

Teachers' Perception Toward the Use of Google Classroom in Online Learning on Junior High School

Chelsea Yohana Panjaitan^{1*} 

¹ English Language Education, Ganesha University of Education, Singaraja, Indonesia

*Corresponding author: chelseajt@gmail.com

Abstrak

Pembelajaran online mendorong penggunaan beberapa platform pembelajaran online untuk melakukan kegiatan pembelajaran. Ada beberapa platform pembelajaran online yang umum digunakan di sekolah seperti Edmodo, WhatsApp, Google Classroom, Zoom, dll. Google Classroom merupakan salah satu platform pembelajaran online yang umum digunakan di sekolah. Platform ini merupakan aplikasi yang menyediakan pembuatan ruang kelas di dunia maya. Google Classroom memiliki banyak fitur yang dapat digunakan sebagai sarana untuk pembagian tugas, penyerahan tugas maupun penilaian. Penelitian ini bertujuan untuk menganalisis persepsi guru terhadap penggunaan Google Classroom dalam pembelajaran online di SMP. Dalam pengumpulan data, artikel ini menggunakan metode campuran dengan fase kuantitatif dan kualitatif dalam mengumpulkan dan menganalisis data. Data dikumpulkan dari kuesioner dan wawancara. Hasil penelitian menunjukkan bahwa guru memandang penerapan Google Classroom sebagai media pembelajaran online dapat meningkatkan kinerja siswa. Selain itu, penggunaan Google Classroom di sekolah bermanfaat, baik bagi guru maupun siswa dalam melakukan proses pembelajaran.

Kata Kunci: Persepsi Guru, Google Classroom, Pembelajaran Online.

Abstract

Online learning encourages the used of several online learning platforms in order to do the learning activities. There are several online learning platforms that commonly used in school such as Edmodo, WhatsApp, Google Classroom, Zoom, etc. Google Classroom is one of the online learning platforms that commonly use in school. This platform is an application that provides the creation of classrooms in cyberspace. Google Classroom has many features that can be used as a means for the distribution of tasks, assignments submission as well as assessment. This study aimed to analyses teacher's perception toward the used of Google Classroom in online learning in junior high school. In collecting the data, this article use mixed method with quantitative and qualitative phases in collecting and analyzing the data. The data were collected from questionnaire and interview. The result of the research showed that the teachers perceived that the implementation of Google Classroom as an online learning media could improve student performance. Moreover, the used of Google Classroom in school was beneficial for both teachers and students in order to do the learning process.

Keywords: Teacher's Perceptions, Google Classroom, Online Learning.

1. INTRODUCTION

Online learning is becoming a new part of education system in the world. Online learning is a learning method where learners and teachers are not in one place as in general, but teaching and learning process occurs through a set of tools (computers and internet networks) that can connect students and teachers (Alruwais et al., 2018; Code et al., 2020; Kumalawati et al., 2021). Online learning is a form of distance learning or distance education. Online learning could be divided into three types, namely, fully web-based, blended, and traditional courses by using web-based supplements (Moore et al., 2011; Renes & Strange, 2010; Yu et al., 2021).

History:

Received : July 02, 2022

Revised : July 04, 2022

Accepted : August 13, 2022

Published : August 25, 2022

Publisher: Undiksha Press

Licensed: This work is licensed under a Creative Commons Attribution 4.0 License



First, in full web-based, all learning activities are conducted in an online environment with no face to face interaction (Dabbagh & Kitsantas, 2005; Marczak et al., 2016; Ngafeeson & Gautam, 2021). Second, blended learning involved both web-based and classroom sessions with the time portion based on the nature of the class and the instructor (Lewandowski et al., 2016; Zhang & Chu, 2016). Third, the traditional course is a type of learning done with face to face interaction but using the technology as a tool for representing supplemental material (Andarwulan et al., 2021; Hawari & Noor, 2020). Moreover, online learning is widely used in teaching and learning process, due to the spread of corona virus or Covid-19 (Adedoyin & Soykan, 2020; Onyema et al., 2020).

