

# College Students Perspective on Online Learning during COVID-19: A Systematic Literature Review

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**Keywords:** College Student, COVID-19 Pandemic, Perspective, Online Learning.

**Abstract:** COVID-19 has changed the behavior and habits of society around the world, including in the education aspect. Education is transformed from face-to-face learning to online learning. This study examined previous articles on college students' perspectives of online learning during the COVID-19 pandemic. PRISMA guideline was used as the research method. The database used was Google Scholar with the search keywords of "Online learning" AND "College student perspective" OR "Undergraduate student perspective" OR "University student perspective" AND "Covid-19". The authors found 30 articles in which only five met the criteria and quality. The results showed that college students had opinions regarding the importance of preparation in online learning. Students had negative and positive perspectives on online learning. The negative perspective stemmed from technical problems such as internet and electricity problems, expensive data plans, and psychological problems (fluctuations in motivation, boredom, and stress). While, the positive perspective stemmed from valuable experience in expanding technological exploration and developing soft skills (discipline, responsibility, creativity, and independence). College students argued that online learning was the best choice during the COVID-19. They showed a preference for face-to-face learning than online learning if the circumstances have improved. The research has implications for educational policies at the macro and micro levels to improve the learning system that pays attention to students' psychological well-being and maintains the quality of education.

## 1 INTRODUCTION

All countries are currently struggling to face the Corona Virus Disease 2019 (COVID-19) pandemic. COVID-19 was first discovered in Wuhan, Hubei, China, in December 2019 (Hu et al., 2020). The people infected with this virus show general symptoms of fever, shortness of breath, dry cough, fatigue, and typical symptoms of pain, headache, diarrhea, and loss of smelling sense (Alshukry et al., 2020). The virus spread very quickly to various parts of the world. It forced the World Health Organization (WHO) to raise the status to global pandemic starting March 2020 (Rafique et al., 2021).

Countries have also established public policies to reduce the transmission rate of COVID-19 (Chen et al., 2020). Indonesia, in particular, has implemented PSBB (*Pembatasan Sosial Berskala besar*, Large-Scale Social Restrictions) and PPKM (*Pemberlakuan Pembatasan Kegiatan Masyarakat*, Micro Enforcement of Community Activity Restrictions).

PPKM consists of level 1-4. WHO recommends the government to implement health protocols such as wearing masks, washing hands, maintaining distance, staying away from crowds, and reducing community mobility. Some activities that are usually carried out face-to-face have been transformed into online.

One of the most affected aspects by the pandemic is education (Sulata & Hakim, 2020; Biswas et al., 2020; Martinez-Munoz et al., 2021). At least 1.725 billion students are affected due to the school and college buildings closing. In Indonesia, the Ministry of Education and Culture (2020) prohibits universities from conducting face-to-face learning and instructs universities to conduct online learning. Several countries, including Egypt, France, Italy, the United States, and the United Arab Emirates, orchestrate distance learning using online platforms. While China, South Korea, Iran, Rwanda, Thailand, and Peru use the MOOC (Massive Open Online Course) system which learning materials are provided through applications, television, or other media,

allowing the teachers to access the network (Chang & Yano, 2020). This condition has encouraged research on online learning during the COVID-19 pandemic.

Online learning is a form of learning that brings students and lecturers to carry out academic activities using the internet (Kuntarto, 2017). Mobile phones, laptops, and internet connections are important facilities in online learning. Adedoyin & Soykan (2020) argued that technological infrastructure and digital competencies are the primary keys to online learning. A suitable platform is also needed by every university organizing online learning (Masoud & Bohra, 2020). Platforms often used to support the online learning process are Zoom, Microsoft Teams, Google Meet, and Google Classroom. Numerous platforms with supporting features can be attractive choices for lecturers and students during the COVID-19 pandemic (Abidah et al., 2020).

Online learning focuses on controlling students; thus, the approach used is student-centered learning. College students have full responsibility and autonomy in the learning process and actively develop their knowledge based on the previous one (Jacobs et al., 2016; Yuliani et al., 2020). Sadikin & Hamidah (2020) found that online learning lost lecturers and college students' face-to-face interaction, facilitated students' learning independence, and increased student motivation. Lecturers can transfer information to students via lecture materials, individual assignments, group assignments, and quizzes. According to Jamaluddin et al. (2020), online learning has both advantages and challenges. Argaheni (2020) stated that online learning was quite confusing for students, hindered student comprehension, made students passive, less creative, and productive, also triggered stress.

