



## The Utilization and Obstacles of Online Learning Applications

Sri Marmoah<sup>1\*</sup>, Devina Kusuma Wardani<sup>2</sup> 

<sup>1,2,3</sup>Primary Teacher Education, Universitas Sebelas Maret, Surakarta, Indonesia

\*Corresponding author: [marmuah66.uns@gmail.com](mailto:marmuah66.uns@gmail.com)

### Abstrak

Penggunaan aplikasi pembelajaran online terkendala kemampuan guru dan kurangnya sarana dan prasarana sehingga mempengaruhi hasil belajar peserta didik. Tujuan penelitian ini adalah untuk menganalisis penggunaan aplikasi selama proses pembelajaran daring dan kendala yang dihadapi saat proses pembelajaran daring. Pendekatan yang digunakan deskriptif kualitatif. Subyek penelitian ini adalah guru kelas 4, 5, dan 6. Observasi, wawancara, dan dokumentasi merupakan teknik pengumpulan data yang dilakukan pada penelitian ini. Data yang diperoleh kemudian dianalisis secara kualitatif dengan cara reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian ini adalah, pertama proses pembelajaran daring menggunakan aplikasi Whatsapp untuk komunikasi, absensi, dan pembukaan. Aplikasi Youtube untuk menjelaskan materi jika pembelajaran dilaksanakan secara non tatap muka (asinkronus). Aplikasi Google Meet dan Zoom untuk pembelajaran tatap muka virtual (sinkronus). Aplikasi Google Classroom, Google Form dan Quizziz digunakan untuk penilaian saat evaluasi pembelajaran. Kedua, hambatan penggunaan aplikasi berupa konsentrasi belajar rendah, hasil belajar rendah, kepercayaan diri rendah, dan kurangnya fasilitas dalam menggunakan aplikasi online. Hasil penelitian ini bermanfaat untuk mengatasi permasalahan tentang penggunaan aplikasi pembelajaran online.

**Kata Kunci:** Proses Pembelajaran, Hambatan, Aplikasi Pembelajaran Online

### Abstract

The use of online learning applications is constrained by the abilities of teachers and the lack of facilities and infrastructure that affect student learning outcomes. This study aims to analyze the use of applications during the online learning process and the obstacles encountered during that process. The approach used is descriptive qualitative. The subjects of this study were the teachers of grades 4, 5, and 6. Observations, interviews, and documentation are the data collection techniques used in this study. The data obtained were then analyzed qualitatively by means of data reduction, data presentation, and drawing conclusions. The results of this study show that, first, the online learning process uses the WhatsApp application for communication, attendance, and opening. YouTube application to explain material if learning is carried out non-face-to-face (asynchronous). Google Meet and Zoom applications for virtual (synchronously) face-to-face learning. The Google Classroom, Google Form, and Quiz applications are used for assessment when evaluating learning. Second, the obstacles to using the application are low learning concentration, low learning outcomes, low self-confidence, and a lack of facilities for using online applications. The results of this study are useful for overcoming problems regarding the use of online learning applications.

**Keywords:** Learning Process, Obstacle, Online Learning Applications

#### History:

Received : June 16, 2022

Revised : June 22, 2022

Accepted : February 06, 2023

Published : July 25, 2023

**Publisher:** Undiksha Press

**Licensed:** This work is licensed under

a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by-sa/4.0/)



## 1. INTRODUCTION

Distance learning is an inevitable solution used in different countries to ensure the continuity of the educational process during the pandemic (Abumalloh et al., 2021; Pekkola et al., 2021). Learning from home is also known as distance learning, online learning etc. direct face-to-face learning is a series of teaching and learning from different places using communication media intermediaries. Learning with communication media will connect teachers and learners from different locations (Ahmad, 2020; Sobron et al., 2019). Learning from home is hoped to be implemented as SE (Circular Letter) No. 14 in the year 2020 by Kemendikbud which states that online learning (long-distance learning) should be based on meaningful learning, contain a and pandemic-are-skill education, adjusted to each school condition, and the teachers give qualitative feedback to the students. The pandemic should be viewed as an opportunity for educators to share their experiences and think about how

distance learning can be further improved from both a teaching and management perspective (Avcı & Tihinen, 2022; Zhang et al., 2020). During the implementation, online learning needs media to build the interaction between the teachers, parents, and students, where the media used are smartphones and laptops. Inside those media, there is software that is used to communicate and conduct certain purposes for teaching and it is called an online learning applications (Kadir, 2008; Pramana, 2012).

During online learning, the teacher is not only delivering material and assignments to the students but also teaching them so they will understand, and the teacher may not forget to implement effective or behavioral values, therefore, the teacher has to make a lesson plan. Teachers have to be able to implement the correct strategy, including making a lesson plan and its components (Ardiansyah et al., 2020; Nur et al., 2020). Several websites and applications can be used to conduct online learning, such as Google Classroom, Edmodo, Rumah Belajar, Ruang Guru, Sekolahmu, Kelas Pintar, Zenius, Google Suite for Education, and Microsoft Office 365 for Education, Google Duo, YouTube, Moodle, Jitsi, Microsoft team, WhatsApp, Lark and Avaya Space. Zoom, Cisco Webex, Skype Google meet (Basori, 2013; Nambiar, 2020). The use of virtual meeting applications and LMS (Learning Management System) will give many benefits for example the teachers can work anywhere and at any time, and also the teachers can monitor students learning so they can focus on students' self-development (Aprilliyah, 2014; Raza & Qazi, 2020).

