

The Influence of Conference Class Technology Using Zoom on E-learning in the Covid-19 Pandemic

Albert Riyandi, , Imron Imron, M. Sinta Nurhayati

STMIK Nusa Mandiri

Jl. Jati Waringin no 2

Jakarta Indonesia.

e-mail: Albert.abe@nusamandiri.ac.id, imron.imr@bsi.ac.id, m.sinta.stn@bsi.ac.id

Bambang Wijonarko, Aji Sudibyo

Universitas Bina Sarana Informatika

Jl. Kramat 98

Jakarta, Indonesia.

e-mail: bambang.bwo@bsi.ac.id , aji.abby@bsi.ac.id

Abstract

Classroom learning activities for schools and campuses have been stopped since the covid-19 pandemic in accordance with the regulations of the implementation of PSBB by the Indonesian government. According to the Kemendikbud as many as 8 million students and 300 thousand lecturers suddenly transformed into online learning due to the pandemic. The meeting conference technology, either zoom or google meet, is currently adopted as a class conference for means of interacting with lecturers and students in directly presenting lecture material. Success. The effectiveness of using class conferencing with zoom must be measured by the achievement of the average grade. From the results of calculations carried out on 100 students learning by class conference is very effective. This is evident from the comparison of post test values that there is no value below C with an average value for Post Test of 87 with class A of 89, class B of 91, class C of 86, class D of 81. For the value of Pre Test by 67 with details of class A by 64, class B by 85, class C by 64 and class D by 57. while based on Pre Test values, Grade A by 28, Grade B by 8, Grade C by 30, Grade D by 14 and Grade E as many as 20. For post-test Grade A as many as 57, Grade B as many as 28, grade C as many as 15 out of 100 students. Quotas and Connections are of particular concern because they become obstacles when implementing E-learning using technology conference meeting.

Keywords

E-learning, Conference Class, Technology Conference Meeting, Zoom, PSBB.

1. Introduction

In response to facing the Covid-19 pandemic the Indonesian government issued PP no 21 of 2020 which regulates large-scale social restrictions or PSBB. This restriction is not only done in the industrial sector but also in the education sector.

As a result of this rule teaching and learning activities cannot be carried out in the classroom and are replaced online. This is in accordance with SE Mendikbud RI no 4 of 2020 regulates distance learning in a pandemic For distance learning campuses or commonly called E-learning is not something new and has often been done for certain subjects. During this pandemic, the campus was challenged to present all lecture learning activities through E-learning. According to the Kemendikbud (2020) In March, as many as 8 million students and 300 thousand lecturers suddenly transformed into online learning.

E-learning applications are designed and implemented with facilities that are equipped with downloading material, assignments, quizzes and uploading material (Lestari and Herlina 2019). The level of effectiveness of e-learning as measured by the achievement of the average value obtained (Rivai and Susanto 2019). E-learning itself also has advantages when compared to conventional, namely in terms of flexibility of lecture time and ease of task collection (Sari and Azizah 2019).

Conference meeting technology, either zoom or google meet, is currently adopted as a class conference to facilitate interaction between lecturers and students in direct lecture material presentation. According to Hantoro (2020) as president director of Telkomsel stressed that the highest surge in broadband services reached 16% with e-learning site and application customers More than 5,404 users, and an increase of more than 443% meeting conference users including the use of zoom technology.

But in the implementation of Distance Education, obstacles or problems are often found discrepancy with learning that should be, many think responsibility instructors in implementing Distance Teaching are lighter than traditional Learning (Semradova and Hubackova, 2016). The teacher's creativity in providing material through the media is also needed as a factor influences students' interest in learning in this Distance Learning (Simbolon 2014). Problems in accepting the concepts and principles of the material will be difficult in teaching learning without face to face although the Educator can utilize learning media in the learning process such as power points, hyperlinks, video tutorials, compact disks (CDs) and interactive multimedia based on CAI (Abdi et al. 2016).

In this study sought how much influence the effectiveness of classroom conferences conducted through zoom on online learning as a substitute teaching creativity in class by comparing grades before using zoom and after using zoom during pandemic.

