

Quality of E-Learning Learning During the Covid-19 Pandemic

Despa Wandri^{1*}, Nizwardi Jalinus² 

^{1,2} Pendidikan Teknologi dan Kejuruan, Fakultas Teknik, Universitas Negeri Padang, Padang, Indonesia

*Corresponding author: Despawandri92@gmail.com

Abstrak

Seiring dengan bertambahnya jumlah sekolah kejuruan di Indonesia, tuntutan pasar global terhadap kualitas lulusannya juga semakin meningkat. Namun, kualitas hasil evaluasi pembelajaran masih rendah. Evaluasi yang dilakukan masih bersifat formalitas sehingga belum berdampak pada kegiatan selanjutnya dan belum diketahui tingkat kepuasan siswa dan orang tua sebagai pelanggan. Penelitian ini bertujuan untuk mengevaluasi dan mengungkap aspek-aspek kualitas pembelajaran pada masa pandemi covid-19. Studi evaluasi ini menggunakan model CIPP dengan pendekatan metode kuantitatif. Populasinya adalah siswa kelas XI yang berjumlah 148 orang. Teknik pengumpulan data menggunakan angket yang didukung dengan wawancara data dan dokumentasi. Hasil kuesioner yang diperoleh dianalisis dengan menggunakan teknik persentase tingkat ketercapaian responden. Hasil penelitian menunjukkan bahwa rata-rata perolehan angket pada variabel konteks, input, proses, produk, dan hasil masing-masing adalah 73,7%, 76,8%, 79,9%, 79,4% dalam kategori kewajaran. Berdasarkan hasil tersebut, dapat disimpulkan bahwa kualitas pembelajaran dikategorikan cukup baik. Dengan hasil penelitian ini, sekolah dapat mengetahui kinerja setiap aspek pembelajaran. Disarankan kepada sekolah untuk meningkatkan kualitas pembelajaran dan kinerja di segala aspek untuk memberikan pelayanan prima bagi siswa dan orang tua.

Kata Kunci: evaluasi, kualitas pembelajaran, e-learning, SMK

Abstract

Along with the increasing number of vocational schools in Indonesia, the global market demands for the quality of its graduates are also increasing. The evaluation of the quality of learning is still low. The evaluation carried out is still a formality so that it has not had an impact on subsequent activities, and the level of satisfaction of students and parents as customers is not yet known. This study aims to evaluate and reveal aspects of the quality of learning during the COVID-19 pandemic. This evaluation study uses the CIPP model with a quantitative method approach. The population is class XI students, totaling 148 people. Data collection techniques using questionnaires or questionnaires supported by data interviews and documentation. The results of the questionnaire obtained were analyzed using the technique of the percentage of respondents' level of achievement. The results showed that the average acquisition of the questionnaire on the Context, Input, Process, Product, and Outcome variables were 73.7%, 76.8%, 79.9%, 79.4% in the Fairness category. So it can be concluded that the quality of learning is categorized as quite good. With the results of this study, schools can determine the performance of each aspect of learning. It is recommended for schools to improve the quality of learning and performance in all aspects to provide excellent service for students and parents.

Keywords: Evaluation, Quality of Learning, E-learning, SMK

1. INTRODUCTION

The minister of education and culture of the Republic of Indonesia issued Circular Number 4 of 2020 concerning the Implementation of Education Policy in the Emergency Spread of Coronavirus Disease (Covid-19) point 2, namely the learning process from home is carried out with the following conditions. First, learning from home through online / distance learning is implemented to provide meaningful learning experiences for students without being burdened with demands to complete all curriculum achievements for grade promotion and graduation (Linda et al., 2021; Maison et al., 2021; Prawiyogi et al., 2020). Second,

History:

Received : February 15, 2022

Revised : February 20, 2022

Accepted : April 23, 2022

Published : May 25, 2022

Publisher: Undiksha Press

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



learning from home can be focused on life skills education, including regarding the Covid-19 pandemic (Abidin et al., 2020; Hidayati & Husna, 2020). Third, activities and learning assignments from home learning can vary between students, according to their interests and conditions, including considering gaps in access/learning facilities at home (Kusuma & Hamidah, 2020; Sari et al., 2020). Fourth, Evidence or products from home learning activities are given qualitative feedback without giving quantitative scores.