Online learning encourages the used of several online learning platforms in order to do the learning activities. The online learning platforms that can be used to carry out online learning activities including Zoom meetings, Google Meet, WhatsApp, Google Classroom, and others (Chin et al., 2021; Panigrahi et al., 2018; Qekaj-Thaqi & Thaqi, 2021). For learning activities to run smoothly, we must first adjust the conditions and situations we are in with the platform to be used so that there are no obstacles in its application (N. K. S. Dewi, 2021; Setiadi et al., 2021). One of the media or learning platforms that are widely used in junior high school is Google Classroom (Almanar, 2020; Fuadi et al., 2020; Sujarwo et al., 2020).

Google Classroom is a part of Google Suite for Education and officially launched in 2014. Google Classroom is an application that provides the creation of classrooms in cyberspace (Albashtawi & Al Bataineh, 2020; Alimin, 2019; Sabran & Sabara, 2019). Google Classroom facilitates teachers and lecturers in creating and organizing assignments, feedback, and communication with the classes (Hikmawati & Suryaningsih, 2020; Salam, 2020). Previous researcher stated that Google Classroom is an Internet-based service designed to make it easier for teachers and students to send assignments without having to use paper (paperless) (Sukmawati & Nensia, 2019). It says paperless because this platform has many features that can make it easier for students to access material or assignments given by the teacher. Google Classroom can be downloaded without any charge by registering themselves on the Google account application for education. Google Classroom also can be used in any devices like computer or mobile phones.

With the application of Google Classroom as a learning media, the online learning process will run well, besides that students can also study independently at home by studying the material provided by the teacher and sending assignments on time via Google Classroom which can be accessed anytime and anywhere (Baktiyar et al., 2020; Mustikaningrum et al., 2021). Teachers can also monitor student attendance through online absences distributed through Google Classroom and recorded student notes when submitting assignments. While the important role of Google Classroom regarding the English teaching and learning process, namely, 1) The existence of a feature that is directly connected to YouTube can make it easier for teachers to share links to English learning materials or English videos to help students get additional information or additional material that can help them improve their English speaking skills (Ansong-Gyimah, 2020; Harjanto & Sumarni, 2019; Masharova et al., 2020). 2) There is a comment feature that can provide space for students and teachers to communicate in their English, so even though they are online they can still interact (R. Dewi et al., 2021; Iftakhar, 2016). In addition, through this comment feature, the teacher can provide feedback or corrections to students who make mistakes spelling or errors in their works.

Moreover, some previous studies about teacher's perception toward the used of Google Classroom in Online learning had been investigated by many experts. First, researcher that investigated about the use of Google Classroom during Pandemic (Salam, 2020). The result of the research proved that it is effective to use this platform. Second, the

research aimed to explore the effectiveness of Google Classroom in the learning process (Alimin, 2019). The findings showed that the use of Google Classroom was effective with various limitations: (1) not all students got an account what was provided by the teachers because they did not have a smartphone, (2) Wi-Fi availability in the campus was limited and (3) the students did not have enough mobile data plan during the time of online discussion and even some students submitted their assignments using their friends' account. Third, the research that focusing on EFL teachers' perception of online English language learning (Rahayu & Wirza, 2020). Their perceptions were analyzed in three aspects: perceived usefulness, perceived ease of use, and their attitude toward online English language learning. The participants showed a positive perception of the usefulness and ease of online learning systems during pandemic Covid-19. Still, more than half of teachers didn't agree on its effectiveness.

Besides that, the basic of this research is arising from the preliminary study in junior high school in Bogor, where the researcher did an interview to some of the teachers in Junior high school in Bogor and find out that the teachers have different perception toward the used of Google Classroom in online learning. Some of the teachers revealed that Google Classroom is an effective platform to teach students in online learning. Meanwhile, there are several teachers revealed that Google Classroom is not really effective platform to teach the students in online learning. It also needs the combination of other online platforms or needs to do the online conference through Zoom or Google meet. So, this research focuses on analyses English teacher's perception toward the use Google Classroom in online learning on cognitive component. Cognitive component deals with teachers' knowledge and teacher's point of view toward the use of Google Classroom in online learning.

