to determine whether the pretest data were normally distributed or not. The normality test used is the Kolmogorov-Smirnov (K-S) test, which is a nonparametric test that uses the SPSS Statistic Version 25 system application. The decision-making guideline for the data is a normal distribution based on the Kolmogorov-Smirnov (K-S) test, which can be seen from:

a) If the probability value < 0.05 then the data is not normally distributed.
b) If the probability value > 0.05 then the data is normally distributed.

b. Hypothesis testing

Test the hypothesis of the score of the effectiveness of conventional learning and the effectiveness of e-learning using the whatsapp application. Hypothesis testing in this study used a paired sample t-test using statistical packages for social science (SPSS). Where the paired sample t-test is used to determine whether there is a difference between the effectiveness of conventional learning and e-learning using the WhatsApp application. The hypotheses to be tested are:

Hypothesis Zero (H0): There is no difference in the effectiveness of conventional learning and e-learning using the WhatsApp application in elementary schools in Cluster IV, Tanasitolo District, Wajo Regency.
Alternative Hypothesis (Ha): There are differences in the effectiveness of conventional learning and e-learning using the WhatsApp application in elementary schools in Cluster IV, Tanasitolo District, Wajo Regency.

The test criteria are used if sig (2-tailed) > 0.05, then there is no significant difference so Ho is accepted where there is no comparison of the effectiveness of conventional learning and e-learning using the WhatsApp application in elementary schools in Cluster IV, Tanasitolo District, Wajo Regency. If sig (2-tailed) < 0.05, then there is a significant difference so that Ho is rejected and Ha. accepted, which means there is a comparison of the effectiveness of conventional learning and e-learning using the WhatsApp application in elementary schools in Cluster IV, Tanasitolo District, Wajo Regency.

RESULTS AND DISCUSSION

Research result

An overview of the effectiveness of conventional learning is obtained through the use of an instrument in the form of a learning effectiveness questionnaire that contains 3 main indicators, namely classroom management, student activities and student learning outcomes. The data taken from the conventional learning effectiveness questionnaire was then tested descriptively using SPSS Version 25. The results of the test were described in the form of a conventional learning effectiveness descriptive table and classified in the form of a frequency distribution table to describe the level of effectiveness of conventional learning.

An overview of the effectiveness of e-learning using the whatsapp application is also obtained through a questionnaire on the effectiveness of e- learning using the whatsapp application which will then be tested descriptively to obtain an overview of the effectiveness of e-learning using the whatsapp application. After the description of the effectiveness of the two variables is known, a descriptive comparison is then carried out both in terms of averages, as well as differences in each indicator of learning effectiveness between conventional learning and e-learning using the WhatsApp application.

Based on the results of research that has been carried out and after a descriptive analysis has been carried out, the effectiveness of conventional learning is in the very effective category, it can be described in the table below:

Table 3. Descriptive Analysis of Conventional Learning

Descriptive statistics	**Statistical Value**
Number of Samples	37
Lowest Value	79
The highest score	100
Average (Mean)	86,86
Standard Deviation	5,850

Based on the table above obtained through data that has been processed using SPSS Statistics Version 25, it shows that the average (mean) is 86.86 so that it is in the very effective category obtained from the average interpretation based on the guideline table for categorizing learning effectiveness.

An overview of the effectiveness of e-learning using the whatsapp application is obtained through the use of an instrument in the form of a learning effectiveness questionnaire consisting of 13 statement items based on indicators of learning effectiveness assessment. The data taken from the e-learning learning effectiveness questionnaire was then tested descriptively using SPSS Version 25, the results of which are described in the table below:

Tabel 4. Results of the Descriptive Analysis of the Effectiveness of E-Learning Using the Whatsapp Application

Descriptive statistics	**Statistical Value**
Number of Samples	37
Lowest Value	48
The highest score	94
Average (Mean)	70,56
Standard Deviation	12,077

Based on the table above obtained through data that has been processed using SPSS Statistical Version 25, it shows that the average (mean) of 70.56 is in the quite effective category. obtained from the results of the interpretation of the average based on the table of guidelines for categorizing learning effectiveness.