2. Method

The research method is a scientific method used by researchers in gathering facts and data for a specific purpose to be used in their research (Riyandi 2019). In this study the authors applied a quantitative method with a descriptive approach. where the method carried out by researchers with samples that can be calculated statistically with descriptive nature that emphasizes the researcher as a key instrument systematically in accordance with the hypotheses that were built. The hypothesis taken in this study is:

H₀: Zoom class conferences are very effective as a substitute for online teaching in pandemic times

H₁: Zoom class conferences are very ineffective as a substitute for online teaching during the pandemic

2.1 Analysis Approach

The stages of research carried out in this study are started from determining the sample and applying the rules followed by comparing the results and summarizing the problems and complaints that exist, ending making conclusions and suggestions. In detail, the research framework can be seen in Figure 1.

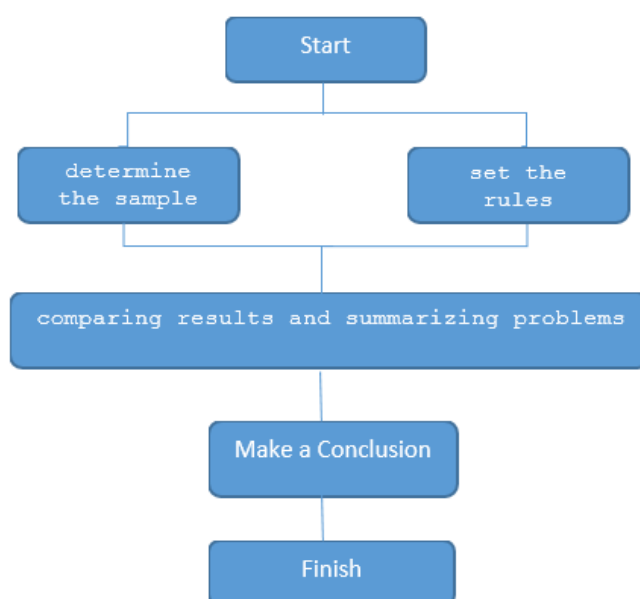


Figure 1. Research Stages

2.2 Data Retrieval

Data was collected by direct observation of the scores obtained by students before and after the exam in 4 classes. 2 class came from STMIK Nusa Mandiri Tangerang and 2 class came from UBSI Tangerang with a total of 100 students.

2.3 Pre Test and Post Test Rules

1. Students will be allowed to learn through the material in the E-learning application independently for 45 minutes and then do a Pre Test by answering the questions. Pre test is done with a duration of 45 minutes and can be repeated as many as 2x the highest value is taken.
2. Students will learn through media conference class using zoom with explanation of the material delivered by the lecturer for 45 minutes and then post-test. Post test is done with a duration of 45 minutes and can be repeated as many as 2x the highest value is taken

3. RESULT AND DISCUSSION

3.1 Pre Test and Post Test Analysis

After Pre-Testing 4 classes, an assessment is carried out to get the grade, results can be seen in table 1.

Table 1. Results of processing the Pre Test

No	Nama	Value Range	Pre Test				Total
			A	B	C	D	
1	Grade A	85 – 100	11	16	0	1	28
2	Grade B	75 – 84	1	5	2	0	8
3	Grade C	60 – 74	2	1	12	15	30
4	Grade D	50 – 59	5	0	5	4	14
5	Grade E	< 49	8	1	1	10	20
Total Students			27	23	20	30	100
Average			64	85	64	57	67

From this table, the results show that the overall average score is 67 with an average breakdown of Class A of 64, Class B of 85, Class C of 64 and Class D of 57. For Grade A values of 28, Grade B values of 8, Grade C value of 30, Grade D value of 14 and Grade E value of 20. For more details, it can be seen in Figure 2.