2. METHODS

This study used mixed method as the research design with quantitative and qualitative phases in collecting and analyzing the data. The type of mixed method that used in this study is the sequential embedded mixed method. This method is whereby using qualitative and quantitative data in sequence time (Kärner, 2017; Lindsay-Smith et al., 2018). There are ten teachers from four junior high schools as the respondents of the research. This design divided into 2 phases. Firstly, the phases to gain quantitative data which use questionnaire as the instrument and the second phase gained qualitative data through interview. The results of the data are interpreted descriptively.

3. RESULTS AND DISCUSSION

Results

The questionnaire was used to get the teachers' perception English teachers' perception toward the used of Google Classroom in online learning of Junior High School in Bogor. It used 5 Likert scales ranging from 1 until 5. There were 10 indicators on cognitive component. The result of the questionnaire could be seen in Table 1.

Based on Table 1, regarding teachers' perception toward the used of Google Classroom in online learning on Junior High School in Bogor based on the cognitive component. The mean score of the teachers' perception on the cognitive component was 3.54, and it was in the interval of $3.3335 \leq M \leq 4.0005$, categorized as a high category. It can be inferred that the teachers feel that they could use Google Classroom in online learning on Junior High School in Bogor. It also means that the teachers knew the knowledge in using Google classroom in online learning. From the data above, SMP N 13 Bogor got the highest mean score, which was 3.72, categorized as a high category. It indicated that the four teachers

in that school have a very high knowledge related to the use of Google classroom in online learning. Then, there are two teachers from SMP Mardi Waluya who became the respondents of the research and the result of the mean score of the questionnaire was 3.35, it categorized as a high category. It can be inferred that the teachers had sufficient knowledge related to the use of Google classroom in online learning.

Table 1. English Teachers' Perception Toward the Used of Google Classroom

Dimension	Statement	SMP N 13 Bogor				SMP Mardi Waluya		SMP Budi Mulia		SMP N 10 Bogor	
		R 1	R 2	R 3	R 4	R 5	R 6	R 7	R 8	R 9	R 10
cognitive component	1. I have enough knowledge regarding the use of Google Classroom in online learning.	4	4	4	4	4	3	3	4	4	4
	2. I am able to use the features on Google Classroom to support in teaching English during the online learning.	4	4	4	4	4	3	3	4	3	4
	3. I understand the function of Google Classroom as a platform of online learning.	4	4	4	4	4	3	3	4	4	4
	4. I feel with the use of Google Classroom the teaching and learning process becoming effective because the teachers and students can do it anytime and anywhere.	5	4	5	5	4	4	4	4	4	4
	5. I feel that using Google Classroom is more accessible than other platform.	4	5	4	5	5	4	4	4	4	5
	6. I feel my motivation is increased when using Google Classroom as a teaching media.	4	5	4	5	5	3	4	4	4	4
	7. I think the students more active when using Google Classroom as a learning platform.	2	4	4	4	3	3	3	3	3	4
	8. I do not think that the students more active when using Google Classroom as a learning media..	3	2	4	4	3	3	3	3	4	4
	9. I feel that using Google Classroom in online teaching is not really helpful.	2	2	2	2	2	2	3	3	3	2
	10. I feel there is no difference in student creativity and performance while using Google Classroom as a learning media.	2	3	3	3	3	2	2	3	3	3
Mean		3.72				3.35		3.40		3.70	

Moreover, there are two teachers from both school in SMP Budi Mulia and SMP N 10 Bogor. In SMP Budi Mulia the mean score was 3.40 and it categorized as a high category. Meanwhile, the mean score of SMP N 10 Bogor was quite the same with SMP N 13 Bogor. The mean score was 3.70 and it also categorized as a high category. In conclusion, all the teacher from four schools have good knowledge related to the use of Google classroom in online learning and they also revealed a positive point of view toward the use of Google classroom as a media of teaching during the online learning. Based on the result of the questionnaire above it can be concluded that the teachers feel that they could use Google Classroom in online learning on Junior High School in Bogor. It also means that the teachers knew the knowledge in using Google classroom in online learning.