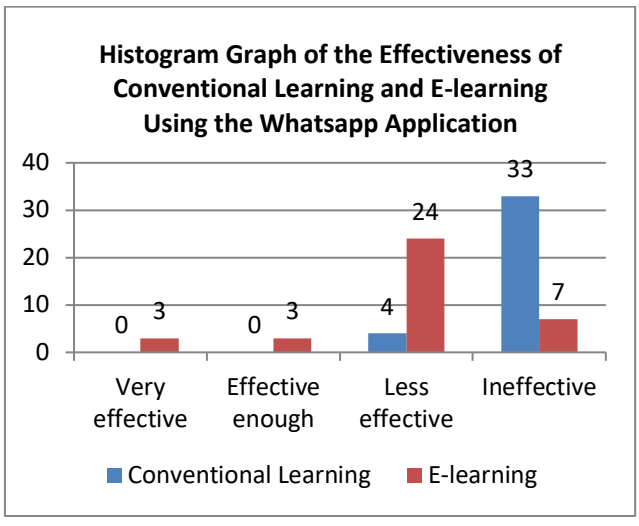
Furthermore, in detail the results of the frequency distribution of the effectiveness of conventional learning are described as follows:

Tabel 5. Results of Categorization of Frequency Distribution Results of Conventional Learning Effectiveness and E-learning Effectiveness Using the Whatsapp Application.

No	**Value Range**	**Kategori**	**Conventional Learning**		***E-learning* Using *Whatsapp Application***	
			Frequency	**Precentage**	**Frequency**	**Precentage**
1	80-100	Very effective	33	89%	7	19%
2	60-79	Effective enough	4	11%	24	65%
3	50-59	Less effective	-	-	3	8%
4	<49	Ineffective	-	-	3	8%
Total			**37**	**100%**	**37**	**100%**

In addition to the table, the frequency distribution of the results of the effectiveness of conventional learning and e-learning using the WhatsApp application, is also presented in the form of a histogram graph as follows:

Picture 2. Histogram Graph of Categorization Results of Conventional Learning Effectiveness and E-learning Effectiveness Using the Whatsapp Application



Based on the above, it is known that on the effectiveness of conventional learning there are no respondents who think that conventional learning is ineffective and less effective, 4 respondents think it is quite effective, and 33 respondents are in the very effective category. While on the effectiveness of e-learning using the whatsapp application, there are 3 respondents who think that the effectiveness of e-learning using the whatsapp application is not effective, 3 people think it is less effective, 24 people think it is quite effective and 7 people think it is very effective. Based on the results of the categorization that has been carried out, it can be concluded that the results of the assessment of the effectiveness of conventional learning are in the category of quite effective - very effective, while the results of the assessment of the effectiveness of e-learning using the whatsapp application are in the category of ineffective - very effective. This shows that there are differences in the results of the assessment of the effectiveness of conventional learning and e-learning using the WhatsApp application.

The complete presentation for the average percentage of the results of the assessment of the effectiveness of conventional learning and e-learning on each indicator is as follows:

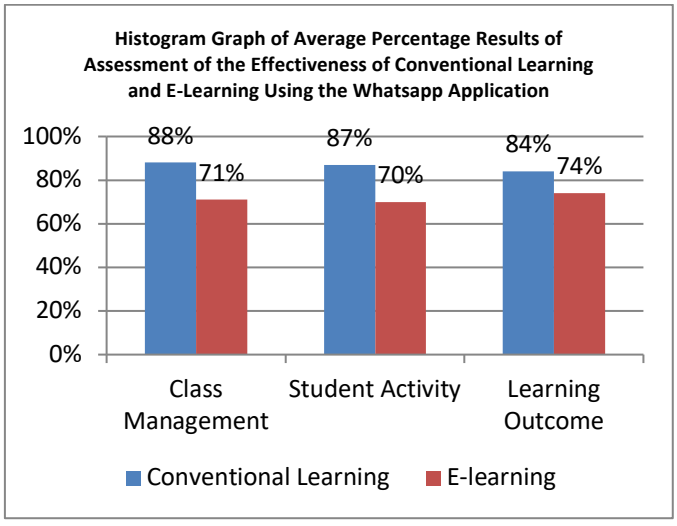
Table 6. Table of Average Percentage Results of Assessment of the Effectiveness of Conventional Learning and E-learning on Each Indicator

No	Efectivity Indicator	Conventional Learning	*E-learning* Using *Whatsapp* Application
1	Class Management	88%	71%
2	Student Activity	87%	70%
3	Learning Outcome	84%	74%

Based on the average percentage on each indicator, conventional learning is still considered more effective than e-learning using the WhatsApp application. It can be seen that the average percentage of conventional learning is above 80% while e-learning is below 75%.

