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University Students' Perceptions in Implementing Asynchronous Learning During Covid-19 Era

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Abstract

This study aimed to know students' opinions about the implementations of asynchronous learning (Screencast-O-Matic and Google-Form apps) during Covid-19, to identify the advantages and disadvantages were produced by these devices, as well as to analyze how big the students' confidence on this type of learning when implemented in the rural area. The subject of this study consisted of 45 respondents from the English Education Study Program. They spread in the 2nd, 4th, 6th, and 8th semester. A qualitative descriptive design was used in this study. Among the questionnaire, open-ended questions and interviews were the methods to collect the data. The results of this study indicated that these platforms had shown various obstacles. Over half of respondents criticize that limited internet access was one of the most significant restrictions when implementing asynchronous learning (Screencast-O-Matic and Google-Form apps). Although Screencast-O-Matic and Google-Form had some barriers in their virtual class, they provide more advantages. Many respondents believed that they have all these advantages compared to the limits. The majority of respondents argued that it facilitated EFL students to increase acquisitions of language specifically in writing abilities and also it could contribute to students' ICT capabilities in particular.

Keywords: Asynchronous learning, perception, Covid-19 era

Introduction

The deployment of the infected case number of Coronavirus disease, the Indonesia government, takes a quick response to reduce the spreading of this pandemic. The newest way that is announced by the government is Large-Scale Social Restrictions. This regulation has been implemented since the beginning of March 2020. Automatically, the new management drives alteration of the entire life system either in social, economic, or education aspects. However, numerous institutions pay attention to this regulation in a particular educational institution,



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to reduce people's movement, education institutions boost the educators and learners to learn at home. To pursue the online class, both educators and learners must utilize any suitable platform immediately (Talebian et al., 2014). E-learning refers to the use of information and technology platforms to promote learning activity (Zhou et al., 2020). The institutions adopt information and technology applications in the learning classroom (Al-Mubireek, 2019). These few years, e-learning was slightly higher expanding, and it is considered fruitful and well-suit approached in the era of technology (Sulisworo et al., 2016; Zhou et al., 2020).

Since the pandemic era, henceforth, the entire higher institution in Indonesia, on the other hand, both private and public institutions implement e-learning classes simultaneously. Universitas Pasifik Morotai is one of the private higher educations that adopt this way. Applying this learning model is expected to promote easiness for both learners and students due to this platform providing any lecture information, including learning materials that can be accessed from the internet (Saputra et al., 2017). These learning models led numerous dilemmas for both learners and educators. The majority of educators and learners believed that poor internet access is the fundamental phenomenon that the institutions should pay attention to (Al Zumor et al., 2013). Furthermore, this issue also occurs in the Universitas Pasifik Morotai. Most of the educators at Universitas Pasifik Morotai are found to have not implemented e-learning, even though the institution requires them to apply this learning to the continuity of learning activities to reduce people's movement during CoronaVirus disease.

Unless few lecturers have implemented e-learning, the rest of them omit this regulation and tend to stay at home without preparing any appropriate materials. To overcome these technical issues, English education lecturers start to adjust the e-learning model based on the learners' conditions and situations. By merger, Screen-cast O Matic and Google form platforms are considered to provide a solution for educators and learners who live in rural areas with poor internet access. E-learning class provides two alternative models; synchronous and asynchronous courses can design it. Indeed it is based on the learners' needs and the tendency of the students' learning style (Verawardina, Asnur, Lubis, Hendriyani, Ramadhani, Dewi, Dami, Betri, Susanti, and Sriwahyuni, 2020). Yusuf & Ahmad Jihan (2020) said that the dynamic learning method is the most used by the e-learning classroom during the pandemic era. The dynamic learning method involves synchronous and asynchronous learning activity.

