Research Paper

The Effect of E-learning Using Google Classroom and Google Meet on the Learning Outcomes of Class XI Students

Roimatul Hamidah[1], Elis Irmayanti[2], Tjetjep Yusuf Afandi[3]

[1, 2, 3]Economics Education, Faculty of Economics and Business, Nusantara University PGRI Kediri, Indonesia.

Corresponding Author: Roimatul Hamidah

ABSTRACT

This research was motivated by the problem of switching learning methods from offline to online caused by the distance learning policy of PGRI Vocational High School 2, Kediri. There were many problems faced by students with changes in learning. The selection of the right learning media could affect the learning outcomes of a student. This study intended to determine (1) the effect of E-learning using google classroom on student learning outcomes. (2) the effect of E-learning by using google meet on student learning outcomes. (3) Was there a difference in the average level of student learning outcomes taught using google classroom and google meet. This type of research was quantitative, while quantitative causality pre-experimental design was a technique in this research. The design in this study used intact-group comparison. The samples in this study were 36 students of class XI financial accounting and institution 3 with 36 students. The research instruments used were tests, questionnaires and documentation. Data analysis used was the classical assumption test, simple regression test, t test and independent sample t test. The conclusions in this study were: (1) the results of a simple regression test of sig 0.029 <0.05 then Ho was rejected and Ha was accepted, meaning that google classroom had a positive effect on learning outcomes. (2) the results of a simple regression test of sig 0.049 <0.05 then Ho was rejected and Ha was accepted, meaning that Google Meet had a positive effect on learning outcomes. (3) the results of the independent t test of Sig 0.003 <0.05 then Ho was rejected and Ha was accepted, which meant that there was a significant difference in student learning outcomes using google classroom and google meet

Keywords: Google Classroom, Google Meet, Learning Outcome

INTRODUCTION

Technological developments have brought many changes in science and technology. These technological developments are very meaningful in order to develop the quality of human resources in learning activities, especially science and technology-based learning to support the subjects of all students in schools. This change is marked by a change in the learning system that changes learning that was originally done offline to online. Learning will be effective if there is continuity between its components, such as the selection of appropriate methods, media, and learning strategies (Irmayanti et al. 2019).

The development of science and technology, especially information technology, has various positive implications for the development of the world of education today. Among the forms of utilization of this information technology is the existence of e-learning. E-learning is a type of learning media that allows students to receive material via the internet and other computer network media (Imaduddin 2018:2). E-learning is very popular in the world of education after the government

policy regarding the implementation of distance learning due to the covid-19 virus that hit Indonesia.

In E-learning learning, learning materials are converted digitally and "consumed" on electronic devices. After the government started distance learning due to the COVID-19 virus that hit Indonesia, E-learning has become very popular in the world of education. E-learning allows students to acquire knowledge without being physically present in the room. The delivery of E-learning materials can be synchronous or asynchronous. Synchronous means that teacher and student, or student and teacher, interact in real time. For example, two-way video conferencing, audio conferencing, internet chat, desktop video conferencing, etc. Asynchronous means that the teacher and students do not interact at the same time, but the teacher conveys instructions via videos, computers, etc., and students respond at different times (Hamidah et al. 2020). The knowledge transmitted through electronic media can actually be studied individually by students to improve their knowledge and understanding, but their skills and attitudes have not yet achieved their goals.

When the teacher is not physically present, there is a vulnerability to lack of methods in learning knowledge. The absence of an educator directly risks teaching students to practice the material freely without guidance. Or worse, he is reluctant to do the actual execution of the material and just does the technical report until he does the material. Good learning is not only about one-way learning, meaning that the teacher only provides material and students only listen to the theory conveyed by the teacher, but effective learning is two-way learning, learning where teachers and students make a real contribution to the learning system, both inside or outside the classroom (Surindra and Irmayanti 2019).

The learning that has been carried out in Indonesia is learning with a non-E-learning model. Non-e-learning is learning that is carried out without electronic features/tools.

The learning resources used are reading books, materials, worksheets, posters, direct conversations, and other similar formats. In the non-e-learning learning process, students are always accompanied by a teacher in the learning process where this learning allows educators to intervene directly in the learning process and improve students' skills.