In addition to the table, the average percentage of the results of the assessment of the effectiveness of conventional learning and e-learning using the WhatsApp application, is also presented in the form of a histogram graph as follows:

Picture 3. Histogram Graph of Average Percentage Results of Assessment of the Effectiveness of Conventional Learning and E-Learning Using the Whatsapp Application



Based on the table above, it shows the average percentage of the results of the effectiveness of conventional learning and e-learning using the WhatsApp application. The results of the average percentage value of effectiveness on classroom management indicators, which is 88%, are in the very effective category, while the average percentage value of the effectiveness of e-learning using the WhatsApp application is 71% in the quite effective category, this shows that there is a difference of 17%. In indicator II, namely student activity, the average percentage value of conventional learning effectiveness is 87% in the very effective category while the average percentage of e-learning effectiveness values using the whatsapp application is 70% in the quite effective category, this shows there is a difference of 17% . In indicator III, namely learning outcomes, the average percentage value of conventional learning effectiveness is 84% in the very effective category, while the average percentage value of e-learning effectiveness using the whatsapp application is 74% in the quite effective category, this shows that there is a difference of 10% . Based on the comparison of the average percentage of each indicator of the effectiveness of conventional learning and e-learning using the WhatsApp application, each indicator shows differences.

After knowing the difference in the effectiveness of conventional learning and e-learning using the whatsapp application descriptively, then to ascertain whether there really is a difference in the effectiveness of conventional learning and e-learning using the whatsapp application, it can be known through the results of inferential statistical analysis. Inferential statistical analysis consists of data prerequisite tests and hypothesis testing. The results of inferential statistical analysis are intended to answer the research hypotheses that have been formulated. Prior to testing the hypothesis, the data prerequisite test was conducted, namely the normality test.

The normality test was conducted to determine whether the data were normally distributed or not. Processing the normality test using the SPSS Statistic Version 25 program. The normality test in this study used the Kolmogrov-Smirnov. The data is said to be normally distributed if the probability value at the output of the Kolmogorov-Smirnov test is greater than the specified value, which is 5% (0.05). The summary of the results of the normality test of the effectiveness of conventional learning and e-learning using the WhatsApp application can be seen in the following table:

Table 7. Normality Test Results of Conventional Learning and E-Learning Effectiveness Values Using the Whatsapp Application

Data	Probabilty Value	Ket
Effectiveness of Conventional Learning	0,147	0,147 > 0,05 = Normal
Effectiveness of E-learning Using *Whatsapp Aplication*	0,200	0,200 > 0,05 = Normal

Based on the table above obtained through data that has been processed using SPSS Statistics Version 25, it shows that the data on the effectiveness of conventional learning and e-learning using the WhatsApp application are normally distributed. This can be seen from the results of the normality test on the two data obtained a probability value greater than 0.05. Thus, it can be concluded that the data on the effectiveness of conventional learning and e-learning using the WhatsApp application are normally distributed.

After carrying out the normality test, a hypothesis test is then carried out to find out whether there is a difference between the effectiveness of conventional learning and e-learning using the WhatsApp application. This analysis was carried out by testing the results of the effectiveness of conventional learning and e-learning using the whatsapp application using the SPSS Statistic Version 25 program. The data requirements are said to be significant if the probability value is less than 0.05. The following are the results of the Paired Sample T-Test on the effectiveness of conventional learning and e-learning using the WhatsApp application:

Table 8. Paired Sample T-Test Results of Effectiveness of Conventional Learning and E-Learning Using the Whatsapp Application

Data	T	Df	Probability Value	Ket
The Effectiveness of Conventional Learning and E-learning Using the Whatsapp Application	8,041	36	0,000	0,000<0,05 = There is a diffrences

Based on the table above obtained through data that has been processed using SPSS Statistics Version 25 and shows that the probability value is less than 0.05 so that it is known that there are differences in the effectiveness of conventional learning and e-learning using the WhatsApp application at SD Gugus IV, Tanasitolo District. Wajo.