However, the problem that occurs when indirectly meeting or learning online is the existence of quality, standards, and achievements that do not spread well in the learning process during this indirect learning (Arikarani & Amirudin, 2021; Izzuddin, 2021). Furthermore, in online learning, several problems faced by students in learning at home are the lack of facilities that can support the implementation of online learning where some students do not have media in the form of smartphones. Android or laptops to support the online learning process. Furthermore, the problem faced by teachers is their limited ability to use online learning applications (Warsito & Evi Winingsih, Denok Setiawati, 2022).

On the other hand, even though the utilization of innovative applications is expected to ease the teaching-learning process for both the teachers and the students effectively and efficiently, improve their technical knowledge, achieve learning goals, and help students understand the material well (Jamila et al., 2021; Salim & Maryanti, 2017). A literature review shows that improving existing distance learning applications offers significant opportunities for more effective implementation of distance learning applications in the future (Akyıldız, 2020; Ali, 2020). However, based on a preliminary study on the research subject, there are some problems during the realization, such as the students who do not have personal smartphones and the lack of attention from students' parents.

Several relevant studies discuss the topic of using online learning applications. First, the research has been conducted and reveals that there is a lack of facilities to support online learning, a low internet connection, an insufficient internet quota, and parents who cannot control it (Jamaluddin et al., 2020). This indirect learning is considered ineffective by educators, especially for elementary school children, because the learning is being delivered online, so the teacher feels that they cannot deliver the material optimally. However, based on research done by Wishart, mobile learning applications increase the learning effect and process (Wishart, 2015). Then there is study examine conference applications for online education during the pandemic (Gunawan et al., 2021). The study revealed that learning during a pandemic using Zoom lecturers and students would make it easier to interact synchronously. Another area of research is the development of online physics applications for pre-service teachers to improve digital literacy (Rizal et al., 2022). The results of the study revealed that the application has been validated to increase the learning motivation and digital literacy skills of teachers. However, this research is different from previous research, this

study discusses the topic of using online applications in elementary schools and finds the obstacles found during the use of these applications.

It is important to do this research to find the applications used in online learning and the obstacles that you face during the online learning process. This needs to be done to find solutions to existing obstacles or problems when using online learning applications. Online learning applications can organize knowledge and increase the effectiveness and efficiency of learning and teaching. The research as stated above, intends to analyze the learning implementation process starting from planning, implementation, assessment and challenges of online learning during a pandemic at SD Angkasa, as well as dealing with them when using online learning applications.

## **2. METHODS**

This is descriptive qualitative research with a case study approach. Qualitative research is not easy to generalize since it is special where the problem in one place is different from another place so the information obtained from a similar problem will have a different answer or result from one place to another (Lambert & Lambert, 2013). The case study approach focuses on a case, throughout, and is done intensively. The research took place at SD Angkasa Lanud Adi Soemarmo Colomadu (later called SD Angkasa). The research sources are the primary data, which come from the teachers and fourth, fifth, and sixth-grade students taken from purposive sampling, and the secondary data come from online lesson plans and documentation from teaching-learning using the application. Interviews, observation, and documentation are the data collection techniques used. The instrument used to determine the use of online learning applications is adapted namely from the process of planning, implementing, and evaluating learning (Sugiyono, 2017). Meanwhile, to find out the learning constraints using online learning applications, it were analysed in terms of intrinsic and extrinsic.

Data analysis techniques include interactive analysis which includes data collection, data reduction, data visualization, and drawing conclusions (Miles et al., 2018). Data reduction analyses the data collected from the research and then explains it. Data display is the process of displaying data in in form of a table, graph, or diagram. Finally, the conclusion drawing concluded the research result. The research procedure is carried out by first conducting a preliminary study, then preparing research instruments, researching to collect data, presenting and reducing the obtained data, analysing the data, and drawing conclusions.

## **3. RESULTS AND DISCUSSION**

### **Result**

Based on the results of research from observations and interviews conducted, at the planning, implementation and evaluation stages of the learning process using online learning applications. The results of interviews with teachers and students said that the entire online learning process used applications or online learning media, starting from planning, implementing, and evaluating learning. At the time of planning learning, the teacher makes an RPP (lesson plan) online using the Microsoft Word application and Google Meet or Zoom Meeting to communicate with colleagues. In preparing the lesson plan, the teacher communicates with students to determine learning goals or achievements using the WhatsApp application, Google Meets, etc. The preparation of learning objectives, learning steps, and evaluation of the learning used are the contents of the lesson plan preparation. The implementation of teacher learning uses various online learning applications, such as WhatsApp, Google Meet/Zoom Meeting, Google Classroom, YouTube, etc., according to the

characteristics of the material. When teacher learning using the WhatsApp application, Quizizz/Google Form/Google Classroom.