The combination of traditional (offline) and online learning resources is a democratic decision to bridge the rapid distribution of electronic learning resources (e-learning) and the difficulty of breaking away from the use of learning resources used in classrooms (Kusuma & Hamidah, 2020; Nahdi & Jatisunda, 2020). This means that e-learning, no matter how sophisticated the technology used, has not replaced the implementation of face-to-face learning because the conventional face-to-face interaction method is still much more effective than online learning e-learning (Risnani & Husin, 2019; Sudiarta & Sadra, 2016; Wulandari et al., 2020). Also, limitations in Internet accessibility, hardware, and software traps and financing often become obstacles in maximizing online learning resources (Albab, 2020; Primasari & Zulela, 2021). However, the policy issued cannot ensure that everything will run properly in all circles, especially schools in villages that lack integrated technology to support the online learning process. The lack of funds and adequate facilities between teachers and students makes the online learning process less effective.

It is undeniable that the use of technology from online learning systems during the Covid-19 pandemic certainly has both positive and negative sides (Dhawan, 2020; Erni et al., 2020; Sukendro et al., 2020). One of the positive aspects of online learning is that it opens the freedom to express students' ideas that do not appear during face-to-face learning because of a period of shame, reluctance, fear, or even not having good verbal skills (Butnaru et al., 2021; Mulyono et al., 2021; Tempelaar Chan et al., 2021). Besides, online learning can also help students who live in remote areas who have difficulty accessing schools or have a conflict of time, especially students who go to school while working (Aini et al., 2020; Hamilton et al., 2020). Besides eliminating traditional 'top and down' teaching patterns where teachers know everything and students are only required to follow what the teacher said. Increase creativity and independence, both teachers and students enrich themselves by always innovating to seek new knowledge (Abuhassna et al., 2020; Syafiq et al., 2021).

Meanwhile, the negative side of the online learning system is that not all students have the same level of understanding (Magister et al., 2021; Mansur et al., 2021). For students who are diligent and easy to absorb information, online learning methods will be easily absorbed (Asmuni, 2020; Suni Astini, 2020). Still, for students who are not familiar with this method, it may not be easy. The time to absorb the online-based learning delivered by the teacher and the ability to adapt to the application of technology used in teaching and learning activities. Facts in the field, the obligation to study at home becomes a serious obstacle, especially for economically disadvantaged students (Fikri et al., 2021; Hutauruk & Sidabutar, 2020). They often complain of running out of internet quota. Also, technology can build instant attitude from its users (Albab, 2020; Rigianti, 2020). The ease can spoil teachers and students. They copy and paste with learning materials or assignments at school.

However, slowly the loss of physical encounters due to learning delivered online will impact the loss of a sense of humanity such as empathy and caring. It is common sense, and it is common sense to say that educators or teachers' presence in front of the class cannot be replaced by technology. Educational institutions that still stick to traditional learning models may be abandoned by the community, swept away by this very vicious covid-19 virus storm (Aslan, 2021; Magister et al., 2021). With the current condition of the school as described previously, it is necessary to conduct research that can help develop the overall quality of learning that has been running until now as a result of the implementation of the Quality

Management system. By the current conditions of the school as previously described, it is necessary to carry out research that can help schools evaluate the overall quality of learning that has been running until now as an impact of the implementation of the ISO 9001: 2008 Quality Management system. Based on this background, the purpose of this study is to evaluate the quality of e-learning during the COVID-19 pandemic at SMK Negeri 5 Padang.

2. METHOD

This type of research includes evaluation research. Evaluation research is a research method that aims to determine the achievement of program objectives that have been implemented (Enas Almanasreh et al., 2019). The evaluation model used is the CIPP model (context, input, process, and product) (Yati & Yaswinda, 2019). The type of approach used is the quantitative method. Quantitative methods are used to examine specific populations or samples, data collection uses research instruments, and data analysis is quantitative/statistical (Tavakol & Sandars, 2014).

In this study, after conducting an evaluation using an instrument that has been compiled, which consists of a questionnaire, interview guide, observation sheet, and documentation, then analyzing the data using descriptive statistics. Data from questionnaires in the form of quantitative data are added with data from observations, interviews, and documentation ". Based on the CIPP evaluation model, namely context, input, process, and product. The questionnaire is structured using a Likert scale with four alternative answers. For the reason that if there are respondents who are in doubt, they do not necessarily choose the middle answer and there are not many choices made so as not to confuse the respondent in filling it out ". This answer has a minimum and maximum score, in Table 1.