Discussion

The study about teachers' perception toward the use of Google Classroom in Online Learning on Junior High School in Bogor on cognitive component was conducted in 4 different junior high schools in Bogor. Cognitive component deals with teachers' knowledge and teacher's point of view toward the use of Google Classroom in online learning. Moreover, ten teachers from those four schools were the subject of this research study. Further, there was one research question that was the focus of this research. In order to get depth explanation of the findings, this section would discuss the previous study and the theory related to the topic. Based on teachers' perception, it was found that the teachers' perception was in a very high category; the totals mean score was 3.54. It indicated that the teachers from four different schools have a high perception toward the use of Google Classroom in Online Learning on Junior High School in Bogor on cognitive component. The high category of teachers' perception of Google Classroom in Online Learning also related to teachers' self-efficacy. Teachers' self-efficacy is beneficial and related to the learning process in a classroom and students (Ozdamli & Ozdal, 2018; Star et al., 2014). Further, teachers' self-efficacy also influenced teacher belief and attitude in doing something.

From the result of the questionnaire, the teachers have a high understanding of knowledge and technology literacy of the use of Google Classroom in online learning. It also means that the teachers in four junior high schools in the Bogor felt that they could use Google Classroom as an online learning platform. Teacher' digital literacy is also one of the most crucial things in online learning (Kivunja, 2014; Yustika et al., 2020). Other study explained that digital literacy is an ability and attitude to use digital tools to identify, access, evaluate, and analyze digital resources, gain new knowledge, and communicate with others (McGuinness & Fulton, 2019). The implication of this research is to provide an overview of digital literacy which involves the use of software and the use of digital devices. Furthermore, Teacher's knowledge of digital literacy is required for an online learning environment (Hobbs & Friesem, 2019; Mutohhari et al., 2021). Teachers who have good ability to use digital tools can make online learning more effective. Technology has become a vehicle for conducting online learning because schools are closed, and in conducting online meetings, they need stable internet access to make online meetings run well (Adedoyin & Soykan, 2020; Vartiainen et al., 2016). These researches have many weaknesses especially in research scope. It is hoped that future research will be able to further deepen and broaden the scope of research related to perception toward the use of Google Classroom in online learning.

4. CONCLUSION

Google Classroom is an effective platform to teach students in online learning. Online learning encourages the used of several online learning platforms in order to do the learning activities. Google Classroom is one of the online learning platforms that commonly use in school. This platform is an application that provides the creation of classrooms in cyberspace. Google Classroom has many features that can be used as a means for the distribution of tasks, assignments submission as well as assessment. The use of Google Classroom in school is beneficial for both teachers and students in order to do the learning process. The result of the research show that the implementation of Google Classroom as an online learning media could improve student improvement.