Based on the results of observations, the obstacles or constraints in implementing online learning applications are influenced by internal and external factors. The students' intrinsic factors that become obstacles to using online applications are learning concentration, learning outcomes, and low self-confidence. Learning concentration hinders the use of online applications because if students' concentration is not good it will cause confusion and errors in operating online learning applications. For example, when using Google Meet, if students don't concentrate, students will not be able to take advantage of the features in the application, such as the share screen feature and not pay attention to the teacher's explanations. Learning outcomes affect and hinder the process of using online learning applications if students have low learning outcomes. This causes students difficulties in operating online learning applications due to a lack of knowledge. Low student self-confidence also hinders the use of online learning applications.

These students feel insecure in using the application and tend to be afraid when they want to ask questions when using online learning applications. While students' extrinsic factors is limited access to online applications to learn. The limited smartphone that students use to learn to use online applications is because the smartphone does not belong to the students themselves, but belongs to their parents. In addition, the majority of these smartphones are brought by their parents while working so students cannot use online learning applications optimally and effectively.

## Discussions

### *Utilization of Applications in Online Learning the Planning of Learning with Application*

The planning and learning process at SD Angkasa uses several applications, like WhatsApp, Google Meet, Zoom meetings, Google Classroom, Quizzes, Google Forms, and YouTube. The most used applications are WhatsApp, YouTube, and Google Meet. According to Circular (SE) No. 15 from the Ministry of Education and Culture, in the year 2020, the implementation of Study at Home will involve utilizing applications that have several functions and features. As the pandemic drives online learning to many of these apps, the researcher said most teachers (94 percent) feel their digital skills have been developed (Suhendro, 2020; Suprianto et al., 2020).

### *Learning Plan*

Based on the interview, the teachers use an online lesson plan, but the syllabus is still a manual syllabus, and some materials are compacted into one. The component on the lesson plans mentions the application that will be used to deliver the material. The lesson plan is derived from the syllabus, and it is a practical scenario, not only an administrative requirement (Asfihana, 2021; Yuberti, 2014). The lesson plan must adjust to the students' conditions, and be flexible because a good learning process needs good planning; otherwise, it will be difficult to reach the expected result. The components of the lesson plan cover the name of the subject, competency standards, competency achievement indicators; learning purposes, materials, time, methodology, activities, scoring, and learning sources. When conducting the learning process, the teachers also need to use the LMS (Learning Management System) application facility and virtual meetings. Based on the interview and proof checking, SD Angkasa has already implemented the lesson plan.

SD Angkasa uses *WhatsApp* to communicate between teachers, students, and parents. The teachers greet the students, asking how their day, the attendant list is sent using PHBS photos, and the teachers share the link for the lesson that day. The next most used application is YouTube, the learning source. Then Google Meet is used for video conferences. During

video conferences using Google Meet, the teachers will review the material and explain difficult material such as mathematics and science. Based on the interview with SD Angkasa students, WhatsApp is a friendly application that has many features, and is the most used application to communicate and share information between students and parents. The results of this study are the same as previous studies which revealed that students' most preferred online media sequentially were Google Classroom, WhatsApp Group, YouTube, Instagram, and Zoom (Afnibar, 2021; Mustakim, 2020). According to the interview result, the methods used in online learning are based on the materials, and the students prefer them. The most commonly used methods are online discussions and lectures. The learning method is a method used by teachers to deliver learning materials in order to achieve learning objectives (Djamaluddin & Wardana., 2019; Rahman & Manaf, 2017). The results of this study are from previous research, namely research on the role of teachers in learning planning based on the Zoom Meeting application in elementary schools (Zaenuri & Prastowo, 2021).

Findings reveal lessons learned and barriers to teachers' use of applied knowledge, teachers' planning in the curriculum, methods and strategies teachers use, and actual implementation. Proponents of implementing learning were also discussed in the Zoom meeting. This is similar to what happened in the research subject when planning to learn using the Zoom Meeting application. However, the subject of this study uses other supporting applications, namely Google Meet, WhatsApp, and so on. The results of this study are also from the previous one, namely, research on the use of the Learning Planning Preparation Application (AP3) in the preparation of lesson plans for kindergarten teachers in Jakarta (Rohita et al., 2018). The similarity is that they both use the application, but what sets them apart is the application used. This study used the AP3 application, while this study did not use the AP3 application. This is consistent with the previous analysis that readers have a positive response to technology tools that are used in education and contribute more to student interaction and attention to student grades and student activities (Hermanto & Srimulyani, 2021).

### ***Learning Implementation***

The following is how learning with LMPS is being implemented, as determined by the findings of the interviews with teachers and students: The teachers introduce themselves to the students via *WhatsApp*, ask them to enter the attendee list with a PHBS photo that is also sent via *WhatsApp*, and then share a link with the students that contains the learning materials, which may be a YouTube link, a Google Classroom link, a PowerPoint slide, or an image. The teachers then keep an eye on the students to make sure they pray before they begin their studies and work on their assignments or evaluation questions.