Table 1. Score Item Statement

Item Statement	Positive	Negative
Strongly Agree (SS)	4	1
Agree (S)	3	2
Disagree (KS)	2	3
Disagree (TS)	1	4

3. RESULTS AND DISCUSSION

Results

The average questionnaire results on the context variable addressed to the teacher are 75.9%, with a reasonably good category. From the questionnaire addressed to students, it was 71.5%, with a pretty good variety too. The average result of both was 73.7%, with a good enough category. After obtaining the results from the questionnaire and interview, it can be concluded that the context variable of learning quality management at SMK Negeri 5 Padang is in the good enough category. The accumulated results of filling out the questionnaire on the context variable in Table 2.

Table 2. Context Variable Questionnaire Results

Indicator	Teacher		Student		Average	
	%	Category	%	Category	%	Category
Quality Management Objectives	79.0	Enough	73.4	Enough	76.2	Enough
Quality policy	71.2	Enough	-	-	71.2	Enough

Indicator	Teacher		Student		Average	
	%	Category	%	Category	%	Category
Quality Implementation	77.4	Enough	69.5	Less	73.5	Enough
Average	75.9	Enough	71.5	Enough	73.7	Enough

The average questionnaire results on the input variable addressed to the teacher were 78.2%, with a good category. From the questionnaire addressed to students, it was 75.4% with a good variety too. The average result of both was 76.8%, with enough category. After obtaining the results from questionnaires, interviews, observation, and documentation, it can be concluded that the input from the quality management of learning at SMK Negeri 5 Padang is in the good enough category. The accumulated results of filling out the questionnaire on the input variable in [Table 3](#).

Table 3. Input Variable Questionnaire Results

Indicator	Teacher		Student		Average	
	%	Category	%	Category	%	Category
Student	77.9	Enough	81.2	Good	79.6	Enough
Teacher	82.5	Good	72.4	Enough	77.5	Enough
Facilities and infrastructure	76.5	Enough	74.8	Enough	75.7	Enough
Learning Financing	72.8	Enough	73.8	Enough	73.3	Enough
Relevance of Material	81.2	Good	74.8	Enough	78.0	Enough
Average	78.2	Enough	75.4	Enough	76.8	Enough

The average questionnaire results on the process variable addressed to teachers were 82.6%, with a good category. From the questionnaire addressed to students, it was 77.2% in the excellent class. The average result of both was 79.9%, with enough variety. After obtaining the results from the questionnaire, interviews, and documentation, it can be concluded that the learning quality management process at SMK Negeri 5 Padang is in the good enough category. The accumulated results of filling out the questionnaire on the process variable in [Table 4](#).

Table 4. Process Variable Questionnaire Results

Indicator	Teacher		Student		Average	
	%	Category	%	Category	%	Category
Implementation of learning	80.7	Good	79.5	Enough	80.1	Good
Controlling Violations	82.2	Good	69.9	Less	76.1	Enough
Learning Assessment	84.9	Good	82.1	Good	83.5	Good
Average	82.6	Good	77.2	Enough	79.9	Enough

The average questionnaire results on the product variable amounted to 79.45% in the enough category. After obtaining the results from the questionnaire and documentation, it can be concluded that the product of learning quality management at SMK Negeri 5 Padang is in the good enough category. The accumulated results of filling out the questionnaire on product variables in [Table 5](#).

The implementation of learning quality management on the input variable can be declared quite good because prospective students who will be accepted at SMK Negeri 5 Padang are selected from the achievement pathway with a quota of 30% and the test route with a percentage of 70%. They are quite happy with the major they have chosen. This is by the SOP_72 document regarding PSB and the quality document of SMK Negeri 5 Padang,

Attachment IV regarding the quality description plan, which states that the school will carry out school marketing, PSB, educational process from grades 1-3 and graduate marketing.