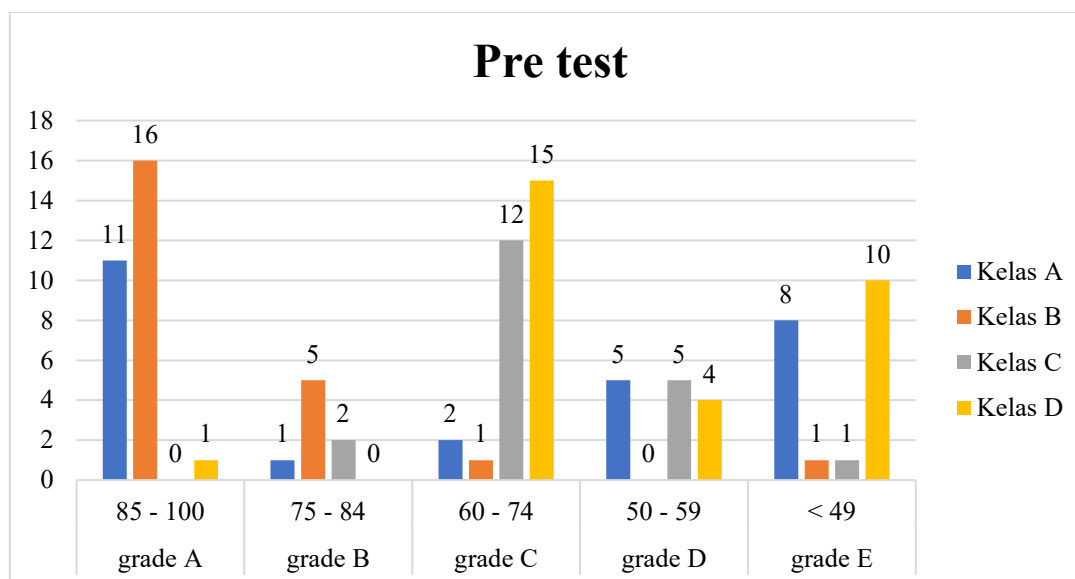


Figure 2. Result Pre Test Chart Diagram

After Pre-Test, post-test is conducted to learn which results are effective through class conferences using zoom. The results of processing the Post Test value can be seen in table.

Table 2. Results of processing the post test

No	Nama	value range	Post Test				Total
			A	B	C	D	
1	Grade A	85 - 100	20	16	10	11	57
2	Grade B	75 - 84	4	7	7	10	28
3	Grade C	60 - 74	3	0	3	9	15
4	Grade D	50 - 59	0	0	0	0	0
5	Grade E	< 49	0	0	0	0	0
Total Students			27	23	20	30	100
Average			89	91	86	81	87

The average value produced by the Post Test is 87, for Class A is 89, Class B is 91, Class C is 86, Class D is 81. For Grade A as many as 57, Grade B as many as 28 and Grade C as many as 15 out of 100 student. Comparison of these values can be seen in Figure 3.