5. REFERENCES

Adedoyin, O. B., & Soykan, E. (2020). Covid-19 Pandemic and Online Learning: The

- Challenges and Opportunities. In *Interactive Learning Environments* (pp. 1–13). <https://doi.org/10.1080/10494820.2020.1813180>.
- Albashtawi, A., & Al Bataineh, K. (2020). The Effectiveness of Google Classroom Among EFL Students in Jordan: An Innovative Teaching and Learning Online Platform. *International Journal of Emerging Technologies in Learning (IJET)*, 15(11), 78–88. <https://doi.org/10.3991/IJET.V15I11.12865>.
- Alimin, F. G. (2019). *The Effectiveness of Google Classroom as An Instructional Media : A Case of State Islamic Institute of Kendari , Indonesia The Effectiveness of Google Classroom as An Instructional Media : A Case of State Islamic Institute of Kendari , Indonesia. March.* <https://doi.org/10.18510/hssr.2019.7227>.
- Almanar, M. A. (2020). The Shifting of Face to Face Learning to Distance Learning During the Pandemic Covid-19. *Globish: An English-Indonesian Journal for English, Education, and Culture*, 9(2), 111. <https://doi.org/10.31000/globish.v9i2.2772>.
- Alruwais, N., Wills, G., & Wald, M. (2018). Advantages and Challenges of Using e-Assessment. *International Journal of Information and Education Technology*, 8(1), 34–37. <https://doi.org/10.18178/ijiet.2018.8.1.1008>.
- Andarwulan, T., Al Fajri, T. A., & Damayanti, G. (2021). Elementary Teachers' Readiness toward The Online Learning Policy in The New Normal Era During Covid-19. *International Journal of Instruction*, 14(3), 771–786. <https://doi.org/10.29333/iji.2021.14345a>.
- Ansong-Gyimah, K. (2020). Students' Perceptions and Continuous Intention to Use Elearning Systems: The Case of Google Classroom. *International Journal of Emerging Technologies in Learning*, 15(11), 236–244. <https://doi.org/10.3991/IJET.V15I11.12683>.
- Baktiyar, Y., Afghohani, A., & Farahsanti, I. (2020). Hubungan Pembelajaran Berbasis E-Learning Menggunakan Aplikasi Google Classroom dengan Prestasi Belajar Matematika. *Aksioma*, 11(2), 267–273. <http://103.98.176.9/index.php/aksioma/article/view/6355>.
- Chin, K. E., Kwon, D. H., Gan, Q., Ramalingam, P. X., Wistuba, I. I., Prieto, V. G., & Aung, P. P. (2021). Transition from A Standard to A Hybrid On-Site and Remote Anatomic Pathology Training Model During the Coronavirus Disease 2019 (Covid-19) Pandemic. *Archives of Pathology and Laboratory Medicine*, 145(1), 22–31. <https://doi.org/10.5858/arpa.2020-0467-SA>.
- Code, J., Ralph, R., & Forde, K. (2020). Pandemic Designs for The Future: Perspectives of Technology Education Teachers During COVID-19. *Information and Learning Science*, 121(5–6), 409–421. <https://doi.org/10.1108/ILS-04-2020-0112>.
- Dabbagh, N., & Kitsantas, A. (2005). Using Web-Based Pedagogical Tools as Scaffolds for Self-Regulated Learning. *Instructional Science*, 33, 513–540. <https://doi.org/10.1007/s11251-005-1278-3>.
- Dewi, N. K. S. (2021). EFL Pre-Service Teachers' Perception of Their Readiness in Teaching Online during Covid-19 Pandemic. *The Art of Teaching English as a Foreign Language*, 2(2), 163–168. <https://doi.org/10.36663/tatefl.v2i1.172>.
- Dewi, R., Mulyati, Y., Rahmat, J., Sari, E. N., & Dalima, P. (2021). Manajemen Pembelajaran Daring/Online dengan Menggunakan Google Classroom di SDIT Fajar, Depok. *Journal of Mountain Agriculture on the Balkans*, 1(1), 47–52. <https://doi.org/10.32493/jmab.v1i1.10373>.
- Fuadi, T. M., Musriandi, R., & Suryani, L. (2020). Covid-19: Penerapan Pembelajaran Daring di Perguruan Tinggi. *Dedikasi Pendidikan*, 8848(2), 193–200. <http://103.52.61.43/index.php/dedikasi/article/view/1022>.
- Harjanto, A. S., & Sumarni, S. (2019). Teacher's Experiences on The Use of Google