Several terms similar to online learning have been introduced in recent decades—for instance, e-learning, distance learning, and blended learning (Moore et al., 2011). Along with the COVID-19 pandemic, various countries researched to describe the condition of students concerning the utilization of e-learning (Kaur et al., 2020; Khan et al., 2021), distance learning (Masoud & Bohra, 2020; Turner et al., 2020; Hapsari, 2021), and blended learning (Lim & Wang, 2016).

Many studies have overlapped the terms online learning, e-learning, distance learning, and blended learning (Kimkong & Koemhong, 2020). It creates confusion in assessing how students' perspectives on online learning are during the COVID-19 pandemic. Online learning in this study explicitly referred to learning that lecturers and students carry out fully and synchronously. Full online learning is certainly not

the same as blended learning. Blended learning refers to a combination of face-to-face learning and online learning (He et al., 2014). The synchronous refers to learning that is carried out simultaneously through electronic media. Synchronous provides teachers and students to interact directly (Perveen, 2016).

An assessment of previous research is needed in the field of education. This research objective was to examine the previous studies on student perspectives regarding online learning during the COVID-19 pandemic. The research focused on answering the question of “What is the student's perspective on online learning during the COVID-19 pandemic?”.

## 2 METHOD

The purpose of this study was to examine previous studies on college student perspectives on online learning during the COVID-19 pandemic using the systematic review literature method. The research design was a systematic literature review referring to the PRISMA (Prefferens Reporting Items for Systematic Review and Meta-Analysis) guidelines (Page et al., 2021). We used the Google Scholar database. We searched by writing keywords relevant to the topic, which were “Online learning” AND “College student perspective” OR “Undergraduate student perspective” OR “University student perspective” AND “Covid-19”.

The articles found would be reviewed based on the following criteria: 1) full-text articles; 2) research articles from 2020-2021; 3) articles written in English; 4) the participants were college students; 5) the research used quantitative and/or qualitative designs; 6) the research focused on college students perspective of online learning during the COVID-19 pandemic.

The article searching process was done on June 25, 2021. We found 30 articles on Google Scholar with the keywords of “Online learning” AND “College student perspective” OR “Undergraduate student perspective” OR “University student perspective” AND “Covid-19”. Seven articles were excluded because they were not in full text and did not use English. The remaining 23 articles were reviewed. However, 18 had to be excluded because they were irrelevant, did not have a clear journal identity, and did not constitute empirical research. The participants also did not meet the inclusion criteria. The remaining five articles were processed because they had suitable participants, research designs, and discussed online learning perspectives of students during the Covid-19 pandemic. The five

articles were quality-checked using the CASP Qualitative Checklist for qualitative research and EPHPP for quantitative research. Two articles were checked for quality using the CASP Qualitative Checklist by referring to the previously mentioned quality check. Three other articles were quality-checked using EPHPP.

The CASP Qualitative Checklist has several criteria that must be fulfilled by the article, as follows:

1. Was there a clear statement of the aims of the research?
2. Is a qualitative methodology appropriate (proper methodology for addressing the research goal)?
3. Was the research design appropriate to address the aims of the research?
4. Was the recruitment strategy appropriate to the aims of the research?
5. Was the data collected in a way that addressed the research issue?
6. Has the relationship between researcher and participants been adequately considered?
7. Have ethical issues been taken into consideration?
8. Was the data analysis sufficiently rigorous?
9. Is there a clear statement of findings?
10. How valuable is the research?

According to the CASP Qualitative Checklist, two articles met the criteria and could be categorized as good. The first article was by Hanum (2020) entitled "Character Education in Online Learning on Citizenship Education (College Student's Perspective)", categorized as qualitative research with good quality. The article was categorized as good quality because it did not meet CASP criteria number 6 and 7. Furthermore, the second article was done by Turner et al. (2020) entitled "How to Be Socially Present When the Class Becomes "Suddenly Distant"". It was categorized as a good quality qualitative research because the article did not meet criteria number 6.