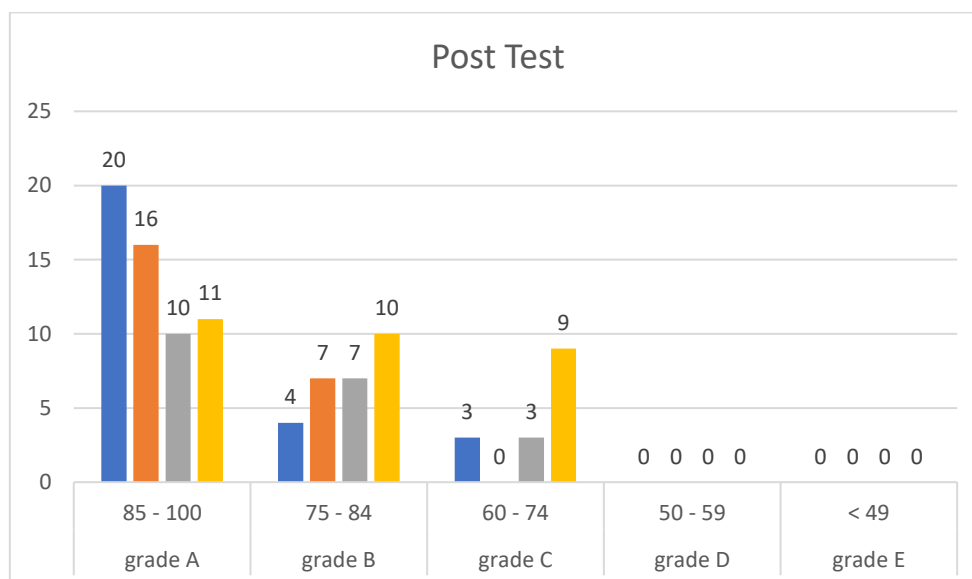


Figure 3. Result Post Test Chart Diagram

From the diagram above it can be seen that learning through class conferences using zoom is more effective than using only E-learning. It can be seen that there are no students who get grades below C from the post test results. Which means that the conclusions from the hypotheses that H_0 has done are accepted. the average value of the Pre Test was 67 while the average value of the Post Test was 87. Comparison of pre-test and post-test can be seen in Figure 4.

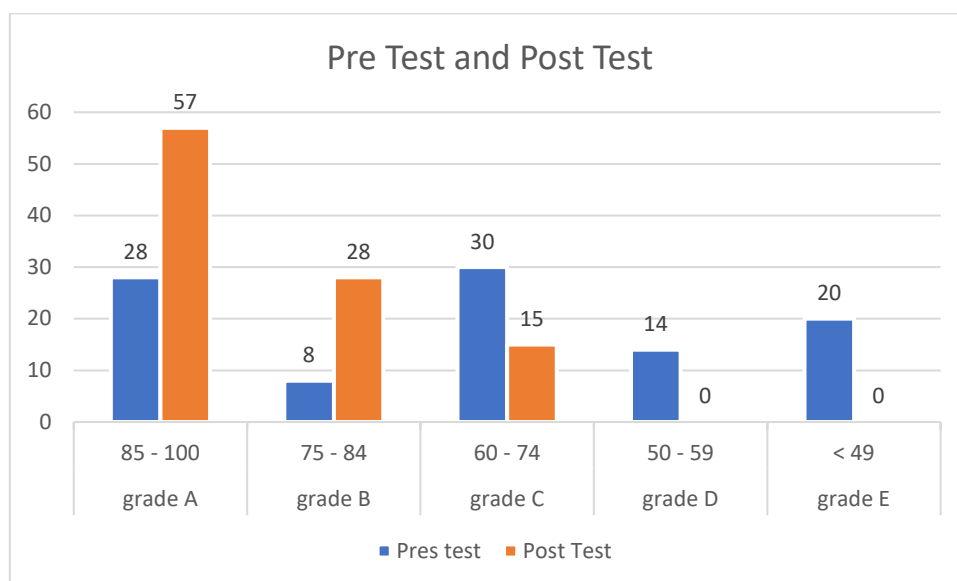


Figure 4. Comparison Result Pres Test and Post Test

3.2 Paired Sample T Test

After analyzing the pre-test and post-test for the writer, the improvement was done by using the Paired Sample T Test. The data taken are Pre Test data (value data before using Zoom) and Post Test data (value data after using Zoom). The results of the Paired T Test can be seen in the following table 3.

Table 3. Paired Samples Statistic.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreTest	66,7500	100	19,68357	1,96836
	PostTest	86,3600	100	10,75017	1,07502

The table of paired samples statistics shows the descriptive value of each variable in the sample (Table 4, Table 5).

- The Pre Test has an average (mean) value of 66.7500 out of 100 data, with the acquisition of std.deviation being 19.68357 with std. error 1.96836.
- Post Test has an average value (mean) of 86,300 out of 100 data, with the acquisition of std.deviation is 10.75017 with std. error 1.07502.

From this it shows the final test on the data is higher than the initial test, and vulnerable to the distribution of the final test data smaller than the initial test. As well as the std.error value in the final test is smaller than the initial test.

Table 4. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PreTest & PostTest	100	,580	,000

The Paired Samples Correlations table shows the correlation value which shows the relationship between the two variables in the paired sample. This is obtained from the bivariate Pearson correlation coefficient (with a two-sided significance test) for each pair of variables entered.

Table 5. Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	PreTest - PostTest	-19,61000	16,04575	1,60458	-22,79383	-16,42617	-12,221	99	,000

The Paired Samples Test table is the main table. The Paired Samples Test table is the main table of output that shows the results of the tests carried out. This can be seen from the significance value (2-tailed) in the table.