It has been explained previously that in fact there are still many gaps in the ability to organize E-learning in various locations. However, in an emergency situation like today, it seems that the actors are not really ready to organize e-learning. To encourage these activities, in 2020-2021 the Ministry of Education and Culture (Kemendikbud) ratified a quota assistance policy for educators and students. This policy is expected to help access information for educators and students in conducting online learning activities. This step is seen as a strategy to meet the needs of the parties' financial efficiency by saving the cost of learning activities during the COVID-19 emergency response period.

State vocational school 2 Kediri is a school that implements offline learning due to the COVID-19 pandemic. This transformation makes teachers obliged to choose the right learning method to be used in e-learning because it can affect student learning outcomes. Learning outcomes are the results achieved after a student completes a certain subject (Sinar 2018:20). Learning outcomes can be directly studied and assessed by taking a test or non-test. Therefore, learning outcomes are not only seen from academic score, but also include non-academic values (Rahayu and Pahlevi 2021). In the world of education, assessment is used to estimate the learning outcomes of a student to ensure the achievement of the learning objectives desired by a teacher (Napura et al. 2021). The media used to support offline learning are Google Classroom and Google Meet.

Google Classroom is a free Google service for schools, non-profit organizations, and those who have a Google account (Imaduddin 2018:4). Learning activities

through Google Classroom are simple and giving assignments is very time-saving because educators give assignments not using paper. Not only that, the learning module can still be opened even though the students are no longer in the room (Rikizaputra and Sulastri 2020).

Google meet ialah fasilitas komunikasi video berlandas web dan seluler yang dibesarkan oleh google (Basori 2021:52). Penggunaan video conference dalam kegiatan pembelajaran daring dapat menolong guru serta siswa tetap berinteraksi secara langsung walaupun tidak berdampingan. Google Meet berpotensi menjadi media alternatif untuk proses pendidikan dan pembelajaran, rapat dengan teman kantor, bahkan rapat kerja dari rumah (Aisyah and Sari 2021).

With the various looks, features, and conveniences provided by Google Classroom and Google Meet, it is hoped that they will be able to help learning activities, especially helping educators in delivering material and helping students learn learning materials well, so that later student learning outcomes can increase. Based on the results of observations carried out by researchers, there are several obstacles when using Google Classroom, including students often feel confused when submitting/submitting assignments in Google Classroom. In addition, the use of google meet also encountered problems, especially in the network section. Students whose homes are far from the city often experience problems in the network, so that when the meet takes place, they often leave the meet.

Based on the background above, the researcher was encouraged to conduct a research entitled "The Effect of E-learning Using Google Classroom and Google Meet on the Learning Outcomes of Class XI Students".

LITERATURE REVIEW
E-learning
E-learning is a PC-based learning function/system that allows students to learn anytime, anywhere (Rusli, et al. 2020:1).

Similarly, according to (Sugiarto 2020:18) what is called electronic learning or e-learning is a procedure / form of learning that uses information technology in the teaching and learning system. From the two definitions above, it can be concluded that e-learning (electronic learning) is a learning system that uses information technology to learn anytime, anywhere, without having to meet in person. Types of E-learning, universally there are 2 basic assumptions about e-learning as learning that uses electronic media, namely: (1) electronic based e-learning (2) internet based (Rusli et al. 2020:3).

E-learning can play a good role because it has the following components: (1) technology (2) learning content or media (3) learning design (Rusli et al. 2020:5–6). The advantages and disadvantages of E-learning, the advantages of using electronic learning are as follows (Rusli et al. 2020:11–14): (1) Saves time in the learning process (2) Saves overall education costs (infrastructure, equipment, modules). (3) Reach a wider geographic area. Not only does it have the advantages of using e-learning, it also has various disadvantages. The following are the disadvantages of e-learning: (1) the lack of relationship between students and teachers among students themselves because everything is carried out with e-learning. (2) The tendency to reject the academic perspective or social perspective and vice versa urges the growth of a business or commercial perspective. (3) Teaching and learning activities lead to the side of practice rather than learning.