Table 5. Product Variable Questionnaire Results

Indicator	Average	
	%	Category
Learning outcomes	76.4	Enough
Competency Skills	82.25	Enough
Average	79.45	Enough

Discussion

The implementation of the quality management of e-learning learning in the context variable is quite useful because most students feel quite satisfied with the school's services. The findings of previous research also state that good e-learning activities will help students in learning (Cidral et al., 2018; Rosy et al., 2018; Sutrisna et al., 2021). After all, the school has implemented the quality management of e-learning learning according to the requirements of QMS ISO 9001: 2008. The school's services are immensely increasing, and student complaints enough to be responded to by the school. Good learning activities will also increase students' enthusiasm for learning (Aini et al., 2020; Hamilton et al., 2020; Yusuf & Widyaningsih, 2020). This is by the Quality Document of SMK Negeri 5 Padang, which states that the purpose of implementing the ISO 9001: 2008 Quality Management System, especially in the aspects of learning at SMK Negeri 5 Padang, is to realize School Management that is by the requirements of QMS ISO 9001: 2008 and adheres to the principles so that it can meet stakeholder expectations. The expectations of stakeholders based on the research results have been fulfilled enough by the school. For the quality of e-learning to increase, it is necessary to raise the school's concern for stakeholder expectations (Bahreini et al., 2016; Valverde-Berrocoso et al., 2020).

Based on the previous description, which states that input from the teacher and student indicators is classified as useful. The students have the quality and ability that meet the requirements. In terms of facilities and infrastructure, at SMK Negeri 5 Padang there are still shortcomings in the Lab. Computers and devices. The descriptive analysis results show that the implementation of e-learning at SMK Negeri 5 Padang can be stated as good enough. By the results of interviews with students who said that during the implementation of eLearning learning, most of the teachers greeted them when opening lessons, provided learning motivation, were willing to help students if someone did not understand when logging in or uploading assignments in google classroom, were able to detail the material so easy to understand, able to operate learning media and always logged in on time according to schedule. These activities can be seen in detail in the teacher's lesson plan. The findings of previous research also state that providing motivation and learning activities carried out both in online learning will have a positive impact on students (Bahreini et al., 2016; Nacher et al., 2021; Valverde-Berrocoso et al., 2020). These results are by the SOP_751_P document regarding controlling teaching and learning in practices and SOP_751_T regarding controlling teaching and learning.

Based on the previous description, it shows that to carry out good e-learning learning, one must prepare an appropriate lesson plan according to the characteristics of students and implement it as planned in the lesson plan (Ahdan et al., 2020; Efiloğlu Kurt, 2018; Rasheed & Wahid, 2021). To control the implementation of these activities, it is necessary to prevent student violations by implementing a consistent and continuous point system (Atiyah et al., 2020; Putra & Sudarti, 2015). Meanwhile, to determine the achievement of e-learning

learning, students must take part in a series of exam activities determined by the school. This is by the meaning of learning that states that the interaction process of students, educators, and learning resources in a learning environment aims to develop students' creative thinking (Logan et al., 2021; Sadikin & Hakim, 2019; Zhang et al., 2016).

Based on the descriptive analysis of the product variables that consist of student learning outcomes and skills competencies indicators, they are relatively good. Learning outcomes are the level of mastery achieved by students as evidence of their success after participating in the teaching and learning process by the established educational goals (Ja'ashan, 2020; Satyawan et al., 2021). By this statement, the results of elearning learning obtained by SMK Negeri 5 Padang are shown in the documentation of the UAS results, which have decreased the percentage of UAS scores ≥ 7 but in Indonesian subjects an increase of 1%. In UKK, all students pass the KKM, but some pass without repeating and pass by repeating. Meanwhile, 30% of students get a certificate of expertise.

4. CONCLUSIONS

Based on the analysis and discussion of research data, the evaluation research on the quality management of E-learning learning at SMK Negeri 5 Padang can be said as follows. First, in the variable, there are three indicators, namely QMS objectives, quality policy, and quality goals, in the reasonably good category. Second, the input variable in the category is quite good. Third, on the process variable, there are indicators, namely the implementation of E-learning learning, student control of three, and control of e-learning in the good category. Student learning outcomes have been included in the good enough category. Students' skill competencies are in the good enough category.