In compliance with the result of the interview with teachers and students, the first step is for the teachers to inform the Google Meet or Zoom Meeting a night before the virtual meeting activity and ask the parent to prepare it for the next morning. The teachers opened access for the virtual meeting at the scheduled time. The teachers then greet the students and check the attendee list with the virtual meeting application. The teachers deliver the materials, then they and the students have a question and answer session before the teachers close the virtual meeting. Lastly, the teachers end the virtual meeting on the application. This is already in line with Circular No. 15 of the year 2020 about virtual meetings for the learning process.

The results of this study are from previous research, namely using WhatsApp groups for assigning and sending assignments, then a different video conferencing application, namely Microsoft Teams (Cahyanto et al., 2021). In addition, using videoconferencing applications, such as Zoom meetings for learning during a pandemic is beneficial for teachers and students. The benefits for teachers are easier achievement of learning goals, easier

communication with students, greater dynamism in online learning due to the diversity of online learning, and easier understanding of materials for students using Zoom, etc. Increase your online learning enthusiasm and remove the boredom of online teaching. The positive impact of the benefits experienced by teachers and students makes online learning more effective (Kuntarto et al., 2021; Suparman, 2016).

### ***Learning Evaluation***

The interview findings and document analysis are used to inform the evaluation and daily homework tasks that are presented to the students on that day. "Students do the questions from the teacher, make videos based on the topic given, make a summary, then send the assignment to WhatsApp, or students do the questions on the Quizizz application/Google Form/Google Classroom." Every day, an evaluation is done to determine the students' scores or performances. Learning evaluation is done with an application by the teachers and covers three aspects: cognitive scoring based on thinking abilities such as answering questions, behavioral scoring based on the student's behavior, and psychomotor scoring based on the student's skills. The teachers from the 4th, 5th, and 6th grades take cognitive aspect scores by giving some questions related to the material taught on that day, and the student can submit the answers in the form of a photo and then send it to WhatsApp, or answer the questions on the Quizizz application or Google Forms. The affective aspect is seen in the way the students behave during the virtual learning, and in their commitment or discipline to submit the assignment. Just like one of the studies that have been done, the assessment or evaluation of online learning such as daily assessments and midterm examinations is carried out using the WhatsApp and Quizizz applications (Awalia et al., 2021).

Learning evaluation using the Quizizz application is amusing, and it trains students' concentration and cognition. It is similar to what has been done by one of the teachers at SD Angkasa to conduct a learning evaluation. If the learning evaluation is amusing and easy to understand, the student will feel motivated to answer the questions. This conforms with the research that learning can be held with various applications such as Ruang Guru, Class Room, Zoom, Google Docs, Google From, or WhatsApp Groups (Assidiqi & Sumarni, 2020; Nambiar, D. (2020). Learning activities can be carried out well and effectively when the teachers have creativity in delivering the materials and assignments to the students, the teachers can then take the students' scores from those assignments.

Therefore, the research that took place at SD Angkasa reveals that the learning process has already followed the instructions from SE No.15 in the year 2020 Kemendikbud. Then, seminars or training and journal entries on choosing the suitable learning application need to be held. The results of the study are based on previous research, namely the evaluation of learning using the Quizz application. The Quizzes application has advantages because students' attention to using cellphones in the learning process is good, students can understand questions independently, students' activity both asking questions about the material and evaluating and recording material increases, students' accuracy in questions and time management increases, and students calmness in working on questions or quizzes better (Anggraini et al., 2020; Salsabila et al., 2020).

### ***Obstacles in Operating Online Learning Applications to Support Students' Achievement during the Pandemic Era***

Based on the interview with the fourth, fifth, and sixth-grade teachers, they state that the students' concentration becomes the main problem when they study from home. When the virtual meeting is being held, the students sometimes walk around, do another activity, and do not pay attention to the teacher's explanations. This is supported by previous research,

which says that online learning makes students stressed so that they cannot concentrate optimally on learning (Sari et al., 2021). Similarly with one of the countries advancing in education, according to previous study investigated the perceptions of students and teachers in one Finnish secondary school during the first two months of emergency distance education (Niemi & Kousa, 2020). The study determined that students complained of heavy workload and fatigue and some students lost motivation.

A learning outcome is the accumulation of the learning process done by the students. Students show that they have succeeded in studying. The students show they can already solve and finish the assignments from the teachers. Based on the interview with the teachers, the students have already done the assignment well, yet some students are not disciplined enough to submit the assignment, sometimes the parents help them finish the assignment, or they open Google to look for the answer. These are as per the theory, which stated that some weaknesses of online learning in Indonesia are: the lack of student discipline, the lack of motivation/exhaustion, boredom because most of the time they get the online assignment, internet problems, and technology device problems (Apriliana, 2021). There is also an opinion that says online learning impacts the formation of characters because children depend heavily on their parents and have less interaction with others (Yuza & Ramadan, 2021).