Discussion

The results of the study have been described based on the formulation of the problem in this study. Based on the results of the research above, there are two data analysis techniques used in this study, namely data processing using descriptive statistical analysis and inferential statistical analysis. Processing of descriptive statistical analysis to state the frequency distribution of respondents' scores or describe the effectiveness of conventional learning and e-learning using the whatsapp application. Furthermore, processing inferential statistical analysis, the results of inferential statistical analysis will answer the research hypothesis that has been formulated. Before testing the hypothesis, the data prerequisite test was conducted, namely the normality test to find out whether the data was normally distributed or not.

In descriptive statistical analysis it was found that the effectiveness of conventional learning is in the very effective category. Meanwhile, the effectiveness of e-learning using the WhatsApp application is in the quite effective category. Conventional learning is still seen as more effective in its implementation, such as the ease of controlling student behavior, the ease of providing direct guidance to students, and the ease of directly facilitating student learning needs. This is in line with the opinion expressed by Pirapuraja, Nafrees, Rishan, and Ali (2019), the advantages of conventional learning are that students can widely share perspectives, allowing students to know the characteristics and learning styles of students, teachers can train, guide students directly. according to their needs, the implementation of learning can be controlled directly.

Based on the average percentage of each indicator in assessing the effectiveness of conventional learning and e-learning using the WhatsApp application. For each learning effectiveness assessment indicator raised in this study, the average percentage of the assessment of the effectiveness of conventional learning on the three indicators is higher than the average percentage of evaluating the effectiveness of e-learning using the WhatsApp application. So that conventional learning seen from indicators of classroom management, student activities and learning outcomes is seen as more effective than e-learning using the WhatsApp application. This is in line with the research conducted by Astuti, Sari, & Azizah (2019) which compared the effectiveness of the learning process using e-learning and conventional methods, showing that the conventional (face-to-face) method is still considered better than e-learning because it is easier to use. understand the material and also easier to interact with the teacher.

The next analysis carried out was inferential statistical analysis consisting of data prerequisite tests and hypothesis testing. First, the data prerequisite test is carried out, namely the normality test. Normality test of the effectiveness of conventional learning and e-learning using the whatsapp application using the Kolmogorof-Smirnov test with the results of semua data berdistribusi normal. Data yang berdistribusi normal telah memenuhi syarat untuk dilakukan uji hipotesis.

Hypothesis testing was carried out using the paired sample t-test to determine whether or not there were differences in the effectiveness of conventional learning and e-learning using the WhatsApp application. The results of hypothesis testing are carried out by comparing the probability values. Statistical results using the paired sample T-test that has been carried out through SPSS Statistic Version 25 show that there are differences in the effectiveness of conventional learning and e-learning using the WhatsApp application at SD Gugus IV, Tanasitolo District, Wajo Regency.

CONCLUSION

Based on the results of the research conducted, it can be concluded several things, including:

1. Based on the results of the descriptive analysis, the effectiveness of conventional learning is in the very effective category, it is shown from the average value of the effectiveness of conventional learning. For each indicator of learning effectiveness, the average percentage value of the effectiveness of conventional learning is in the very effective category.
2. The results of the assessment of the effectiveness of e-learning using the whatsapp application are in the quite effective category, this is indicated by the average value of e-learning effectiveness using the whatsapp application. While the average value for each indicator of the effectiveness of e-learning using the WhatsApp application is in the quite effective category.
3. There are differences in the effectiveness of conventional learning and e-learning using the WhatsApp application at SD Cluster IV, Tanasitolo District, Wajo Regency. This is because the probability value obtained is smaller than 0.05.

REFERENCES

Astuti, C. C., Sari, H. M. K., & Azizah, N. L. (2019). Perbandingan Efektivitas Proses Pembelajaran Menggunakan Metode E-Learning dan Konvensional. *Proceedings of the ICECRS*, *2*(1), 35. https://doi.org/10.21070/picecrs.v2i1.2395

Bambang Warsita. 2015. Teknologi Pembelajaran (Landasan & aplikasinya). Jakarta: PT RINEKA CIPTA.