Google Classroom
Google classroom is a google product that is connected to google mail, google drive, hangouts, YouTube, calendar, and others (Basuki 2020) while, according to (Pinandhito, et al. 2020:7) google classroom is a platform that can be used for learning activities and can use free. From some of the definitions above, it can be concluded that Google Classroom is a Google product that is used by educational institutions for learning activities such as Google Meet,

connected to Google Mail, Google Drive, Hangouts, YouTube, Calendar, and others.

There are several benefits to using Google Classroom as a means of e-learning, including the following (Basuki 2020): (1) It can be prepared easily. (2) Save time and use paper. (3) Better handling. The advantages and disadvantages of the google classroom application include (Paksi and Ariyanti 2020:13–14): the advantages of google classroom are (1) Mobile Friendly. (2) Easy task management. (3) Google classroom data is stored on google drive. Disadvantages of Google Classroom are (1) Need a device (2) Connect to the internet (3) Can't speak verbally.

Google Meet

Google meet is a web and mobile-based video communication facility developed by Google (Basori 2021:52). In addition, according to (Antariksawan et al. 2021:67) Google Meet is a video conferencing application used for the conference process and Google Meet learning process, created and developed by Google. From the definitions above, it can be concluded that Google Meet is a video conferencing application developed by Google to support learning Google Meet.

There are several features found in google meet, as followings (Nathanael 2021:122): (1) Screen sharing feature to show documents or presentation slides. (2) Can join the meeting with no dial-in. (3) Security in making calls, because calls are encrypted between all users. There are several advantages of using Google Meet, namely: (1) There is a free version and a flexible paid version (2) Integrated with Google services (3) Very easy user experience and user interface as for the shortcomings of the google meet application such as: (1) there is no data saving feature (2) Not all features are free (3) Requires a stable internet connection.

Learning outcomes

Learning outcomes is certain cognitive, emotional/psychomotor abilities/skills achieved/understood by students after investigating the learning system (Kunandar 2013:62). Meanwhile (Sugiarto 2020:5) stated that learning outcomes are results that have been achieved by someone after facing the learning system by previously assessing the learning activities practiced. The conclusion from the above understanding is that learning outcomes is the results of a person's achievement after passing through learning activities in the form of assessing cognitive, emotional and psychomotor aspects.

There are two factors that influence student learning outcomes, they are from within the students themselves/internally and external factors from students/externals Anitah W., et al, 2012 in (Priyanto 2021:7). To identify indicators of learning success, it can be studied based on students' absorption and attitudes that appear in students (Supardi 2015:5): (1) Absorption is the level of ability of learning materials that are informed by the teacher and understood by students either independently or in groups. (2) Change and achievement of behavior as outlined in the basic competencies or markers of learning from not knowing to knowing.

MATERIALS & METHODS

Research Types and Approach

This study used a quantitative research approach. The research technique used was pre-experimental quantitative causality research. The design in this study used intact-group comparison. According to (Ibrahim et al. 2018:62) intact-group comparison is using one group which is divided into two groups, meaning that one group receives the experimental stimulus (processed) and the other group does not receive the stimulus as a control tool.

Population and Sample

In this study, the population studied were 36 students of class XI Financial and Institutional Accounting (AKL) 3. The sampling technique used was non-probability sampling. The sampling technique in this study was non-probability sampling. Sampling used in this study was a

saturated sample because the population < 100 respondents, so the researchers took 100% of the population in Class XI Financial Accounting and Institutions 3 total 36 students.

Research Instruments

The instruments used in this research are questionnaires, written test equipment and documents.

Statistical analysis

Normality test

This method was used to identify whether the residual data was normally distributed or not. The residual was normally distributed, if Sig. > 0.05 (Bahri 2018:165).