In comparison, synchronous learning is a sort of virtual learning that demands users to conduct entire learning activities through an online class. Conversely, any other learning process is conducted offline; it is well-known as an asynchronous classroom. This learning model requires the learners and educators to upload and download the materials while the internet connection is stable. So, the students have the opportunity to study without limited time. Ease of this offline medium helps the students who live from a rural area with a poor internet connection to study at home. Those virtual technologies can be used as media in the teachinglearning activity. Fortunately, it has variety usage, such as interactive tutorial media, props, and test pieces of equipment. This type of learning sets the teachers to deliver the materials and increase the students' comprehension of the materials 264



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given by the educators (Novantara & Muhammad, 2018). Dewi (2016) believes that other factors that play the most prominent role in determining the students' success in learning are lack of the students' attention on its material that is delivered by the educators and the learning media are not suited with the students' needs. Asynchronous learning promotes core convenience for the students. Through this learning, the students learn independently, and they are given a little bit of time for thinking and understanding the material sincerely without any pressure from the educators (Suranto, 2009).

Screencast-O-Matic and Google-Form platforms are kind of asynchronous learning media that can be utilized in the EFL classroom. Screencast-O-Matic is known as software that can record all of the learning media into a video tutorial. This platform can manipulate the classroom atmosphere as though the learning activity occurs conventionally or face to face learning (Suryanto & Sumbawati, 2015). This platform can be shared through any various models (Anjani Tiara, 2019). Starting now, Google-Form platform is an application such as a form template or worksheet that can be utilized either independently or in groups to obtain user's information (Purwati & Nugroho, 2018). As an evaluation tool, Google-form can assist educators in preparing the examination, and its result can be known immediately (Muhammad, 2014). To tackle the problem faced by the EFL students and educators at Universitas Pasifik Morotai, they tend to use those platforms in language teaching. More than half of language lecturers and learners put to use Screencast O Matic for the teaching-learning activity while conducting the test, for instance, quiz, assignments, middle test, and final test, they prefer to apply Google-form platform. By integrating those applications in this pandemic era, all of the teaching-learning processes run well even though the internet connection, in an odd moment, is not running well.

However, many voices have declared the effectiveness of adopting numerous asynchronous learning applications either for material design or instrument assignment system have been carried out by (Santoso, 2019; Anjani Tiara, 2019; Mardiana & Purwanto, 2017; Dewi, 2016). The other prior studies highlight potential impact in various areas of life toward the implementation of e-learning on the first day of Covid-19, this study has been criticized by (Sahu, 2020; Darmalaksana et al., 2020; Verawardina et al., 2020; Zhou et al., 2020; & Khan, 2020).

Method

This research attempted to investigate the university students' perception of implementing asynchronous learning (mixture Screencast-o-Matic and Google Form apps) during the chain of Corona Virus outbreaks. This type of research method used a qualitative method and was mainly a descriptive approach. A convenience sampling technique has been used for this study. This study was carried out by students of the English Education Study Program at Universitas Pasifik Morotai. The students who participated in the research included 2nd, 4th, 6th, and 8th semesters. Forty-five respondents from all English language study programs participated in the study. The researcher used questionnaires, two openended questions, and interviews as a method to collect the data. Semi-structured interviews were chosen due to their simplicity and space to generate questions.



The number of questionnaire items was 26. In this study, SPSS 17 was used to describe the results statistically. The scoring method used in the questionnaire was a Likert scale technique. For each instrument element using the Likert scale, the following table's response is indeed very positive to very negative in word pattern:

No	Categories	Score
1	Strongly Agree	5
2	Agree	4
3	Neutral	3
4	Disagree	2
5	Strongly Disagree	1

Table 1. Likert Scale

Findings and Discussion

This point addresses the respondents' demographics. It included the university students' grade, gender, and ability to operate electronic equipment.