The other three quantitative research articles were checked using EPHPP. Some of the criteria that must be fulfilled are as follows;

1. Selection bias
2. Study design
3. Confounders
4. Blinding
5. Data collection methods
6. Withdrawals and drop-outs

The three articles met the criteria and could be categorized as good quality. The first article was a

quantitative study by Rana and Garbuja (2021) titled "Nursing Students' Perception of Online Learning Amidst COVID-19 Pandemic". The article has a strong category score on criteria number 1, 2, 5, and 6. The second article was by Puspendari et al. (2020), titled "Online Learning During a Pandemic: A Web Based Survey from Student Perspective" which was categorized as a good quality article. The article met five criteria with a strong category score: criteria number 1, 2, 3, 5, and 6.

Furthermore, a quantitative research article by Al-Amin et al. (2021) titled "Status of Tertiary Level Online Class in Bangladesh: Students Response on Preparedness, Participation, and Classroom Activities" was categorized as a good quality article. The article had a strong category score in criteria number 1, 2, 3, 5, and 6. Thus, the five quality-checked articles would be included in a systematic review in this study. The process of article searching can be seen in Figure 1.

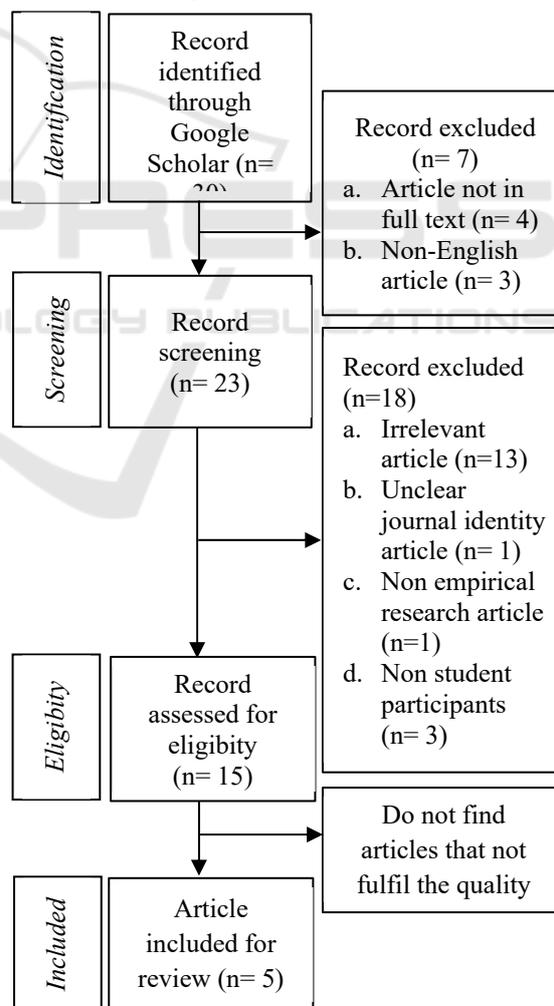


Figure 1: Article selection flow.

### 3 RESULT

Table 1: Article review summary.

No	Author	Participant and Country	Method	Instrument	Result
1	Hanum (2020)	Participant: Class leader students in five study programs at Yogyakarta State University participated in online Citizenship Education lessons.  Country: Indonesia	Qualitative	a. Interviews b. Documentation	College students believed that online learning improved their understanding and technology skills, especially on the used learning platforms. In addition, online learning could also instill values of religiosity, discipline, responsibility, democracy, honesty, independence, and creativity. Religiosity through routine prayer activities before and after learning. Discipline through punctuality in starting and ending learning. Responsibility through lecture rules, presentation of material, and self-study. Democracy through the habit of respecting opinions and deliberation between the course participants. Honesty through the habit of being honest in presence. Independence through the habit of seeking and understanding material independently. Moreover, creativity through the freedom of expression in expressing ideas and exploring in utilizing technology.
2	Turner et al. (2020)	Participant: 16 graduate students at the US universities  Country: UK	Qualitative	Semi-structured interviews	All college students considered the change of learning practices to online developed various obstacles. Constraints faced by students include the stability of the internet network, the use of virtual backgrounds on the Zoom application, and communication in the classroom. Students felt awkward due to the difficulty in deciding the moment to spoke. Students' lack of transition time during online learning was also a challenge, affecting their mental readiness to stay focused on learning. The lack of motivation to participate in the online learning process reduced their motivation, affecting their reluctance to participate in classroom activities. Online learning could also disrupt the students' concentration because they were not placed in a conducive classroom.
3	Rana & Garbuja (2021)	Participant: 211 nursing students from LMCTH  Country: Nepal	Quantitative	Self-administered structured questionnaire	College students regarded online learning from several aspects: effectiveness, convenience, obstacles, differences with face-to-face learning, and satisfaction. Most of the students perceived online learning as effective, shown by the following aspects: informative (71.1%), relevance (64.9%), and learning content and usefulness (62.1%). More than half of students thought online learning was easy to understand and convenient (58.3%). Students found the obstacles that emerged during online classes were related to the inadequacy of practical courses (57.8%), motivational inconsistency (54.0%), unstable internet connection (42.7%), and expensive data plans (39.8%). Although most students discovered online learning was effective, they still thought face-to-face learning was more effective (59.7%). Students were satisfied with the preparation of the lecturers (75.4%) and the quality of learning (63%). Overall, 56.9% of college students had a positive perspective on online learning.