Homogeneity Test

The homogeneity test was used to show that two or more sample data sets came from a population that showed a uniform type (Surindra, Widyaningrum, and Zulistiani 2017:43). The form of the hypothesis for the homogeneity test are:

Ho : homogeneous data
Ha : data is not homogeneous
Taking conditions:
When Sig. > 0.05, it means that the data is homogeneous
When Sig. < 0.05, it means that the data is not homogeneous

Simple Regression Test

It was used to Measure the effect of an independent/independent variable on the dependent/bound variable.
Ho : $\beta = 0$ (no effect)
Ha : $\beta \neq 0$ (no effect)

T test

The t-test was intended to show whether an independent variable had a partial effect on the dependent variable. The t-test assessment criteria were:
If Sig < 0.05, then the independent/independent variable being tested has a partial effect on the dependent/bound variable. If Sig > 0.05, then the independent/independent variable being tested has no partial effect on the

dependent/dependent variable (Bahri 2018:194).

Independent Test Sample T Test

The two-sample t-test was used to compare the averages of the two groups that were not tied to one another, with the intention of whether the group had an average value of / not (Enterprise 2018:101).
Decision-making:
If Sig > 0.05, it meant rejecting Ho
If Sig < 0.05, it meant accepting Ha

RESULT

Normality test

Table 4.1 Normality Test
One-Sample Kolmogorov-Smirnov Test

		GC	GM
N		18	18
Normal Parameters[a,b]	Mean	86,06	78,11
	Std. Deviation	7,573	7,103
Most Extreme Differences	Absolute	,199	,173
	Positive	,095	,173
	Negative	-,199	-,125
Test Statistic		,199	,173
Asymp. Sig. (2-tailed)		,058[c]	,163[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: SPSS output version 23 processed, 2022

The results of the data normality test after testing with the Google Classroom class proved the results of Sig. > 0.05 (0.058 > 0.05). The results of the data normality test after testing with the Google Meet class showed the results of Sig > 0.05 (0.163 > 0.05) which means that the two data are normally distributed.

Homogeneity Test

Table 4.2 Homogeneity Test
Test of Homogeneity of Variances
Hasil Belajar

Levene Statistic	df1	df2	Sig.
,387	1	34	,538

Source: SPSS output version 23 processed, 2022

Homogeneity test proved that the result of Sig. was 0.538 > 0.05 which meant Ho was accepted and Ha was rejected, so the data was homogeneous.

Simple Regression Test

Table 4.3 Google Classroom Simple Regression Test Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	146,114	25,041		5,835	,000	93,029	199,199
	Google Classroom	-1,134	,472	-,515	-2,403	,029	-2,135	-,134

a. Dependent Variable: Hasil Belajar

Source: SPSS output version 23 processed, 2022

Seeing from the data above, the p value (Sig. ANOVA) < 0.05 or (0.029 < 0.05) meant that Ho was rejected, therefore the regression model was feasible to use. So, there was an effect of e-learning by using google classroom on student learning outcomes.

Table 4.4 Meet Google Meet Simple Regression Test Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	108,390	14,316		7,571	,000	78,042	138,739
	Google Meet	-,643	,302	-,470	-2,127	,049	-1,283	-,002

a. Dependent Variable: Hasil Belajar

Source: SPSS output version 23 processed, 2022

Seeing from the data above, the p value (Sig. ANOVA) < 0.05 or (0.049 < 0.05) meant that H0 was rejected, therefore the regression model was feasible to use. So, there was an effect of e-learning learning using google meet on student learning outcomes.

T test

Table 4.5 Google classroom t-test results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	146,114	25,041		5,835	,000
	Google Classroom	-1,134	,472	-,515	-2,403	,029

a. Dependent Variable: Hasil Belajar

Source: SPSS output version 23 processed, 2022

Table 4.6 Google meet t Test Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	108,390	14,316		7,571	,000
	Google Meet	-,643	,302	-,470	-2,127	,049

a. Dependent Variable: Hasil Belajar

Source: SPSS output version 23 processed, 2022

T test

From the data in tables 4.5 and 4.6 above, it proved that:

Variable X1 (Google classroom) obtained by Sig. of 0.029 < 0.05, which accepted Ha and rejected Ho, meant that the X1 (Google classroom) variable partially affected Y (Posttest Google classroom learning outcomes).

Variable X2 (Google meet) obtained the results of Sig. of 0.049 < 0.05, which accepted Ha and rejected Ho, meant that the X2 (Google meet) variable partially affected Y (Google meet Posttest Learning Outcomes).