	Frequency	Valid Percent	
Respondents			
Second	20	44.4	
Fourth	4	8.9	
Sixth	16	35.6	
Eighth	5	11.1	
Sex			
Male	8	17.8	
Female	37	82.2	
Soft-skill proficiency			
Limited user	3	6.7	
Modest user	37	82.2	
Competent user	4	8.9	
Expert user	1	2.2	

Table 2. Demographics of Respondents

This table indicates that 45 students were interviewed; it ranged through EFL students in the 2^{nd} , 4^{th} , 6^{th} , and 8^{th} semesters. The highest participants were 44.4 percent of students in the second semester; the second from the most top was 35.6 percent of students in the 6^{th} semester. The third from the bottom was 11.1 percent, followed by 8^{th} -semester students, the lowest being 8.9 percent of students from the 4^{th} semester. Besides, it can be seen that 82.2% of respondents were female, and the other 17.8% were male. Most respondents (82.2%) were classified as modest users, 8.2% were electronic devices competent, 6.7% were classified as limited users, and only 2.2% were experts on electronic instruments.



	Responses		Mean	Std. Deviation
	Yes	No		
Personal electronic device	43	2	1.04	.208
Internet access	21	24	1.53	.505
The utilization of Screencast-O-Matic and Google Form platforms before the pandemic	8	37	1.82	.387
Subsidy provides by the university	1	44	1.98	.149
The beneficial of Screencast-O-Matic and Google Form tools	42	3	1.07	.252
A mixture of Screencast-O-Matic and Google Form should be implemented even though pandemic has gone	25	29	1.44	.503
Total	140	139	8.88	2.004

Table 3. Overview of EFL Students' perception toward University Preparedness on Implementing Screencast-O-Matic and Google Form Tools

The result demonstrates that most students gave positive responses to personal electronic equipment; 43 respondents thought that most EFL students have their electronic equipment and interest in using their electronic equipment. Therefore, 42 participants claimed that these platforms were useful for teaching-learning activities, and then, 25 respondents argued that this virtual classroom could be used after the pandemic. Conversely, the most negative responses came from the university grant component, with over half respondents claiming that the university did not subsidize internet fees to EFL students. The second-highest ranking was the tools before the pandemics. In contrast, thirty-seven people were found with a pessimistic outlook, feeling that most of the e-learning, particularly Screencast-O-Matic and Google Form tools, were not embraced before the lockdown. Nonetheless, 29 respondents raise the voice that the two virtual instruments no longer apply when the pandemic has gone. Finally, 24 respondents agreed that the main issue facing the EFL class was internet access. Besides, the highest mean was 1.98, and the university subsidy factor was occupied.



26

items of

questionnaire

	Table 4. V	alidity Test of	Questionnaire	Items
Scale	Items number	Valid Items number	r table (5%)	Validities Indexes

26

These statistics indicate that 5% of r table was 0.294, the number of items was 32, and all questions were indicated into valid categorization. The range of corrected items began from 0.478 to 0.901. It can be said that all questionnaire items were accurate or valid.

Table 5. Reliability Test

0.294

0.478-0.901

Cronbach's Alpha	N of Items	
0.877	26	

The table depicts that the Cronbach Alpha's score was 0.877 and it was higher than the minimum reliability (0.6). This entire instrument was seen to be consistent or reliable.

	Minimum	Maximum	Mean	Std Deviation
Listening skill	1	5	3.11	1.092
Speaking skill	1	5	2.98	1.033
Reading skill	1	5	3.27	.986
Writing skill	1	5	3.33	.977
Vocabulary competence	1	5	3.27	.963
Pronunciation competence	1	5	3.16	1.065
Grammar Competence	1	5	3.02	1.011
Total	7	35	22.14	6.16

Table 6. Description of Language Acquisition Ability Items

The data show that 3.33 was the highest mean of all language acquisition items and was obtained from writing skills. It can be said that the use of Screencast-O-Matic and Google form platforms contributes more to the written ability of EFL students.