Table 1: Article review summary (cont.).

No	Author	Participant and Country	Method	Instrument	Result
4	Puspandari et al. (2020)	Participant: 154 postgraduate students from the public health study program.  Country: Indonesia	Quantitative	Online survey	College students answered that online learning platforms were easy to use (96.1%), especially Zoom, which supported synchronous online learning (93.5%). The feelings that arose in students during online learning include enthusiasm (54.5%), boredom (48.1%), and stress (23.4%). 76% of students were satisfied with online learning. 24% were dissatisfied due to unstable internet connection and physical fatigue from staring at the screen and sitting for long.
5	Al-Amin et al. (2021)	Participant: 844 students from various universities in Bangladesh  Country: Indonesia	Quantitative	Online survey	College students believed that the urgency of preparation in online learning was necessary. The preparation was of electricity (97%), gadget availability (93%), and internet connection (75%). Technical preparation supported psychological readiness. Even though well-prepared, some students often encountered technical issues during class, namely unstable internet connections (75%) and electricity problems (51%). Online learning facilitated students to ask questions (82%), but it was not easy to focus on understanding the material. Students living in the urban area appeared to be superior to students living in rural areas in all factors: electricity, internet connection, gadget availability, perception of class order, understanding the lecture material. 85% of students had a positive perspective on online learning because it allowed them to meet and discuss during the class amidst the COVID-19 pandemic situation. On the other hand, those who perceived it as unfavorable were having difficulties maintaining focus and understanding the material.

## 4 DISCUSSION

Online learning is possible in education. It offers accessibility, flexibility, connectivity, and the ability to obtain and present information in the learning process (Moore, Dickson-Deane, & Galyen, 2011). It explains why most educational institutions consider online learning as an important part of their educational strategy (Allen & Seaman, 2011). The concept of online learning has been around for the last few decades, and applications have overgrown during the COVID-19 pandemic. Online learning answers the challenges of public policy in various countries focusing on suppressing the spread of COVID-19 (Chen et al., 2020).

### *Preparation of Online Learning*

The systematic literature review assessed previous empirical studies on college students in Indonesia,

Bangladesh, Nepal, and the UK. The research findings indicated that students needed to prepare technically for online learning, such as electricity, availability of devices, and internet connections (Al-Amin et al., 2021). Before the covid-19 pandemic, students had done the key to online learning, as found by Parsazadeh et al. (2013), to ensure the accessibility of students and lecturers and the availability of various online tools. Technical readiness supported the psychological readiness of students to focus more on learning (Turner et al., 2020). Thus, there was a probability of more psychological unpreparedness in students who did not prepare for technical matters.

### *Negative Perspective among College Students*

The negative perspective of students towards online learning consisted of two things: technical problems and psychological problems. Students often had unstable internet networks (Turner et al., 2020; Rana

& Garbuja, 2020; Al-Amin, 2021), sudden electricity cut out (Al-Amin et al., 2021), and expensive data plans (Rana & Garbuja, 2020). Adedoyin & Soykan (2020) supported the previous statement. They reported that the main problem in online learning was related to technological infrastructure and digital competencies.

Online learning is considered more difficult in practical courses than theoretical courses (Rana & Garbuja, 2020). Lecturers can make efforts to provide learning modules to solve these difficulties. Yahaya (2021) found that in practical courses, learning modules were needed by students. Thus, the mastery of lecturer skills in preparing learning modules can solve the needs of students.