Uji Independent sample of t test

Table 4.7 Test Results of Independent Samples T Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Hasil Belajar Posttest	Equal variances assumed	,387	,538	3,246	34	,003	7,944
	Equal variances not assumed			3,246	33,862	,003	7,944

Source: SPSS output version 23 processed, 2022

Based on table 4.7 above, the value of t = 3.246, df = 34, and Sig (2-tailed) worth 0.003 < 0.05, which Ho was rejected and Ha was accepted meant there was a significant difference in student learning outcomes taught using google classroom and google meet.

DISCUSSION

The Effect of E-learning by Using Google Classroom on the Learning Outcomes of Class XI Students

Based on the data analysis that has been carried out, in the t-test test the results of sig. was 0.029 < 0.05. This could be interpreted as rejecting Ho and accepting Ha, which meant that e-learning using Google Classroom had a positive effect on student learning outcomes in class XI.

The quality of google classroom facilities had a very positive effect on increasing the effectiveness of learning. This was because students can process and collect assignments quickly and easily, thus providing a deeper understanding of the use of technology in learning. Students could also use Google Classroom to get information from the teacher about the material quickly (Wahyuni, Erwantiningsih, and Pudyaningsih 2021).

The Effect of E-learning by Using Google Meet on the Learning Outcomes of Class XI Students

Based on the data analysis that has been carried out in the second t test, the results obtained were sig. ie 0.049 < 0.05. This could be interpreted as rejecting Ho and accepting Ha, which meant that e-learning learning by using Google Meet has a positive effect on the learning outcomes of class XI students.

Due to the small size of the Google Meet application therefore it was faster to use. The application was also very easy to use; as a result, students who just knew to the Google Meet application would not find it difficult. The use of google meet has proven to be able to replace the position of learning which was generally carried out in the room through face-to-face, without reducing the content of the material provided (Prisuna 2021).

Differences of Student Average Level Learning Outcomes Taught Using Google Classroom and Google Meet Class XI

Hypothesis testing was carried out by parametric testing using the independent sample t-test method. A total of 36 data samples used to test hypotheses based on posttest results on the topic of creative products and entrepreneurship were divided into two research groups with different treatments. When testing the hypothesis using the independent sample t test, the previous posttest data must go through several inferential tests, they were the normality test and the homogeneity test. Normality test was conducted to show whether the data was normally distributed. It was also run as a reference to test the data further through parametric test analysis. After each normality test was completed, the homogeneity test was then carried out. The aim was to check the variance similarity of each data group to ensure that the results of the analysis were taken in the independent sample t test table.

Based on the output results in table 4.1 by seeing at the Kolmogorov Smirnov one sample normality test for Google Classroom, the results were sig (2-tailed) > 0.05 (0.058 > 0.05). The results of the data normality test after testing with the Google Meet class showed a sig value > 0.05 (0.163 > 0.05). This meant that the two data were normally distributed. Because the data was normally distributed, so that the hypothesis test was carried out with parametric test statistics, they were the independent sample t test. After the normality test was carried out, the homogeneity test was then carried out. Based on table 4.2 the value (Sig.) was 0.538 > 0.05, meaning that it accepted Ho and rejects Ha, meant that the data was homogeneous. To carry out the independent sample t test, use the analysis results in the equal variance assumed column.

Based on table 4.5 on the independent sample t test by comparing t_{count} with t_{table}, the results obtained for t_{count} were 3.246 and t_{table} (α: 0.05; df: 34) is 2.032. So, it can be concluded that $t_{count} > t_{table} = 3,246 > 2,032$

then rejected Ho and accepted Ha. So, there was a difference in the average behavior of student learning outcomes taught by Google Classroom and Google Meet. Meanwhile, based on the comparison of probability values (Sig), the results obtained sig (2-tailed) of 0.003 < 0.05, which meant rejecting Ho and accepting Ha, meant that there was a difference in the average level of student learning outcomes taught using google classroom and google meet.