5. REFERENCES

- Abidin, Z., Hudaya, A., & Anjani, D. (2020). Efektivitas Pembelajaran Jarak Jauh pada Masa Pandemi Covid-19. *Research and Development Journal of Education*, 1(1), 131. <https://doi.org/10.30998/rdje.v1i1.7659>.
- Abuhassna, H., Al-Rahmi, W. M., Yahya, N., Zakaria, M. A. Z. M., Kosnin, A. B. M., & Darwish, M. (2020). Development of A New Model on Utilizing Online Learning Platforms to Improve Students' Academic Achievements and Satisfaction. *International Journal of Educational Technology in Higher Education*, 17(1), 1–23. <https://doi.org/10.1186/S41239-020-00216-Z>.
- Ahdan, S., Putri, A. R., & Sucipto, A. (2020). Aplikasi M-Learning sebagai Media Pembelajaran Conversation pada Homey English. *Sistemasi*, 9(3), 493. <https://doi.org/10.32520/stmsi.v9i3.884>.
- Aini, Q., Putra, P. O. H., Budiarto, M., & Rahardja, U. (2020). Exploring E-learning Challenges During the Global COVID-19 Pandemic: A Review. *Jurnal Sistem Informasi (Journal of Information System)*, 16(2), 57–65. <https://doi.org/10.21609/jsi.v16i2.1011>.
- Albab, S. U. (2020). Analisis Kendala Pembelajaran E-Learning pada Era Disrupsi di SMK Terpadu Al-Islahiyah Singosari Malang. *Mudir: Jurnal Manajemen Pendidikan*, 2, 46–57. <https://doi.org/10.55352/mudir.v2i1.105>.
- Aslan, A. (2021). Problem- Based Learning in Live Online Classes: Learning Achievement, Problem-Solving Skill, Communication Skill, and Interaction. *Computers and Education*, 171(November 2020), 104237. <https://doi.org/10.1016/j.compedu.2021.104237>.
- Asmuni, A. (2020). Problematika Pembelajaran Daring di Masa Pandemi Covid-19 dan Solusi Pemecahannya. *Jurnal Paedagogy*, 7(4), 281.

- <https://doi.org/10.33394/jp.v7i4.2941>.
- Atiyah, U., Miarsyah, M., & Sigit, D. V. (2020). The Effect of Using E-Learning Based Guided Discovery Learning Model Based on Self-Efficacy towards Student Learning Outcomes in Biology Class in Reproductive System Subject in High School. *International Journal for Educational and Vocational Studies*, 2(9), 789–796. <https://doi.org/10.29103/ijevs.v2i9.2732>.
- Bahreini, K., Nadolski, R., & Westera, W. (2016). Towards Multimodal Emotion Recognition in E-learning Environments. *Interactive Learning Environments*, 24(3), 590–605. <https://doi.org/10.1080/10494820.2014.908927>.
- Butnaru, G. I., Niță, V., Anichiti, A., & Brînză, G. (2021). The Effectiveness of Online Education During Covid 19 Pandemic—A Comparative Analysis Between The Perceptions of Academic Students and High School Students from Romania. *Sustainability (Switzerland)*, 13(9). <https://doi.org/10.3390/su13095311>.
- Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning Success Determinants: Brazilian Empirical Study. *Computers and Education*, 122, 273–290. <https://doi.org/10.1016/j.compedu.2017.12.001>.
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>.
- Efiloğlu Kurt, Ö. (2018). Examining An E-Learning System through The Lens of The Information Systems Success Model: Empirical Evidence from Italy. *Education and Information Technologies 2018* 24:2, 24(2), 1173–1184. <https://doi.org/10.1007/S10639-018-9821-4>.
- Enas Almanasreh, E., Moles, R., & Timothy, M. (2019). Evaluation of Methods Used for Estimating Content Validity. *Research in Social and Administrative Pharmacy*, 15(2), 214–221. <https://doi.org/10.1016/j.sapharm.2018.03.066>.
- Erni, S., Vebrianto, R., Miski, C. R., MZ, Z. A., Martius, & Thahir, M. (2020). Refleksi Proses Pembelajaran Guru MTs di Masa Pandemi Covid 19 di Pekanbaru: Dampak dan Solusi. *Journal of Education and Learning*, 1(1), 1–10. <https://doi.org/10.55748/bjel.v1i1.1>.
- Fikri, M., Ananda, M. Z., & Faizah, N. (2021). Kendala dalam Pembelajaran Jarak Jauh di Masa Pandemi Covid-19 : Sebuah Kajian Kritis. *Jurnal Education and development*, 9(1), 145–148. <https://doi.org/10.37081/ed.v9i1.2290>.
- Hamilton, L. A., Suda, K. J., Heidel, R. E., McDonough, S. L. K., Hunt, M. E., & Franks, A. S. (2020). The Role of Online Learning in Pharmacy Education: A Nationwide Survey of Student Pharmacists. *Currents in Pharmacy Teaching and Learning*, 12(6). <https://doi.org/10.1016/j.cptl.2020.01.026>.
- Hidayati, T., & Husna, F. (2020). Learning English from Home During The Covid-19 : Investigating Learners ' Experience for Online and Autonomous Learning. *Journal of The Association for Arabic and English*, 6(2), 202–217. <https://doi.org/10.31332/lkw.v6i2.1962>.
- Hutauruk, A., & Sidabutar, R. (2020). Kendala Pembelajaran Daring Selama Masa Pandemi di Kalangan Mahasiswa Pendidikan Matematika: Kajian Kualitatif Deskriptif. *Journal of Mathematics Education and Applied*, 02(01), 45–51. <https://doi.org/10.36655/sepren.v2i1.364>.
- Ja'ashan, M. (2020). The Challenges and Prospects of Using E-learning among EFL Students in Bisha University. *Arab World English Journal*, 11(1), 124–137. <https://doi.org/10.24093/awej/vol11no1.11>.
- Kusuma, J. W., & Hamidah. (2020). Perbandingan Hasil Belajar Matematika dengan Penggunaan Platform Whatsapp Group dan Webinar Zoom dalam Pembelajaran Jarak