College students experienced fluctuation in learning motivation (Turner et al., 2020; Rana & Garbuja, 2021), boredom, and stress (Puspandari et al., 2020). Fluctuations in motivation, boredom, and stress would affect the condition of college students in maintaining focus and understanding materials (Al-Amin et al., 2021) alongside involving themselves in activities during online learning (Turner et al., 2020).

Based on research by Basak dan Sinha (2020), online learning made college students study by themselves, leading to loneliness and missing social interactions during face-to-face learning. This condition increased the chances of depression, especially in female students. Social support from significant others, especially family and peer groups, was a component that needed to be ensured in online learning. According to Bijeesh (2017), the absence of peer groups who assisted in reminding the students about assignments increased distraction and the opportunity to forget about the deadline for collecting assignments. It made online learning a big challenge for students who procrastinated and could not meet the deadline.

#### *Positive Perspective among College Student*

Besides negative perspectives, college students also had a positive perspective of online learning. Online learning could encourage students to expand technology exploration (Hanum, 2020). Students were encouraged to understand the platforms used for learning, such as Zoom, Microsoft Teams, Google Meet, and Google Classroom. Students could also study every feature on the platform to listen to material explanations from lecturers, establish interactive lecturer-student interactions, present assignments, and take exams.

Online learning also improved several soft skills, including discipline, responsibility, democracy,

creativity, and independence (Hanum, 2020). For example, they were expressing brilliant ideas by utilizing technology and understanding lecture material independently. Online learning could change passive learning into active learning. Teacher-centered learning was transformed into student-centered learning, where students had to be independent in their learning (Ramlogan et al., 2014). The thing that lecturers needed to pay attention to in facilitating attractive learning designs and opportunities for college students to express ideas (Puspandari et al., 2020).

#### *Evaluation of Online Learning*

This study also evaluated online learning practices among college students. The students evaluated online learning, either positively or negatively, as the best alternative during the COVID-19 pandemic. It is related to other studies of internet-based learning during the COVID-19 pandemic, such as the use of e-learning (Khan et al., 2021), m-learning (Yahaya et al., 2021), and remote teaching (Martinez-Munoz, 2021; Oumar et al., 2021). Online learning is considered an effective middle way to continue teaching and learning activities but still supports public policies in reducing the spread of COVID-19 (Herliandry et al., 2020).

Most college students were satisfied with online learning (Puspandari et al., 2020; Rana & Garbuja, 2020). The reasons for satisfaction included the preparation of lecturers and the implementation of learning. The experience of participating in face-to-face learning before the COVID-19 pandemic opened up opportunities for comparison mechanisms. Although satisfied with online learning, students deemed face-to-face learning to be more effective than online (Rana & Garbuja, 2020). These findings were similar to research from Kaur (2020), which found that 86.4% of 267 Indian students agreed that face-to-face learning was more effective than online learning.

#### *Improving the Implementation of Online Learning*

This paper provided a record of online learning practices that could be considered for the education system at the micro and macro levels. First, the urgency to understand student diversity. The diversity of student backgrounds was a necessity that could not be denied. Research from Al-Amiin (2021) showed that students who lived in urban areas were superior in several aspects to students who lived in rural areas. The superiority included the facilitation of electricity, internet connection, gadgets' availability, class order

perception, and understanding of lecture material. The research conducted in Bangladesh was not too different from what happened in Cambodia. Teachers and students in rural Cambodia did not have reliable internet access and technology operation skills, making it difficult to implement online learning and leading to an unpleasant experience (Jalli, 2020).

Second, the urgency of understanding platforms that facilitate online learning. Research from (Puspandari et al., 2020) found that the Zoom platform was considered effective by students (93.5%) in supporting synchronous online learning. There are two types of online learning, namely asynchronous and synchronous (Hratinski, 2008). Synchronous learning refers to learning carried out simultaneously through electronic media. Synchronous learning provides an opportunity for direct interaction between lecturers and students (Perveen, 2016). While asynchronous learning, which is not the focus of this research, refers to learning carried out by indirectly giving teaching materials and assignments. This learning can be done without bringing together lecturers and students at the same time.