By the existence of significant differences in learning outcomes, it could be interpreted that there was an effect of e-learning process using Google Classroom and Google Meet on student learning outcomes. Learning with the e-learning model gave students the freedom to find their own knowledge and provide instructions for independent study. The knowledge that students find was always remembered by them, so they cannot easily forget what they have learned and students can also achieve better learning outcomes (Nisa, Komariyah, and Syam 2021).

CONCLUSION

Based on the data obtained from the results of data analysis that has been carried out by researchers so that conclusions can be drawn: (1) There was an effect of e-learning learning using google classroom on the learning outcomes of class XI students (2) There was an effect of e-learning learning using google meet on the learning outcomes of class XI students. (3) There was a difference in the average level of student learning outcomes that were taught using google classroom and google meet class XI.

REFERENCES

1. Aisyah, Siti, and Dwi Ivayana Sari. 2021. "EFEKTIVITAS PENGGUNAAN PLATFORM GOOGLE MEET

TERHADAP HASIL BELAJAR SISWA." JURNAL MathEdu (Mathematic Education Journal) 4:45–49.

2. Antariksawan, I. Wayan, Indire Lutfiana, Made Yos Kresnayana, I. Made Sundayana, Gede Budi Widiarta, Kadek Diah Prunamayanti, Pasionista Vianiati, and Sapariah Anggraini. 2021. INOVASI PEMBELAJARAN BERBASIS BLENDED LEARNING DI KEPERAWATAN. edited by M. Martini. Bandung: PENERBIT MEDIA SAINS INDONESIA (CV. MEDIA SAINS INDONESIA).

3. Bahri, Syaiful. 2018. Metodologi Penelitian Bisnis Lengkap Dengan Teknik Pengolahan Data SPSS. edited by E. Risanto. Yogyakarta: Penerbit ANDI.

4. Basari, Indrianto Setyo. 2021. PEMBELAJARAN DALAM JARINGAN (DARING) DI ERA DIGITAL DENGAN GOOGLE SUITE. Cetakan Pe. edited by Y. Umaya. Malang: Ahlimedia Press.

5. Basori, Indrianto Setyo. 2021. Pembelajaran Dalam Jaringan (Daring) Di Era Digital Dengan Google Suite. 1st ed. edited by Y. Umaya. Malang: Ahlimedia Press.

6. Basuki, Yoyok Rahayu. 2020. Panduan Mudah Google Classroom. 3 Basuki Publisher.

7. Enterprise, Jubilee. 2018. Lancar Menggunakan SPSS Untuk Pemula. Jakarta: PT Elex Media Komputinda.

8. Hamidah, Roimatul, Citra Intan Harum Permata, Bayu Surindra, and Elis Irmayanti. 2020. "PENGARUH OPTIMALIS PEMBELAJARAN ONLINE DAN PARTISIPASI MAHASISWA TERHADAP MOTIVASI BELAJAR ONLINE MAHASISWA TINGKAT II PENDIDIKAN EKONOMI UNIVERSITAS NUSANTARA PGRI KEDIRI." Seminar Nasional Manajemen, Ekonomi Dan Akuntasi Fakultas Ekonomi Dan Bisnis UNP Kediri 447–52.

9. Ibrahim, Andi, Asrul Haq Alang, Madi, Baharuddin, Muhammad Aswar Ahmad, and Darmawati. 2018. METODOLOGI PENELITIAN. Cetakan 1. edited by I. Ismail. Makasar: Gunadarma Ilmu.

10. Imaduddin, Muhammad. 2018. Membuat Kelas Online Berbasis Android Dengan Google Classroom. Cetakan ke. edited by M. Imaduddin. Yogyakarta: Penerbit Garudhawaca.

11. Irmayanti, Elis, Bayu Surindra, Efa Wahyu Prastyaningtyas, and Tri Ayatik. 2019. "Penerapan Model Pembelajaran Ekspositori Untuk Meningkatkan Motivasi, Keaktifan, Kemampuan Memecahkan Masalah, Kolaborasi, Dan Hasil Belajar Siswa Dengan Pendekatan Saintifik Berbasis Lesson Study." Efektor 6(2):165–72.