One example of self-confidence is public speaking. Based on the interview with the teachers, one of the obstacles is a lack of confidence to express their ideas because, during the LMS learning or virtual meetings, the students only listen to the teachers. One of the teachers argues that even though a student is confident enough to express ideas during the virtual meetings, it does not mean that he or she will be confident during face-to-face learning, -like what has happened in this teacher's class. The problem of low student self-confidence is related to the fear of failure when learning online (Faturohman et al., 2022; Takaria & Rumahlatu, 2016).

From the teachers' point of view, the problem related to the application happens when they have virtual meetings using Google Meet and the video is unstable because of the low internet connection. The teachers conduct online learning from school, however, sometimes when they have a virtual meeting, the school's Wi-Fi does not support it, so the teachers have to use their internet quota. Previous study examines the opinions of 30 Turkish teachers to shed light on the state of Turkish education during the COVID-19 pandemic. The teacher said that during distance learning, some students could not attend classes online due to the lack of computers or tablets or problems with the Internet connection, and some students experienced screen addiction (Bayburtlu, 2020).

The obstacles must be minimized and solved. Obstacles or troubles are unwanted things that cause problems for people or other people, and they should be omitted. The online learning obstacles at SD Angkasa have caused an ineffective learning process such as students' lower concentration, inadequate learning outcomes, and a lack of confidence when they have a face-to-face meeting later after the online learning. Both SD Angkasa and its students do not have any facility trouble since most of the students have smartphones and the district has already been facilitated with an internet connection, yet the students still have internet quota limitations. Some weaknesses of online learning in Indonesia are the lack of students' discipline and motivation, boredom because the students only get online assignments, and internet and device problems (Aji & Dewi, 2020; Apriliana, 2021). This occurred at SDN Baros Kencana CBM, where some students lacked smartphones and parents were too busy working to monitor their children (Putria Hilna, Luthfi Hamdani Maula, 2020). The same obstacles happen at SD Angkasa, based on the data, every school has its own problem with online learning, especially at the elementary school level.

According to the aforementioned research, online learning is generally effective, but there are still a number of challenges, both internal (such as low motivation among students

due to boredom during online learning) and external (such as students who lack smartphones and are therefore reliant on their parents). This study has theoretical implications for adding knowledge about the implementation of learning with application and its obstacles as a reference for readers with similar variables, as well as practical implications for teachers to evaluate the learning process through application to create better motivation during online learning. In addition, the results of this study can be used as a reference to overcome the use of online learning applications. The implications of this research can provide deeper insight into the extent to which online learning applications are used in educational contexts. This information can help researchers, educators, and policy makers understand the extent to which these technologies have influenced learning. However, this research also has limitations during this research there may be external factors that cannot be controlled by researchers, such as policy changes or unexpected situations that can affect research results.

#### 4. CONCLUSION

SD Angkasa Lanud Adi Soemarmo Colomadu has already used appropriate applications for communication, attendance, and opening, such as the WhatsApp application. YouTube application to explain material if learning is carried out non-face-to-face (asynchronously). Google Meet and Zoom applications for virtual (synchronous) face-to-face learning. The Google Classroom, Google Form, and Quiz applications are used for assessment when evaluating learning. Second, the obstacles to using the application are low learning concentration, low learning outcomes, low self-confidence, and a lack of facilities for using online applications.

#### 5. REFERENCES

- Abumalloh, R. A., Asadi, S., Nilashi, M., Minaei-Bidgoli, B., Nayer, F. K., Samad, S., Mohd, S., & Ibrahim, O. (2021). The impact of coronavirus pandemic (COVID-19) on education: The role of virtual and remote laboratories in education. *Technology in Society*, 67(September 2020), 101728. <https://doi.org/10.1016/j.techsoc.2021.101728>.
- Afnibar, D. F. (2021). Pemanfaatan Whatsapp Sebagai Media Komunikasi Antara Dosen Dan Mahasiswa Dalam Menunjang Kegiatan Belajar. *Dedikasimu : Journal of Community Service*, 3(4), 1139. <https://doi.org/10.15548/amj-kpi.v0i0.1501>.
- Ahmad, I. F. (2020). Alternative Assessment in Distance Learning in Emergencies Spread of Coronavirus Disease (COVID-19) in Indonesia. *Jurnal Pedagogik*, 7(1), 195–222. <https://doi.org/10.33650/pjp.v7i1.1136>.
- Aji, W., & Dewi, F. (2020). Impact of Covid-19 on The Implementation of Online Learning In Elementary School. *Edukatif: Jurnal Ilmu Pendidikan*, 2(1), 55–61. <https://doi.org/https://doi.org/10.31004/edukatif.v2i1.89>.
- Akyıldız, S. T. (2020). College Students ' Views on the Pandemic Distance Education : A Focus Group Discussion To cite this article : Tümen Akyıldız , S . ( 2020 ). College students ' views on the pandemic distance education : A College Students ' Views on the Pandemic Distance. *International Journal of Technology in Education and Science (IJTES)*, 4(4), 322–333. <https://eric.ed.gov/?id=EJ1271310>.
- Ali, W. (2020). Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 Pandemic. *Higher Education Studies*, 10(3), 16. <https://doi.org/10.5539/hes.v10n3p16>.
- Anggraini, W., Utami, A., Santi, P., & Gery, M. I. (2020). Pemanfaatan Aplikasi Quizizz untuk Tematik dalam Pembelajaran Jarak Jauh Kelas III Di SDN Kebayoran Lama Utara 07 Pagi. *Prosiding Seminar Nasional Penelitian LPPM UMJ*, 7, 1–10.