- Jauh pada Masa Pandemi Covid 19. *Jurnal Ilmiah Pendidikan Matematika*, 5(1), 97–106. <https://doi.org/10.26877/jipmat.v5i1.5942>.
- Linda, R., Zulfarina, Mas'ud, & Putra, T. P. (2021). Peningkatan Kemandirian dan Hasil Belajar Peserta Didik Melalui Implementasi E-Modul Interaktif IPA Terpadu Tipe Connected pada Materi Energi SMP/MTs. *Jurnal Pendidikan Sains Indonesia*, 9(2), 191–200. <https://doi.org/10.24815/jpsi.v9i2.19012>.
- Logan, R. M., Johnson, C. E., & Worsham, J. W. (2021). Development of an E-learning Module to Facilitate Student Learning and Outcomes. *Teaching and Learning in Nursing*, 16(2), 139–142. <https://doi.org/10.1016/j.teln.2020.10.007>.
- Magister, P., Biologi, P., Padang, U. N., Biologi, J., Padang, U. N., & Barat, S. (2021). The Problem of Online Learning in Covid-19 toward Learning Process Problematika Pembelajaran Daring di Tengah Wabah Covid-19 terhadap Proses. *Bioeducation Journal*, 5(1), 19–26. <https://doi.org/10.24036/bioedu.v5i1.292>.
- Maison, M., Kurniawan, D. A., & Anggraini, L. (2021). Perception, Attitude, and Student Awareness in Working on Online Tasks During the Covid-19 Pandemic. *Jurnal Pendidikan Sains Indonesia*, 9(1), 108–118. <https://doi.org/10.24815/jpsi.v9i1.18039>.
- Mansur, H., Jumadi, Mastur, Utama, A. H., & Prastitasari, H. (2021). The Problem of Distance Learning During the Covid-19 Pandemic. *Ilkogretim Online - Elementary Education Online*, 20(4), 168–175. <https://doi.org/10.17051/ilkonline.2021.04.19>.
- Mulyono, H., Suryoputro, G., & Jamil, S. R. (2021). The Application of WhatsApp to Support Online Learning During The COVID-19 Pandemic in Indonesia. *Heliyon*, 7(8), e07853. <https://doi.org/10.1016/j.heliyon.2021.e07853>.
- Nácher, M. J., Badenes-Ribera, L., Torrijos, C., & Ballesteros, M. A. (2021). The Effectiveness of The GoKoan E-Learning Platform in Improving University Students' Academic Performance. *Studies in Educational Evaluation*, 70. <https://doi.org/10.1016/j.stueduc.2021.101026>.
- Nahdi, D. S., & Jatisunda, M. G. (2020). Analisis Literasi Digital Calon Guru SD dalam Pembelajaran Berbasis Virtual Classroom di Masa Pandemi Covid-19. *Jurnal Cakrawala Pendas*, 6(2), 116–123. <https://doi.org/10.31949/jcp.v6i2.2133>.
- Prawiyogi, A. G., Purwanugraha, A., Fakhry, G., & Firmansyah, M. (2020). Efektifitas Pembelajaran Jarak Jauh terhadap Pembelajaran Peserta didik di SDIT Purwakarta. *JPD: Jurnal Pendidikan Dasar*, 11(1). <https://doi.org/10.21009/10.21009/JPD.081>.
- Primasari, I. F. N. D., & Zulela. (2021). Kendala Pembelajaran Jarak Jauh (PJJ) Secara Online Selama Masa Pandemi Covid-19 di Sekolah Dasar. *JIKAP PGSD: Jurnal Ilmiah Ilmu Kependidikan*, 5(1), 64–73. <https://doi.org/10.26858/jkp.v5i1.16820>.
- Putra, P. D. A., & Sudarti. (2015). Pengembangan Sistem E-Learning untuk Meningkatkan Keterampilan Berpikir Kritis Mahasiswa Pendidikan Fisika. *Jurnal Fisika Indonesia*, 19(55), 45–48. <https://doi.org/10.22146/jfi.24373>.
- Rasheed, F., & Wahid, A. (2021). Learning Style Detection in E-learning Systems Using Machine Learning Techniques. *Expert Systems with Applications*, 174. <https://doi.org/10.1016/j.eswa.2021.114774>.
- Rigianti, H. A. (2020). Kendala Pembelajaran Daring Guru Sekolah Dasar di Banjarnegara. *Elementary School: Jurnal Pendidikan dan Pembelajaran ke-SD-an*, 7(2). <https://doi.org/10.31316/esjurnal.v7i2.768>.
- Risnani, & Husin. (2019). Section Articles Blended Learning: Pengembangan dan Implementasinya pada Mata Kuliah Fisiologi Tumbuhan. *Bioeduscience*, 3(2). <https://doi.org/10.29405/j.bes/3274-834007>.
- Rosy, B., Ranu, M. E., Nugraha, J., & Handini, H. T. (2018). Pelatihan Media Pembelajaran Berbasis E-Learning, Schoology bagi Guru SMK Program Keahlian Administrasi Perkantoran di Kabupaten Jombang Jawa Timur. *Jurnal Pemberdayaan Masyarakat*