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	Advantag	ges Items		
	Minimum	Maximum	Mean	Std Deviation
Promoting Exhilaration	1	4	2.42	.941
Boost communication	1	4	2.69	1.019
Effectiveness	1	5	3.07	1.095
Attractive and fruitful	1	5	3.27	1.053
Easy to catch the materials	1	5	3.13	1.179
Insightful particular in	1	5	3.67	.826
technology proficiency				
Time efficiency	1	5	3.58	1.011
Create interaction	1	4	2.73	.939
Covered authentic materials	1	5	3.47	.869
Total	9	42	28.03	8.932

Table 7. Mixture Screencast-O-Matic and Google Form Software Overview of
Advantages Items

Data indicate that nine advantage items were identified using Mixture Screencast-O- Matic and Google-form Software. The highest average was 3.67. The majority of respondents claimed that such software could contribute to students' technology, communication, and information capabilities in particular.

Table 7. Numerous Limitations Using Screencast-O-Matic and Google-Form Devices

	Minimum	Maximum	Mean	Std Deviation
One application cannot cover more than two functions on learning	1	4	3.42	.965
Difficult to operate those platform	1	4	3.38	1.051
Internet access	1	5	3.91	1.104
Personal electronic device	1	5	3.31	1.203
Just promote asynchronous learning	1	5	3.47	1.079
Greater chance of cheating	1	5	3.20	1.140
Total	6	28	20.69	6.522

The table shows that six obstacles were identified by implementing both platforms. Limiting internet access raised the highest question. That item's mean was 3.91, and the lowest dilemma was a greater chance of cheating. The mean of this item was 3.20.



Go	ogle Form	App		
	Minimum	Maximum	Mean	Std Deviation
The institution should socialize	1	5	4.02	.866
the implementation of any				
learning platforms				
Encourage both educators and	1	5	3.91	.949
learners to use all sorts of e-				
learning media				
The technological issue should be	1	5	4.00	.769
tackled				
Any training is required to	1	5	3.96	.903
promote the adoption of				
electronic learning resources				
Total	4	20	15.89	3.487

Table 8. Numerous Recommendations	Using Screencast-O-Matic and
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The respondents offered five feedbacks. The primary aspect suggested by the
respondents was socialization carried out by the university about using electronic
platforms in the virtual classroom. This item's mean was 4.02. Instead,
encouraging both educators and learners to handle all kinds of e-learning media is
regarded as the least point the university can pay close attention too. This main
averaged 3.91. One of the concerns was that poor internet access is deemed the
crucial problem that boosts all sorts of platforms that cannot be implemented,
notably synchronous e-learning instruments.

Table 9. Description of All Indicators

	Minimum	Maximum	Mean	Std. Deviation
Language Skills	7	35	22.13	6.119
Advantages	11	41	28.02	6.706
Limitations	13	26	20.69	2.661
Total	31	102	70.84	15.486

This table indicated that the most significant mean was 28.02 and addressed the benefits indicators. It was found that the minimum score was 11, and the maximum score was listed 41. Language skills indicators are graded into the latter category, mean 22.13, and the last one was classified as weakness indicators, meaning 20.63. Although both Screencast-O-Matic and Google-form had limitations, many other respondents believed that they had many advantages compared to the constraints. Most respondents argued that it helps EFL students increase language acquisitions.

Nevertheless, unless the Screencast-O-Matic and Google-form tools have some benefits, certain obstacles still apply. This recent study showed that both platforms promote the students' writing skills compared with other linguistic skills. Nine benefits are produced by asynchronous learning (mixture Screencast-270



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O-Matic and Google-form). They are; developing excitement, improved communication, efficiency, desirable and productive materials, easy-to-record materials, intelligent technology proficiency, time efficiency, interaction, and authentic materials. Therefore, from the nine advantages above, the software contributes to students' ICT capabilities as the highest positive aspect of implementing these electronic instruments in teaching activities.