- <https://jurnal.umj.ac.id/index.php/semnaslit/article/view/8839>.
- Apriliana, N. (2021). The Problem of Online Learning in Islamic Primary School in Yogyakarta. *Indonesian Journal of Islamic Education Studies (IJIES)*, 4(1), 1–16. <https://doi.org/10.33367/ijies.v4i1.1593>.
- Aprilliyah. (2014). Pengembangan Media Pembelajaran Modul Interaktif Pada Materi Jurnal Khusus Kelas X Akuntansi di SMK Negeri Mojoagung. *Jurnal Khusus*, 2(2), 1–7. <https://jurnalmahasiswa.unesa.ac.id/index.php/35/article/view/9412>.
- Ardiansyah, R., Atmojo, I. R. W., & Saputri, D. Y. (2020). Peningkatan Kompetensi Profesional Guru dalam melaksanakan Pembelajaran Digital melalui Workshop Terintegrasi. *Jurnal Pendidikan Dasar*, 8(2), 1–6. <https://doi.org/https://doi.org/10.20961/jpd.v8i2.44346>.
- Arikarani, Y., & Amirudin, M. F. (2021). Pemanfaatan Media dan Teknologi Digital dalam Mengatasi Masalah Pembelajaran Dimasa Pandemi. *Edification Journal*, 4(1), 93–116. <https://doi.org/https://doi.org/10.37092/ej.v4i1.296>.
- Asfihana, R. (2021). Pre-service English Teachers' Strategies in Incorporating Character Education during the Teaching Practice Program at UIN Antasari Banjarmasin. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics)*, 5(2), 309. <https://doi.org/10.21093/ijeltal.v5i2.718>.
- Assidiqi, M. H., & Sumarni, W. (2020). Pemanfaatan Platform Digital di Masa Pandemi Covid-19. *Prosiding Seminar Nasional Pascasarjana*, 298–303. <https://proceeding.unnes.ac.id/index.php/snpasca/article/download/601/519>.
- Avcı, G., & Tihinen, M. (2022). Teachers' Experiences Of Distance Education Triggered By Covid-19 In Finland And Turkey - Digital Transformation In Practice. *International Online Journal of Education and Teaching (IOJET)*, 10(1), 373–393. <http://hdl.handle.net/11772/16172>.
- Awalia, L. M., Pratiwi, I. A., & Kironoratri, L. (2021). Analisis Penggunaan Aplikasi Pembelajaran Daring terhadap Minat Belajar Siswa di Desa Karangmalang. *Jurnal Basicedu*, 5(5), 3940–3949. <https://doi.org/https://doi.org/10.31004/basicedu.v5i5.1354>.
- Basori, B. (2013). Pemanfaatan Social Learning Network "Edmodo" Dalam Membantu Perkuliahan Teori Bodi Otomotif Di Prodi Ptm Jptk Fkip Uns. *Jurnal Ilmiah Pendidikan Teknik Dan Kejuruan*, 6(2). <https://doi.org/10.20961/jiptek.v6i2.12562>.
- Bayburtlu, Y. S. (2020). Covid-19 pandemi dönemi uzaktan eğitim sürecinde öğretmen görüşlerine göre Türkçe eğitimi. *Turkish Studies*, 15(4), 131–151. <https://doi.org/https://doi:10.7827/TurkishStudies.44460>.
- Cahyanto, B., Maghfirah, M., & Hamidah, N. (2021). Implementasi Pembelajaran Daring di Masa Pandemi Covid-19. *At-Thullab : Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 5(1), 32. <https://doi.org/10.30736/atl.v5i1.508>.
- Djamaluddin, A., & Wardana. (2019). *Belajar Dan Pembelajaran* (1st ed.). Cv. Kaaffah Learning Center.
- Faturohman, I., Iswara, E., & Gozali, S. M. (2022). Self-Confidence Matematika Siswa dalam Penerapan Pembelajaran Online. *Mosharafa: Jurnal Pendidikan Matematika*, 11(1), 85–94. <https://doi.org/10.31980/mosharafa.v11i1.1048>.
- Gunawan, G., Kristiawan, M., Eko Risdianto, & Ririn Eka Monicha. (2021). Application of the Zoom Meeting Application in Online Learning During the Pandemic. *Education Quarterly Reviews*, 4(2), 26–32. <https://doi.org/10.31014/aior.1993.04.02.193>.
- Hermanto, Y. B., & Srimulyani, V. A. (2021). The challenges of online learning during the covid-19 pandemic. *Jurnal Pendidikan Dan Pengajaran*, 54(1), 46–57. <https://doi.org/10.23887/jpp.v54i1.29703>.
- Izzuddin, A. (2021). Implementasi Pendekatan Saintifik pada Pembelajaran Daring Selama