The significance value (2-tailed) of this case example is 0.000 ($p < 0.05$). So the results of the initial test and final test underwent significant changes (meaning). Based on the descriptive statistics of the pre-test and post-test it was proven that the final test was higher. It can be concluded that the use of Zoom is very effective in the online learning process.

After the final conclusions are obtained, the writer notes the two biggest problems when conducting conference class learning using Zoom, including the Quota and Connection problems. For these two problems can be made special attention when applying learning through class conferences.

4. Conclusion

From the results of this discussion, the authors conclude that E-learning learning by using class conferences through zoom conducted on 100 students is carried out very effectively. This is evident from the comparison of posttest values that there is no value below C with an average value for Post Test of 87 with class A of 89, class B of 91, class C of 86, class D of 81. For the value of Pre Test by 67 with details of class A by 64, class B by 85, class C by 64 and class D by 57. while based on Pre Test values, Grade A by 28, Grade B by 8, Grade C by 30, Grade D by 14 and Grade E as many as 20. For post-test Grade A as many as 57, Grade B as many as 28, grade C as many as 15 out of 100 students. E-learning learning using class conferences through zoom has similarities when learning is done in class so that learning motivation is maintained, but there are issues of particular concern namely quota and connection.

Reference

- Abdi, M., Bachtiar, G., and Daryati., *Penggunaan Multimedia Interaktif Berbasis Computer Assisted Instruction (Cai) Pada Topik Pembahasan Baja Sebagai Bahan Bangunan*. vol. 5, no. 2, 2016.
- Astuti, C. C., Sari, H. M. K., and Azizah, N. L., Perbandingan Efektifitas Proses Pembelajaran Menggunakan Metode E-Learning dan Konvensional. *Proceedings of the ICECRS*, vol. 2, no. 1, pp. 35, 2019.
- Eriana, E. S., Rivai, A. K., and Susanto, A. B., Implementasi Fuzzy Inferences System Mamdani Dalam Menganalisis Efektivitas Penerapan E- Learning Di Perguruan Tinggi (Studi Kasus : Fti Universitas Pamulang) Agung Budi Susanto. *Jurnal Teknologi Informasi ESIT, XIV* vol. 02, 2019.
- Hantoro, S.. Telkomsel Catat Lonjakan Data Hingga 16 Persen. Retrieved July 16, 2020.
- Kemendikbud. Kemendikbud Perkuat Pemahaman Dosen, Kembangkan Teknologi Informasi untuk Menyusun Bahan Ajar. Retrieved July 19, 2020, from <https://www.kemdikbud.go.id/main/blog/2020/06/kemendikbud-perkuat-pemahaman-dosen-kembangkan-teknologi-informasi-untuk-menyusun-bahan-ajar>. 2020
- Lestari, N. S., and Herlina., Pengembangan aplikasi e-learning berbasis web untuk. vol. 14, no.1, pp. 62–72, 2019.
- Mendikbud RI. SE Mendikbud no 4 tahun 2020. Retrieved July 6, 2020.
- Presiden Republik Indonesia. Peraturan Pemerintah Nomor 21 Tahun 2020 tentang Pembatasan Sosial Berskala Besar Dalam Rangka Percepatan Penanganan Coronavirus Disease 2019/COVID-19. Retrieved July 2, 2020.
- Riyandi, A.. Sistem Informasi Ketersediaan Ruang Rumah Sakit Terintegrasi Aplicare BPJS Kesehatan. *Paradigma-Jurnal Informatika Dan Komputer, XX* (1), pp. 85–90, 2019.
- Semradova, I., and Hubackova, S.. Teacher Responsibility in Distance Education. *Procedia - Social and Behavioral Sciences*, vol. 217, pp. 544–550, 2016.
- Simbolon, N. Faktor Faktor Yang Mempengaruhi Minat Belajar Peserta Didik. *Elementary School Journal Pgsd Fip Unimed*, vol. 1, no. 2, pp. 14–19, 2014.