These platforms have also shown themselves to facilitate various obstacles such as each platform does not cover more than one function; for instance, Screencast-O-Matic is suitable for conveying the material. Indeed Google-form just uses it for evaluation. The other obstacle is difficult to operate those platforms, poor internet access, a personal electronic device, only promotes asynchronous learning, and a higher chance of cheating. More than half of respondents argue that limited internet access is one of the most significant restrictions when implementing both Screencast-O-Matic and Google-form apps. Besides, the respondents give different ideas of applying those apps, for instance; institution should socialize the implementation of any learning platforms; encourage both educators and learners to use all sorts of e-learning media, the technical issue should be tackled, as well as any training is required to promote the adoption of electronic learning resources. More participants emphasize the socialization of these automated platforms for all EFL students and educators by the university. Although Screencast-O-Matic and Google form have some barriers in their virtual class, they provide more advantages; many respondents believed they had all these advantages when compared to the limits. The majority of respondents argued that it facilitates EFL students to increase language acquisition, particularly in writing skills.

Compared with a previous study conducted by Mardiana & Purwanto, (2017) They implement a single app for learning evaluation. They said the utilization of single applications such as the Google form app is an appropriate instructional medium that can be used for learning assessment. They claim that 100% of educators are concerned about using the Google form platform as learning assessment tools. These factors are based on four matrices, such as; ease (33%), speed (44%), practical (66%), as well as efficiency (66%). Similar research has been carried out by Santoso (2019) and Purwati & Nugroho (2018) Google form app as an equipment assessment is regarded as more effective compared to conventional learning media. Another study also states the effectiveness of using Screencast-O-Matic in learning activity; this study was performed by Anjani Tiara (2019). This study shows that learning using Screencast-O-Matic increases learning outcomes by 83%. Dewi (2016) supports this statement, suggesting this kind of electronic platform is better than the face-to-face learning model. By using this platform, the students' learning outcomes seemed to be higher.

Furthermore, selecting appropriate instructional media is one of the necessary components, as it helps teachers achieve learning goals. Such learning media encourages students to learn autonomously to deepen their mastery of the materials, as well as this learning media, that supports the simplicity of usage. At



the same time, this Screencast-O-Matic platform is designed to facilitate the learning process (Suryanto & Sumbawati, 2015). Another argument is given by Sohibun & Ade (2017) report that university students prefer to use the virtual class to boost their learning. Al-Mubireek (2019) asserts that students accept the advantages of integrating e-learning tools to learn and connect more effectively. In particular, they expressed optimistic views on e-learning platforms as a multipurpose means of improving language development. Another statement declared by Cakrawati (2017), most students decided to agree that educational technology tools can help them practice their language skills. They are obtaining vocabulary words as well as striving to improve their understanding of the material about the lesson.

A similar earlier study has been done by Yusuf & Ahmad Jihan (2020), they outline several challenges in implementing electronic devices in the instructional classroom. According to Yusuf & Ahmad Jihan, learning by using any platforms promotes several challenges for educators or learners. They claim these challenges are highlighted by following: Students are less focused on learning online; learning medium is unsatisfactory; leaving learning tools such as books and laptops in their residential schools; internet access for students is less workable in so far as lectures must be strengthened from the current period; unstable internet access for educators leading to class disruption; and students do not participate in the online classroom scheduled. Technical problems with the online system used are among the barriers faced by online educators. Al Zumor et al., (2013) study about blended learning implemented mix learning in both conventional and electronic platforms (online and offline) to support instructional activity. According to Al-Zumor et al., the limitations and problems of blended learning were highlighted, such as many practical suggestions for addressing those drawbacks, including solving technical issues, providing students with excellent training, increasing the number of laboratories, and recognizing both instructors and students' outstanding performance. Translating these ideas into a planning process and a strategic plan will improve the effectiveness of using blended learning to create learning opportunities for language learners. Related to the study that has been done by Nurfalah (2019), she tries to implement another synchronous learning such as Google Classroom as a learning medium. She said this type of app learning has a significant impact on learning in the industrial revolution era 4.0. She claims that this learning adopts an online system and depends on technology. This sort of education is not separated by time and space; learners are directly involved in learning processes; learning materials are easy to access; literacy skills and technologies are put into practice. This form of learning promotes efficiency and effectiveness. To ensure online learning being successful, educators' experiences must, in particular, be good to operate electronic platforms for the online class. Moreover, the metamorphosis of virtual classrooms includes equipment of computer technology equipment, pushes educators to be fluent in digital technology, and has the pedagogical knowledge required to use it for educational purposes (García-Martínez, et al., 2019). In this pandemic era,