- Classroom. *3rd English Language and Literature International Conference (ELLiC)*, 3, 172–178. <https://jurnal.unimus.ac.id/index.php/ELLIC/article/view/4704>.
- Hawari, A. D. M., & Noor, A. I. M. (2020). Project Based Learning Pedagogical Design in STEAM Art Education. *Asian Journal of University Education*, 16(3), 102–111. <https://doi.org/10.24191/ajue.v16i3.11072>.
- Hikmawati, V. Y., & Suryaningsih, Y. (2020). Implementing Blended-Problem Based Learning through Google Classroom in Biology Learning. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 6(2), 217–224. <https://doi.org/10.22219/jpbi.v6i2.12112>.
- Hobbs, R., & Friesem, Y. (2019). The Creativity of Imitation in Remake Videos. *E-Learning and Digital Media*, 16(4), 328–347. <https://doi.org/10.1177/2042753019835556>.
- Iftakhar, S. (2016). Google Classroom: What Works and How? *Journal of Education and Social Sciences*, 3(1), 12–18. https://jesoc.com/wp-content/uploads/2016/03/KC3_35.pdf.
- Kärner, T. (2017). A Mixed-Methods Study of Physiological Reactivity to Domain-Specific Problem Solving: Methodological Perspectives for Process-Accompanying Research in VET. *Empirical Research in Vocational Education and Training*, 9(1). <https://doi.org/10.1186/s40461-017-0054-3>.
- Kivunja, C. (2014). Teaching Students to Learn and to Work Well with 21st Century Skills: Unpacking the Career and Life Skills Domain of The New Learning Paradigm. *International Journal of Higher Education*, 4(1), 1–11. <https://doi.org/10.5430/ijhe.v4n1p1>.
- Kumalawati, R., Murliawan, K. H., Yuliarti, A., Kartika, N. Y., & Noermelani, E. (2021). Utilization of Information Technology for Learning in Covid-19 Disaster Conditions. *IOP Conference Series: Earth and Environmental Science*, 716(1). <https://doi.org/10.1088/1755-1315/716/1/012001>.
- Lewandowski, L., Wood, W., & Miller, L. A. (2016). Technological Applications for Individuals with Learning Disabilities and ADHD. In *Computer-Assisted and Web-Based Innovations in Psychology, Special Education, and Health* (pp. 61–93). Academic Press. <https://doi.org/10.1016/B978-0-12-802075-3.00003-6>.
- Lindsay-Smith, G., O'Sullivan, G., Eime, R., Harvey, J., & Van Uffelen, J. G. Z. (2018). A Mixed Methods Case Study Exploring the Impact of Membership of A Multi-Activity, Multicentre Community Group on Social Wellbeing of Older Adults. *BMC Geriatrics*, 18(1), 1–14. <https://doi.org/10.1186/s12877-018-0913-1>.
- Marczak, M., Krajka, J., & Malec, W. (2016). Web-Based Assessment and Language Teachers - from Moodle to WebClass. *International Journal of Continuing Engineering Education and Life-Long Learning*, 26(1), 44–59. <https://www.inderscienceonline.com/doi/abs/10.1504/IJCEELL.2016.075048>.
- Masharova, T. V., Mikhlyakova, E. A., Krukovskiy, V. Y., & Yang, G. (2020). The Use of Cloud Services to Enhance Information Interaction in E-Learning to Improve the Quality of Educational Results. *Perspektivy Nauki i Obrazovania*, 47(5), 384–397. <https://doi.org/10.32744/pse.2020.5.27>.
- McGuinness, C., & Fulton, C. (2019). Digital Literacy in Higher Education: A Case Study of Student Engagement with E-Tutorials using Blended Learning. *Journal of Information Technology Education: Innovations in Practice*, 18, 1–28. <https://www.informingscience.org/Publications/4190?Type=journalarticles>.
- Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, Online Learning, and Distance Learning Environments: Are They the Same? *Internet and Higher Education*, 14(2), 129–135. <https://doi.org/10.1016/j.iheduc.2010.10.001>.
- Mustikaningrum, G., Widiyanto, W., & Mediatati, N. (2021). Application of The Discovery Learning Model Assisted by Google Meet to Improve Students' Critical Thinking