Third, the urgency of understanding the level of student motivation in online learning interactions. Research from Turner et al. (2020) showed that some college students sometimes found it hard to determine the moment to speak or be actively involved in discussions. It is related to research from Vanslambrouck et al. (2018) regarding student motivation using Self-Determination Theory (SDT), which showed that students could be motivated in different ways. Several types of motivation in the perspective of Self-Determination Theory (SDT) can be considered: (1) Intrinsic motivation, in which students grow by themselves because they carry out learning activities that are suitable for pleasure, (2) Motivation created by rules, which are created in learning system in which these rules bind students, (3) Motivational external regulation, which encourages students to learn to obtain positive results or avoid negative results.

## 5 CONCLUSION

Online learning is a necessity in the education system, especially during the COVID-19 pandemic. College students considered the urgency of preparation in online learning. The technical preparation of students could support their mobility and increase their psychological readiness. Students perceived online learning during the COVID-19 pandemic negatively

and positively after experiencing it. Negative perspectives were caused by technical problems such as internet and electricity problems, expensive data plans, and psychological problems (fluctuations in motivation, boredom, and stress). The positive perspective was created based on valuable experience in expanding technology exploration and developing soft skills (discipline, responsibility, creativity, and independence). College students believed that online learning was the best choice during the COVID-19 pandemic. However, they preferred face-to-face learning over online when circumstances had improved. It is essential for education providers, especially lecturers, to understand student diversity, accessible platforms for students to use, and student motivation.

This systematic literature review has implications for policies in education, both at the macro and micro levels, to continuously improve the learning system. The learning system needs to pay attention to and care about students' psychological well-being and meet the demands of the education quality. Future researchers interested in the theme of online learning research can explore other important aspects of the learning process, for example, the educator's perspective, the perspective of the student's social environment, or the effectiveness of online tools.

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## REFERENCES

- Abidah, A., Hidaayatullaah, H. N., Simamora, R. M., Fehabutar, D., & Mutakinati, L. (2020). The Impact of covid-19 to Indonesian education and its relation to the philosophy of "Merdeka Belajar." *Studies in Philosophy of Science and Education*, 1(1), 38–49. <https://doi.org/10.46627/sipose.v1i1.9>
- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*, 0(0), 1–13. <https://doi.org/10.1080/10494820.2020.1813180>
- Al-Amin, M., Zubayer, A. Al, Deb, B., & Hasan, M. (2021). Status of tertiary level online class in Bangladesh: students' response on preparedness, participation and classroom activities. *Heliyon*, 7(1), e05943. <https://doi.org/10.1016/j.heliyon.2021.e05943>