12. Kunandar. 2013. PENILAIAN AUTENTIK (Penilaian Hasil Belajar Peserta Didik Berdasarkan Kurikulum 2013). 2nd ed. Jakarta: PT RAJAGRAFINDO PERSADA.

13. Napura, Mulyani S., Mursalin, Abd. Wahidin Nuayi, and Asri Arbie. 2021. "Pengaruh Whatsapp, Google Classroom, Dan Google Meet Dalam Pembelajaran Fisika Terhadap Hasil Belajar." Jambura Pyhsics Journal 3. doi: 10.34312.

14. Nathanael, Albertus Prido. 2021. KULIAH KOK DARING? Semarang: Universitas Katolik Soegijapranata.

15. Nisa, Laili Komariyah, and Muliati Syam. 2021. "Pengaruh Model Pembelajaran E-Learning Berbantuan Google Classroom Dan Zoom Cloud Meeting Terhadap Hasil Belajar Siswa Di SMK Negeri 6 Samarinda." Jurnal Kajian Pendidikan IPA 1.

16. Paksi, Hendrik Pandu, and Lita Ariyanti. 2020. Sekolah Dalam Jaringan. Surabaya: Scopindo Media Pustaka.

17. Pinandhito, Kenneth, Dina Yeni Martia, and Budi Prasetya. 2020. How I Use Google Classroom as a Teacher and Student. Sukabumi: CV. Jejak.

18. Prisuna, Bayu Fitra. 2021. "Pengaruh Penggunaan Aplikasi Google Meet Terhadap Hasil Belajar." Jurnal Penelitian Ilmu Pendidikan 14 (2):137–42.

19. Priyanto, Doni. 2021. TEAMS GAMES TOURNAMENTS : Sebuah Upaya Meningkatkan Hasil Belajar Matematika. Penerbit NEM.

20. Rahayu, Siti, and Triesninda Pahlevi. 2021. "Pengaruh Media Pembelajaran E-Learning Dengan Google Meet Terhadap Hasil Belajar Siswa." Jurnal Penelitian Dan Pengembangan Pendidikan 5:91–99.

21. Rikizaputra, and Hanna Sulastri. 2020. "Pengaruh E-Learning Dengan Google Classroom Terhadap Hasil Dan Motivasi Belajar Biologi Siswa." Jurnal Pendidikan 11:106–18.

22. Rusli, Muhammad, Dadang Hermawan, and Ni Nyoman Supuwiningsih. 2020. Memahami E-Learning: Konsep, Teknologi, Dan Arah Perkembangan. edited by L. Mayasari. Yogyakarta: CV. ANDI OFFSET.

23. Sinar. 2018. Metode Active Learning Upaya Peningkatan Keaktifan Dan Hasil Belajar Siswa. Cetaka Per. Sleman: Penerbit Deepublish.

24. Sugiarto, Toto. 2020. E-Learning Berbasis Schoology Tingkatkan Hasil Belajar Fisika. cv. Mine.

25. Supardi. 2015. PENILAIAN AUTENTIK PEMBELAJARAN AFEKTIF, KOGNITIF, DAN PSIKOMOTOR Konsep Dan Aplikasi. 1st ed. Depok: PT RAJAGRAFINDO PERSADA.

26. Surindra, Bayu, and Elis Irmayanti. 2019. "Penerapan Model Pembelajaran Creative Problem Solving Untuk Meningkatkan Keaktifan Dan Kemampuan Memecahkan Masalah Pembelajaran Manajemen Strategi." Proceeding of the ICECRS 2(1):183–91.

27. Surindra, Bayu, Bakti Widyaningrum, and Zulistiani. 2017. Statistika (Teori Dan Praktik SPSS). edited by R. Azizah. Malang: Azizah Publishing.

28. Wahyuni, Hari, Eni Erwantiningsih, and Ratna Pudyaningsih. 2021. "Analisis Penggunaan Google Classroom Pada Masa Pandemi Covid – 19 Terhadap Efektivitas Pembelajaran Mahasiswa." Jurnal Pendidikan Ekonomi Undiksha 13 (2):253–67.

******