- Skills and Science Learning Outcomes. *International Journal of Elementary Education*, 5(1), 30. <https://doi.org/10.23887/ijee.v5i1.34344>.
- Mutohhari, F., Sofyan, H., & Nurtanto, M. (2021). Technological Competencies: A Study on the Acceptance of Digital Technology on Vocational Teachers in Indonesia. *Proceedings of the 1st International Conference on Law, Social Science, Economics, and Education, ICLSSEE 2021*, 1–11. <https://doi.org/10.4108/eai.6-3-2021.2305971>.
- Ngafeeson, M. N., & Gautam, Y. (2021). Learning Management System Adoption: A Theory of Planned Behavior Approach. *International Journal of Web-Based Learning and Teaching Technologies*, 16(1), 27–42. <https://doi.org/10.4018/IJWLTT.2021010104>.
- Onyema, E. M., Sen, S., & Alsayed, A. O. (2020). *Impact of Coronavirus Pandemic on Education Impact of Coronavirus Pandemic on Education*. May. <https://doi.org/10.7176/JEP/11-13-12>.
- Ozdamli, F., & Ozdal, H. (2018). Developing An Instructional Design for The Design of Infographics and The Evaluation of Infographic Usage in Teaching Based on Teacher and Student Opinions. *Eurasia Journal of Mathematics, Science and Technology Education*, 14(4), 1197–1219. <https://doi.org/10.29333/ejmste/81868>.
- Panigrahi, R., Srivastava, P. R., & Sharma, D. (2018). Online Learning: Adoption, Continuance, and Learning Outcome—A Review of Literature. *International Journal of Information Management*, 43(July 2016), 1–14. <https://doi.org/10.1016/j.ijinfomgt.2018.05.005>.
- Qekaj-Thaqi, A., & Thaqi, L. (2021). The Importance of Information and Communication Technologies (ICT) during the COVID-19—Pandemic in Case of Kosovo (Analytical Approach of Students Perspective). *OALib*, 08(07), 1–15. <https://doi.org/10.4236/oalib.1106996>.
- Rahayu, R. P., & Wirza, Y. (2020). Teachers' Perception of Online Learning during Pandemic Covid -19. *Jurnal Penelitian Pendidikan*, 20(3), 392–406. https://www.researchgate.net/profile/Yanty-Wirza/publication/349611973_Teachers'_Perception_of_Online_Learning_during_Pandemic_Covid-19/links/60f008fa0859317dbde3014c/Teachers-Perception-of-Online-Learning-during-Pandemic-Covid-19.pdf.
- Renes, S. L., & Strange, A. T. (2010). Using Technology to Enhance Higher Education. *Innovative Higher Education*, 36(3), 203–213. <https://doi.org/10.1007/s10755-010-9167-3>.
- Sabran, & Sabara, E. (2019). Keefektifan Google Classroom sebagai Media Pembelajaran. *Seminar Nasional LP2M UNM*, 122–125. <https://ojs.unm.ac.id/semnaslemlit/article/view/8256>.
- Salam, U. (2020). The Students' Use of Google Classroom in Learning English. *JPI (Jurnal Pendidikan Indonesia)*, 9(4), 628. <https://doi.org/10.23887/jpi-undiksha.v9i4.27163>.
- Setiadi, P. M., Alia, D., Sumardi, S., Respati, R., & Nur, L. (2021). Synchronous or Asynchronous? Various Online Learning Platforms Studied in Indonesia 2015-2020. *Journal of Physics: Conference Series*, 1987(1). <https://doi.org/10.1088/1742-6596/1987/1/012016>.
- Star, J. R., Chen, J. A., Taylor, M. W., Durkin, K., Dede, C., & Chao, T. (2014). Studying Technology-Based Strategies for Enhancing Motivation in Mathematics. *International Journal of STEM Education*, 1(1), 2. <https://doi.org/10.1186/2196-7822-1-7>.
- Sujarwo, S., Sukmawati, S., Akhiruddin, A., Ridwan, R., & Suharti Siradjuddin, S. S. (2020). An Analysis of University Students' Perspective On Online Learning in The Midst of Covid-19 Pandemic. *Jurnal Pendidikan Dan Pengajaran*, 53(2), 125. <https://doi.org/10.23887/jpp.v53i2.24964>.
- Sukmawati, S., & Nensia, N. (2019). The Role of Google Classroom in ELT. *International*

Journal for Educational and Vocational Studies, 1(2).
<https://doi.org/10.29103/ijevs.v1i2.1526>.

- Vartiainen, H., Pöllänen, S., & Liljeström, A. (2016). Designing Connected Learning: Emerging Learning Systems in Craft Teacher Education Course. *Design And*, 21(2), 32–40. <https://ojs.lboro.ac.uk/DATE/article/download/2115/2281>.
- Yu, H., Liu, P., Huang, X., & Cao, Y. (2021). Teacher Online Informal Learning as a Means to Innovative Teaching During Home Quarantine in the COVID-19 Pandemic. *Frontiers in Psychology*, 12(June), 1–12. <https://doi.org/10.3389/fpsyg.2021.596582>.
- Yustika, G. P., Iswati, S., & Article, H. (2020). *Dinamika Pendidikan*. 15(1), 66–76. <https://doi.org/10.15294/dp.v15i1.23779>.
- Zhang, Y., & Chu, S. K. W. (2016). New Ideas on The Design of The Web-Based Learning System Oriented to Problem Solving from The Perspective of Question Chain and Learning Community. *International Review of Research in Open and Distance Learning*, 17(3), 176–189. <https://doi.org/10.19173/irrodl.v17i3.2115>.