- Allen, I. E., & Seaman, J. (2011). Going the distance: Online education in the US, 2011. *Sloan Consortium*, 44, 1–44.
- Alshukry, A., Ali, H., Ali, Y., Al-Taweel, T., Abu-Farha, M., AbuBaker, J., Devarajan, S., Dashti, A. A., Bandar, A., Taleb, H., Bader, A. Al, Aly, N. Y., Al-Ozairi, E., Al-Mulla, F., & Abbas, M. B. (2020). Clinical characteristics of coronavirus disease 2019 (COVID-19) patients in Kuwait. *PLoS ONE*, 15(11), 1–16. <https://doi.org/10.1371/journal.pone.0242768>
- Argaheni, N. B. (2020). Sistematis review: Dampak perkuliahan daring saat pandemi COVID-19 terhadap mahasiswa Indonesia. *PLACENTUM: Jurnal Ilmiah Kesehatan Dan Aplikasinya*, 8(2), 99–108. <https://doi.org/10.20961/placentum.v8i2.43008>
- Basak, Rituparna, & Sinha, D. (2020). Association between interpersonal social support and perceived depression among undergraduate college students of Kolkata during unlock phase of COVID-19 lockdown. *EAS Journal of Psychology and Behavioral Sciences*, 2(6), 177–183. <https://doi.org/10.36349/easjpbs.2020.v02i06.003>
- Bijeesh, N. A. (2017). Advantages and disadvantages of distance learning. *Indiaeducation*. <http://www.indiaeducation.net/online-education/articles/advantages-and-disadvantages-of-distance-learning.html>
- Biswas, B., Roy, S. K., & Roy, F. (2020). Students perception of mobile learning during COVID-19 in Bangladesh: University student perspective. *Aquademia*, 4(2), ep20023. <https://doi.org/10.29333/aquademia/8443>
- CASP qualitative checklist. (2018). Critical Appraisal Skills Program (CASP). <https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf>
- Chen, B., Liang, H., Yuan, X., Hu, Y., Xu, M., Zhao, Y., Zhang, B., Tian, F., & Zhu, X. (2020). Roles of meteorological conditions in COVID-19 transmission on a worldwide scale. *BMJ Open*, 1–18. <https://doi.org/10.1101/2020.03.16.20037168>
- Chang, G. C., & Yano, S. (2020). How are countries addressing the Covid-19 challenges in education? A snapshot of policy measures. Retrieved from World Education Blog: <https://gemreportunesco.wordpress.com/2020/03/24/how-are-countries-addressing-the-covid-19-challenges-in-education-a-snapshot-of-policy-measures/>
- EPHPP. (2015). Appendix A: Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies. *Springer Briefs in Public Health*, 45–63. <https://doi.org/10.1007/978-3-319-17284-2>
- Hanum, F. F. (2020). *Character education in online learning on citizenship education (college student's perspective)*. Advances in Social Science, Education and Humanities Research, 524, 89–93. <https://doi.org/10.2991/assehr.k.210204.013>
- Hapsari, C. T. (2021). Distance learning in the time of Covid-19: Exploring students' anxiety. *ELT Forum: Journal of English Language Teaching*, 10(1), 40–49. <https://doi.org/10.15294/elt.v10i1.45756>
- He, W., Xu, G., & Kruck, S. E. (2014). Online is education for the 21st century. *Journal of Information Systems Education*, 25(2), 101–105.
- Herliandry, L. D., Nurhasanah, N., Suban, M. E., & Kuswanto, H. (2020). Pembelajaran pada masa pandemi COVID-19. *JTP - Jurnal Teknologi Pendidikan*, 22(1), 65–70. <https://doi.org/10.21009/jtp.v22i1.15286>
- Hu, B., Guo, H., Zhou, P., & Shi, Z. L. (2020). Characteristics of SARS-CoV-2 and COVID-19. *Nature Reviews Microbiology*, 1–14. <https://doi.org/10.1038/s41579-020-00459-7>
- Hratinski, S. (2008). A study of asynchronous and synchronous e learning methods discovered that each supports different purposes. *Educase Quarterly*, 31, 51–53.
- Jacobs, G. M., Renandya, W. A., & Power, M. (2016). *Simple, powerful strategies for student centered learning*. Springer.
- Jalli, N. (2020, Maret 11). Lack of internet access in Southeast Asia poses challenges fir students to study online amid COVID-19 pandemic. *The Conversation*. <https://theconversation.com/lack-of-internet-access-in-southeast-asia-poses-challenges-for-students-to-study-online-amid-covid-19-pandemic-133787>
- Jamaluddin, D., Ratnasih, T., Gunawan, H., & Paujiah, E. (2020). Pembelajaran daring masa pandemik Covid-19 pada calon guru : Hambatan, solusi dan proyeksi. *Karya Tulis Ilmiah UIN Sunan Gunung Djati Bandung*, 1–10. <http://digilib.uinsgd.ac.id/30518/>
- Kaur, H., Narang, R., Shinh, A.S., Singla, M., Nadaf, I & Kumar, P. (2021). *Perceptions of students regarding online classes – adapting the new normal*. 7(1), 67–70. <https://doi.org/10.21276/ujds.2021.7.1.13>
- Kementerian Pendidikan dan Kebudayaan. (2020). *Surat Edaran Direktur Jenderal Pendidikan Tinggi Republik Indonesia Nomor 1 Tahun 2020 tentang Pencegahan Penyebaran Corona Virus Disease ( Covid-19) di Perguruan Tinggi*. Kemendikbud.
- Khan, M. A., Vivek, Nabi, M. K., Khojah, M., & Tahir, M. (2020). Students' perception towards e-learning during COVID-19 pandemic in India: An empirical study. *Sustainability (Switzerland)*, 13(1), 1–14. <https://doi.org/10.3390/su13010057>
- Kimkong, H., & Koemhong, S. (2020). Online learning during COVID-19: Key challenges and suggestions to enhance effectiveness. *Cambodian Education Forum (CEF)*, December, 1–15.
- Kuntarto, E. (2017). Keefektifan model pembelajaran daring dalam perkuliahan Bahasa Indonesia di perguruan tinggi. *Indonesian Language Education and Literature*, 3(1), 99–110.
- Lim, Ping, C., Wang, & Libing. (2016). *Blanded learning for quality higher education: Selected case studies implementation from Asia-Pasific*. UNESCO.
- Martínez-Muñoz, D., Martí, J. V., & Yepes, V. (2021). Remote teaching in construction engineering management during COVID-19. *INTED2021 Proceedings*, 1(March), 879–887. <https://doi.org/10.21125/inted.2021.0205>