Deassy May Andini dan Endang Supardi. (2018). Kompetensi Pedagogik Guru Terhadap Efektivitas Pembelajaran Dengan Variabel Kontrol Latar Belakang Pendidikan Guru. Jurnal Pendidikan Manajemen Perkantoran. Vol. 1, No. 2, hal. 1-7, Januari 2018.

Djam'am Satori dan Asep Irawan. 2013. Pengaruh Regulasi, Pembiayaan dan Partisipasi Masyarakat Terhadap Efektivitas Manajemen Sarana Prasarana Sekolah, dan Dampaknya Terhadap Efektivitas Pembelajaran pada Sekolah Menengah Pertama se Kota Sukabumi. Jurnal Administrasi Pendidikan. Vol. XVII, No. 1, Oktober 2013.

Fakhrurrazi, F. (2018). Hakikat Pembelajaran Yang Efektif. At-Tafkir, 11(1), 85. https://doi.org/10.32505/at.v11i1.529

Fatimah, F., & Kartikasari, R. D. (2018). Strategi Belajar Dan Pembelajaran Dalam Meningkatkan Keterampilan Bahasa. Pena Literasi, 1(2), 108. https://doi.org/10.24853/pl.1.2.108-113

Jumiatmoko, M. (2016). Whatsapp Messenger Dalam Tinjauan Manfaat Dan Adab. *Wahana Akademika: Jurnal Studi Islam Dan Sosial*, *3*(1), 51. https://doi.org/10.21580/wa.v3i1.872

Kemendikbud. (2020). *Surat Edaran Nomor 4 Tahun 2020 Tentang Pelaksanaan Kebijakan Pendidikan Dalam Masa Darurat Penyebaran COVID-19.* Jakarta: Sekretariat Negara.

Kurniasari, A., Pribowo, F. S. P., & Putra, D. A. (2020). Analisis Efektvitas Pelaksanaan Belajar Dari Rumah (BDR) Selama Pandemi Covid - 19. *Jurnal Kajian Pendidikan Dan Hasil Penelitian*, *6*(3), 246–253.

Makarima, M. M. (2019). Pemanfaatan Aplikasi Daring Media Sosial WhatsApp , sebagai Media Pembelajaran Bahasa Arab Berbasis ICT (Information and Communication Technologies). *Jurnal Ekonomi Dan Dakwah Islam (Al-Tsiqoh)*, *05*(02), 135–142.

Pane, A., & Darwis Dasopang, M. (2017). Belajar Dan Pembelajaran.*FITRAH: Jurnal Kajian Ilmu-Ilmu Keislaman*, *3*(2), 333. https://doi.org/10.24952 /fitra v3i2.945

Pirapuraj, P., Rishan, U. M., & Ali, S. N. (2019). *E-LEARNING AT HOME VS TRADITIONAL LEARNING AMONG HIGHER EDUCATION STUDENTS : A SURVEY BASED ANALYSIS INTRODCTION E-learning and traditional face to face learning are most important learning process and being practiced by students who are reading their fir*. *November*, 213–221.

Pustikayasa, I. M. (2019). Grup WhatsApp Sebagai Media Pembelajaran. *Widya Genitri : Jurnal Ilmiah Pendidikan, Agama Dan Kebudayaan Hindu*, *10*(2), 53–62. https://doi.org/10.36417/widyagenitri.v10i2.281

Rohana, Rohana and Fatun, Fatimah Azahra and Taufiqurrahman, Muh (2020). *Impact Of Corona Virus On Health Economy, And Education.* In: Corona Pandemic (Covid 19) And Interdiscipline Issues, Akshita Publisher And Distributors Delhi-110053 India, pp. 1-217.

Ucu, N. L., Paturusi, S. D. E., & Sompie, S. R. U. A. (2018). Analisa Pemanfaatan E-Learning Untuk Proses Pembelajaran. *Jurnal Teknik Informatika*, *13*(1). https://doi.org/10.35793/jti.13.1.2018.20196

Yusuf, B. B. (2017). Konsep Dan Indikator Pembelajaran Efektif. In *Jurnal Kajian Pembelajaran dan Keilmuan* (Vol. 1, Issue 2, pp. 13–20).