- Masa Pandemi Covid-19 di Lembaga Pendidikan Dasar. *As-Sabiqun*, 3(1), 45–63. <https://doi.org/10.36088/assabiqun.v3i1.1313>.
- Jamaluddin, D., Ratnasih, T., Gunawan, H., & Paujiah, E. (2020). Pembelajaran Daring Masa Pandemi Covid-19 Pada Calon Guru : Hambatan, Solusi dan Proyeksi. *Karya Tulis Ilmiah UIN Sunan Gunung Djati Bandung*, 1–10. <https://etheses.uinsgd.ac.id/id/eprint/30518>.
- Jamila, Ahdar, & Natsir, E. (2021). Problematika Guru dan Siswa dalam Proses Pembelajaran Daring pada Masa Pandemi Covid-19 di UPTD SMP Negeri 1 Parepare. *Jurnal Ma' Arief: Jurnal Pendidikan Sosial Dan Budaya*, 3(2), 101–110. <https://doi.org/https://doi.org/10.35905/almaarief.v3i2.2346>.
- Kadir, A. (2008). *Dasar Aplikasi Database MYSQL*. Andi Offset.
- Kuntarto, E., Sofwan, M., & Mulyani, N. (2021). Analisis Manfaat Penggunaan Aplikasi Zoom Dalam Pembelajaran Daring Bagi Guru Dan Siswa Di Sekolah Dasar. *Jurnal Pendidikan Dasar Nusantara*, 7(1), 49–62. <http://ojs.unpkediri.ac.id/index.php/pgsd/article/view/15742>.
- Lambert, V. a., & Lambert, C. E. (2013). Qualitative Descriptive Research: An Acceptable Design. *Pacific Rim International Journal of Nursing Research*, 16(4), 255–256. <https://he02.tci-thaijo.org/index.php/PRIJNR/article/download/5805/5064>.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative data analysis: A methods sourcebook*. Sage Publications.
- Mustakim, M. (2020). Efektivitas pembelajaran daring menggunakan media online selama pandemi covid-19 pada mata pelajaran matematika. *Al Asma: Journal of Islamic Education*, 2(1), 1–12. <https://doi.org/10.24252/asma.v2i1.13646>.
- Nambiar, D. (2020). The impact of online learning during Covid-19: students' and teachers' perspective. *The International Journal of Indian Psychology*, 8(2). <https://doi.org/https://doi.org/%2010.25215/0802.094>.
- Niemi, H. M., & Kousa, P. (2020). A Case Study of Students' and Teachers' Perceptions in a Finnish High School during the COVID Pandemic. *International Journal of Technology in Education and Science*, 4(4), 352–369. <https://doi.org/10.46328/ijtes.v4i4.167>.
- Nur, W., S, T. Y. W., Fortunilla, A., & Prasetyaningtyas, E. W. (2020). The Effect of E-Learning / Online Learning on the Learning Outcomes of Level II Economics Education Students, Universitas Nusantara PGRI Kediri During the Covid'19 Pandemic. *Seminar Nasional Manajemen, Ekonomi Dan Akuntansi, September*, 498–508. <https://doi.org/https://proceeding.unpkediri.ac.id/index.php/senmea/article/view/293>.
- Pekkola, E., Siekkinen, T., Kujala, E. N., Kannianen, J. P., & Laihonen, H. (2021). An assessment of COVID-19's impact on Finnish University Leadership. *Knowledge Management Research and Practice*, 19(4), 510–516. <https://doi.org/10.1080/14778238.2021.1906773>.
- Pramana, H. W. (2012). *Aplikasi Inventory Berbasis Access 2003*. PT. Elex Media Komputindo.
- Putria Hilna, Luthfi Hamdani Maula, D. A. U. (2020). Analisis Proses Pembelajaran Dalam Jaringan (Daring) Masa Pandemi Covid-19 pada Guru Sekolah Dasar. *Jurnal Basicedu*, 4(4), 861–872. <https://doi.org/10.31004/basicedu.v4i4.460>.
- Rahman, S. A., & Manaf, N. F. A. (2017). A Critical Analysis of Bloom's Taxonomy in Teaching Creative and Critical Thinking Skills in Malaysia through English Literature. *English Language Teaching*, 10(9), 245. <https://doi.org/10.5539/elt.v10n9p245>.
- Raza, S. A., & Qazi, W. (2020). Social Isolation and Acceptance of the Learning