- Masoud, N., & Bohra, O. P. (2020). Challenges and opportunities of distance learning during COVID-19 in UAE. *Academy of Accounting and Financial Studies Journal*, 24(1), 1–12.
- 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>
- Oumar, B.S. Aziz, S.A., & Wok, S. (2021). *The impact of Emergency Remote Teaching and Learning ( ERTL ) during COVID-19 pandemic on students*. Journal of Communication Education, 1(1), 23-38.
- Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., Mcdonald, S., Mckenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *The BMJ*, 372. <https://doi.org/10.1136/bmj.n160>
- Parasazadeh, N., Megat, N., Zainuddin, M., Ali, R., & Hematian, A. (2013). A review on the success factors of e-learning. *The Second International Conference on E-Technologies and Networks for Development*, 42–49.
- Perveen, A. (2016). Synchronous and asynchronous e-language learning: a case study of Virtual University of Pakistan. *Open Praxis*, 8(1), 21–39. <https://doi.org/10.5944/openpraxis.8.1.212>
- Puspandari, D. A., Zulaiha, R., & Hafidz, F. (2020). Online learning during a pandemic. *Proceedings of the International Conference on Educational Assessment and Policy (ICEAP 2020)*, 545(Iceap 2020), 196–199. <https://doi.org/10.2991/assehr.k.210423.087>
- Rafique, G. M., Mahmood, K., Warrach, N. F., & Rehman, S. U. (2021). Readiness for online learning during COVID-19 pandemic: a survey of Pakistani LIS students. *Journal of Academic Librarianship*, 47(3), 102346. <https://doi.org/10.1016/j.acalib.2021.102346>
- Ramlogan, S., Raman, V., & Sweet, J. (2014). A comparison of two forms of teaching instruction: Video vs. live lecture for education in clinical periodontology. *European Journal of Dental Education*, 18(1), 31–38. <https://doi.org/10.1111/eje.12053>
- Rana, S., & Garbuja, K. (2021). Nursing students ' perception of online learning amidst COVID-19 pandemic. *Journal of Lumbini Medical College*, 9(1), 1-6.
- Sadikin, A., & Hamidah, A. (2020). Pembelajaran daring di tengah wabah COVID-19. *Biodik*, 6(2), 109–119. <https://doi.org/10.22437/bio.v6i2.9759>
- Sulata, M. A., & Hakim, A. A. (2020). Gambaran perkuliahan daring mahasiswa Ilmu Keolahragaan Unesa di masa pandemi COVID-19. *Jurnal Kesehatan Olahraga*, 8, 147–156.
- Turner, J.W., Wang, F. Reinsch, N.L. (2020). How to be socially present when the class becomes “suddenly distant” *The Journal of Literacy and Technology Special Issue for Suddenly Online – Considerations of Theory, Research, and Practice*, 21(2), 76-101.
- Vanslambrouck, S., Zhu, C., Lombaerts, K., Philipsen, B., & Tondeur, J. (2018). Students' motivation and subjective task value of participating in online and blended learning environments. *Internet and Higher Education*, 36, 33–40. <https://doi.org/10.1016/j.iheduc.2017.09.002>
- Yahaya, M. F., Halim, Z.A., Sahrir, M.S., & Hamid, M.F.A. (2021). Need analysis on developing arabic language m- learning basic level during COVID-19. *Journal of Contemporary Issues in Business and Government*, 27(2), 5452–5461. <https://doi.org/10.47750/cibg.2021.27.02.551>
- Yuliani, dkk. (2020). *Pembelajaran daring untuk pendidikan: Teori dan penerapan*. Yayasan Kita Menulis.