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members of the university should continue to innovate on technology and pay close attention to the knowledge of compelling learning, powerful and successful (Sahu, 2020). Khan (2020) emphasizes that distance education is the only path that can contribute to continuing the learning process at the period of Covid-19, which has affected the international education scenario. Nevertheless, proper human resources training and systemic, strategic planning are unavoidable. Another statement voiced by Endah Wulantina (2019), on their study, gives the expression that such a mixture learning process is considered ineffective due to a data package being needed for them. Therefore, the government's role is vital, such as amenities and infrastructure to support the integrated learning experience to connect directly to the free internet access. Furthermore, Saputra et al., (2017) express that the suitability of the task and technology affects user's acceptance and affects the performance and user's intention to change the acceptance of e-learning users. In addition, another previous study has been introduced by Sulisworo, Ishafit, et al., (2016), their research focuses on developing mobile learning, in particular using the Jigsaw technique, through a cooperative learning approach. It is found that both technical and application acceptance was at proper levels so that this digital cooperative learning software can maximize students' learning attraction. The preparedness is an impactful and accurate approach to employing online classes. It should also be noted the teacher's role, the students' role, and learning activities. It is necessary to optimize any use of online classroom instruction to significantly boost learning performance (Verawardina et al., 2020).

Conclusion

Screencast-O-Matic and Google form tools have some benefits; certain obstacles still apply. This recent study showed that both platforms promote students' writing skills compared with other linguistic skills. Nine benefits are covered by these apps, by these ninth advantages, the indicator of software contributes to the students' capabilities on ICT is regarded as the highest positive aspect of implementing these electronic instruments in teaching activities. In addition, these platforms have shown various obstacles. Over half of respondents criticize that limited internet access is one of the biggest restrictions when implementing both Screencast-O-Matic and Google form apps. In addition, the respondents give different ideas for applying those apps. More participants emphasize the socialization of these electronic platforms for all EFL students and educators by the university. Although Screencast-O-Matic and Google form have some barriers in their virtual class, they provide more advantages, and many respondents believed they have all these advantages when compared to the limits. The majority of respondents argued that it facilitates EFL students to increase acquisitions of languages.

This research is expected to contribute a deep understanding to all educators and learners as an academic member toward the importance of considering numerous technical problems that appear while adopting those applications. This research also provides various great ideas to tackle any problems that are faced when using any asynchronous learning model. Those sorts of electronic equipment also promote asynchronous learning with a poor internet connection,



so it helps educators and students download and upload the materials without conducting conventional instructional. For future researchers, this finding can promote significant contributions. In contrast, future research can develop any type of asynchronous software for improving the students' language acquisitions or can increase the knowledge of the students with a different discipline.