- Management System ( LMS ) in the time of COVID-19 Pandemic : An Expansion of the UTAUT Model. *Journal of Educational Computing Research*, 58(8), 1–26. <https://doi.org/10.1177/0735633120960421>.
- Rizal, R., Rusdiana, D., Setiawan, W., & Siahaan, P. (2022). Learning Management System Supported Smartphone (Lms3): Online Learning Application in Physics for School Course To Enhance Digital Literacy of Pre-Service Physics Teachers. *Journal of Technology and Science Education*, 12(1), 191–203. <https://doi.org/10.3926/JOTSE.1049>.
- Rohita, R., Fitria, N., & Haryadi, D. (2018). Pemanfaatan Aplikasi Penyusunan Perencanaan Pembelajaran (Ap3) Dalam Penyusunan Perencanaan Pembelajaran Bagi Guru Taman Kanak-Kanak Di Jakarta. *Jurnal Pengabdian Kepada Masyarakat*, 24(2), 644. <https://doi.org/10.24114/jpkm.v24i2.10168>.
- Salim, S., & Maryanti, E. (2017). Pengembangan perangkat pembelajaran matematika melalui teori pembelajaran sibermetik berbantuan software derive. *Jurnal Riset Pendidikan Matematika*, 4(2), 229. <https://doi.org/10.21831/jrpm.v4i2.16068>.
- Salsabila, U. H., Habiba, I. S., Amanah, I. L., Istiqomah, N. A., & Difany, S. (2020). Utilization of the Quizizz Application as a Learning Media in the Midst of a Pandemic for High School Students. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi/JIITUJ*, 4(2), 163–173. <https://doi.org/https://doi.org/10.22437/jiituj.v4i2.11605>.
- Sari, D. M., Widyantoro, A., & Octavia, S. (2021). Primary School in the Time of Covid-19: Parents' Engagement in Students' Online Learning. *Jurnal Pendidikan Dan Pengajaran*, 54(2), 207. <https://doi.org/10.23887/jpp.v54i2.35805>.
- Sobron, A. ., Bayu, Rani, & S., M. (2019). Pengaruh Daring Learning terhadap Hasil Belajar IPA Siswa Sekolah. *Prosiding*, 1(1), 1–5. <https://doi.org/http://conference.upgris.ac.id/index.php/snse/article/view/204>.
- Sugiyono. (2017). Statistika untuk Penelitian. Bandung: Penerbit Alfabeta. In *Alfabeta*.
- Suhendro, E. (2020). Strategi Pembelajaran Pendidikan Anak Usia Dini di Masa Pandemi Covid-19. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 5(3), 133–140. <https://doi.org/10.14421/jga.2020.53-05>.
- Suparman. (2016). Meningkatkan Prestasi Belajar Pengetahuan Sosial Melalui Gabungan Metode Ceramah dengan Metode Belajar Aktif Model Pengajaran Autentik pada Siswa Sekolah Dasar pada Siswa Kelas IV SDN Beji IV Kec. Beji Kabupaten Pasuruan Tahun Pelajaran 2013/2014. *Jurnal Ilmiah Edukasi & Sosial*, 7(1), 98–104. <https://doi.org/10.31004/jptam.v3i3.319>.
- Suprianto, S., Arhas, S. H., Mahmuddin, M., & Siagian, A. O. (2020). The Effectiveness of Online Learning Amid the COVID-19 Pandemic. *Jurnal Administrare: Jurnal Pemikiran Ilmiah Dan Pendidikan Administrasi Perkantoran*, 7(2), 321–330. <https://doi.org/10.26858/ja.v7i2.16441>.
- Takaria, J., & Rumahlatu, D. (2016). The effectiveness of CPS-ALM model in enhancing statistical literacy ability and self concept of elementary school student teacher. *Journal of Education and Practice*, 7(25), 44–49. <https://eric.ed.gov/?id=EJ1115857>.
- Warsito, H., & Evi Winingsih, Denok Setiawati, N. N. (2022). Online learning after the COVID 19 pandemic: identification of online learning problems. *Jurnal Ilmu Keperawatan Jiwa*, 5(9), 1689–1699. <https://doi.org/https://journal.ppnijateng.org/index.php/jikj/article/view/1300>.
- Wishart, J. (2015). Assimilate or accommodate? The need to rethink current use of the term 'mobile learning.' *Communications in Computer and Information Science*, 6(2), 270–284. [https://doi.org/10.1007/978-3-319-25684-9\\_17](https://doi.org/10.1007/978-3-319-25684-9_17).
- Yuberti. (2014). *Pembelajaran Dan Pengembangan Bahan Ajar Dalam Pendidikan*. Anugrah

Utama Raharja (AURA).

- Yuza, A., & Ramadan, Z. H. (2021). Elementary School Students' Character Conditions During Online Learning. *Jurnal Pendidikan Dan Pengajaran*, 54(2). <https://doi.org/10.23887/jpp.v54i2.37264>.
- Zaenuri, Z., & Prastowo, A. (2021). Peran Guru Dalam Perencanaan Pembelajaran Berbasis Aplikasi Zoom Meeting Di Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 1734–1744. <https://doi.org/10.31004/edukatif.v3i4.654>.
- Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending Classes Without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak. *Journal of Risk and Financial Management*, 13(3), 55. <https://doi.org/10.3390/jrfm13030055>.