References

- Al-Mubireek, S. (2019). E-learning in the English Classroom: Comparing Two E-Learning Platforms Impacting Preparatory Year Students' Language Learning. *Call-Ej*, 20(2), 19–37. http://callej.org/journal/20-2/Al-Mubireek2019.pdf
- Al Zumor, A. W. Q., Al Refaai, I. K., Bader Eddin, E. A., & Aziz Al-Rahman, F. H. (2013). EFL students' Perceptions of A Blended Learning Environment: Advantages, Limitations and suggestions for Improvement. *English Language Teaching*, 6(10), 95–110. https://doi.org/10.5539/elt.v6n10p95
- Anjani Tiara. (2019). Pengembangan Video Pembelajaran Screencast O-Matic Mata Pelajaran Matematika Berbasis Kurikulum 2013 pada Kelas VIII SMP Negeri 15 Semarang. https://lib.unnes.ac.id/33423/
- Cakrawati, L. M. (2017). Students' Perceptions on the Use of Online Learning Platforms in EFL Classroom. *English Language Teaching and Technology Journal 9ELT-Tech Journal*), 1(1), 22–30. http://ejournal.upi.edu/index.php/ELTTech/article/view/9428
- Darmalaksana, W., Hambali, R. Y. A., Masrur, A., & Muhlas. (2020). Analisis Pembelajaran Online Masa WFH Pandemic Covid-19 sebagai Tantangan Pemimpin Digital Abad 21. Karya Tulis Ilmiah (KTI) Masa Work From Home (WFH) Covid-19 UIN Sunan Gunung Djati Bandung Tahun 2020, 1(1), 1–12. http://digilib.uinsgd.ac.id/30434/
- Dewi, S. V. (2016). Efektivitas Penggunaan Media Screencast O-Matic pada Mata Kuliah Kalkulus Integral terhadap Hasil Belajar Mahasiswa. *Jurnal Penelitian Pendidikan Dan Pengajaran Matematika*, 2(1), 61–66. http://jurnal.unsil.ac.id/index.php/jp3m/article/view/157
- Endah Wulantina, S. M. (2019). Persepsi Peserta Didik terhadap Metode Blended Learning dengan Google Classroom. *Jurnal Inovasi Matematika*, 1(2), 110– 121. https://doi.org/10.35438/inomatika.v1i2.156
- García-Martínez, I., Fernández-Batanero, J. M., Sanchiz, D. C., & de la Rosa, A. L. (2019). Using Mobile Devices for Improving Learning Outcomes and Teachers' Professionalization. *Sustainability (Switzerland)*, 11(24), 1–12. https://doi.org/10.3390/su11246917
- Khan, I. A. (2020). Electronic Learning Management System: Relevance, Challenges and Preparedness. *Journal of Emerging Technologies and*





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Innovative Research ((*JETIR*), 7(5), 471–480. https://d1wqtxts1xzle7.cloudfront.net/63286717/JETIR200507220200512-32400-1ynnf6.pdf?1589300548=&response-contentdisposition=inline%3B+filename%3DElectronic_Learning_Management_Sy stem_Re.pdf&Expires=1594297267&Signature=cfutSdRoGOHnrWs3p1R-LwnHqsXoisi7D7

- Mardiana, T., & Purwanto, A. W. (2017). Google Form Sebagai Alternatif Pembuatan Latihan Soal Evaluasi. In URECOL (Ed.), *The 6th Universty Research Colloquium* (Issue 6, pp. 183–188). URECOL. http://journal.ummgl.ac.id/index.php/urecol/article/view/1582
- Muhammad, R. F. (2014). Penggunaan Google Form Sebagai Alat Evaluasi Pembelajaran pada Mata Pelajaran Bahasa Indonesia Universitas Pendidikan Indonesia. http://repository.upi.edu/6796/
- Novantara, P., & Muhammad, A. (2018). Implementasi E-Learning Berbasis Virtual Class dengan Menggunakan Metode Synchronous Learning pada Pembelajaran di Universitas Kuningan. *Jurnal Ilmiah Teknik Informatika*, 4(1), 1–7. https://doi.org/https://doi.org/10.25134/buffer.v4i1.1290
- Nurfalah, E. (2019). Optimalisasi E-Learning berbasis Virtual Class dengan Google Classroom sebagai Media Pembelajaran Fisika. *Physics Education Research Journal*, 1(1), 46–55. https://doi.org/10.21580/perj.2019.1.1.3977
- Purwati, D., & Nugroho, A. N. P. (2018). Pengembangan Media Evaluasi Pembelajaran Sejarah Berbasis Google Formulir di SMA N 1 Prambanan. *ISTORIA: Jurnal Pendidikan Dan Ilmu Sejarah*, 14(1), 1–10. https://doi.org/10.21831/istoria.v14i1.19398
- Sahu, P. (2020). Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. *Cureus*, 2019(4), 4–9. https://doi.org/10.7759/cureus.7541
- Santoso, P. B. (2019). Efektivitas Penggunaan Media Penilaian Google Form Effectiveness of Google Form Assessment Media on Ict. *Prosiding Seminar Nasional*, *1*(September), 287–292. https://jurnal.ustjogja.ac.id/index.php/snpep2019/article/view/5711
- Saputra, A. S., Kusumawardani, S. S., & Nugroho, E. (2017). Pengembangan Model Awal Sistem Evaluasi Penerimaan Pengguna E-Learning Janabadra. *Prociding SENIATI 2017 (BOOK-1)*, 1(B3), 1–6. https://ejournal.itn.ac.id/index.php/seniati/article/view/1616
- Sohibun, S., & Ade, F. Y. (2017). Pengembangan Media Pembelajaran Berbasis Virtual Class Berbantuan Google Drive. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, 2(2), 121. https://doi.org/10.24042/tadris.v2i2.2177
- Sulisworo, D., Ishafit, & Firdausy, K. (2016). The Development of Mobile Learning Application Using Jigsaw Technique. International Journal of Interactive Mobile Technologies, 10(3), 11–16.



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https://doi.org/10.3991/ijim.v10i3.5268

- Sulisworo, D., Nasir, R., & Maryani, I. (2016). Identification of Teachers' Problems in Indonesia on Facing Global Community. *International Journal* of Research Studies in Education, 6(2), 81–90. https://doi.org/10.5861/ijrse.2016.1519
- Suranto, B. (2009). Virtual Classroom: Strategi Pembelajaran Berbasis Synchronous E-Learning. *Seminar Nasional Aplikasi Teknologi Informasi* 2009, 2009(20 Juni), D-78-D-86. https://journal.uii.ac.id/Snati/article/viewFile/1221/1009
- Suryanto, H., & Sumbawati, M. S. (2015). Pengembangan Multimedia E-Learning Berbasis Screencast-O-Metic pada Pembelajaran Matematika untuk Siswa Sekolah Menengah Pertama Kelas VII. *Jurnal Teknologi Pembelajaran Devosi*, 5(3), 11–21. http://jurnal.unipasby.ac.id/index.php/devosi/article/view/544
- Talebian, S., Mohammadi, H. M., & Rezvanfar, A. (2014). Information and Communication Technology (ICT) in Higher Education: Advantages, Disadvantages, Conveniences and Limitations of Applying E-learning to Agricultural Students in Iran. *Procedia - Social and Behavioral Sciences*, 152, 300–305. https://doi.org/10.1016/j.sbspro.2014.09.199
- Verawardina, U., Asnur, L., Lubis, A. L., Hendriyani, Y., Ramadhani, D., Dewi, I. P., Darni, R., Betri, T. J., Susanti, W., & Sriwahyuni, T. (2020). Reviewing online learning facing the Covid-19 outbreak. *Talent Development and Excellence*, *12*(SpecialIssue3), 385–392. http://www.iratde.com/index.php/jtde/article/view/281
- Yusuf, B. N., & Ahmad Jihan. (2020). Are We Prepared Enough? a Case Study of Challenges in Online Learning in a Private Higher Learning Institution During the Covid-19 Outbreaks. Advances in Social Sciences Research Journal, 7(5), 205–212. https://doi.org/10.14738/assrj.75.8211
- Zhou, L., Wu, S., Zhou, M., & Li, F. (2020). 'School's Out, But Class' On', The Largest Online Education in the World Today: Taking China's Practical Exploration During The COVID-19 Epidemic Prevention and Control As an Example. SSRN Electronic Journal, 4(2), 501–519. https://doi.org/10.2139/ssrn.3555520