- Madani, 2(2). <https://doi.org/10.21009/JPMM.002.2.02>.
- Sadikin, A., & Hakim, N. (2019). Pengembangan Media E-Learning Interaktif dalam Menyongsong Revolusi Industri 4. *Jurnal Ilmiah Pendidikan Biologi*, 5(2), 131–138. <https://doi.org/10.22437/bio.v5i2.7590>.
- Sari, Sinaga, Hernani, & Solfarina. (2020). Chemistry Learning via Distance Learning during the Covid-19 Pandemic. *TADRIS (Journal of Education and Teacher Training)*, 5(1). <https://doi.org/10.24042/tadris.v5i1.6346>.
- Satyawan, I. M., Wahjoedi, W., & Swadesi, I. K. I. (2021). The Effectiveness of Online Learning through Undiksha E-Learning During the Covid-19 Pandemic. *Journal Education Technology*, 5(2). <https://doi.org/10.23887/jet.v5i2.32364>.
- Sudiarta, & Sadra. (2016). Pengaruh Model Blended Learning Berbantuan Video Animasi terhadap Kemampuan Pemecahan Masalah dan Pemahaman Konsep Siswa. *Jurnal pendidikan dan pengajaran*, 49(2), 48–58. <https://doi.org/10.23887/jppundiksha.v49i2.9009>.
- Sukendro, S., Habibi, A., Khaeruddin, K., Indrayana, B., Syahrudin, S., Makadada, F. A., & Hakim, H. (2020). Using an Extended Technology Acceptance Model to Understand Students' Use of E-Learning During Covid-19: Indonesian Sport Science Education Context. *Heliyon*, 6(11), e05410. <https://doi.org/10.1016/j.heliyon.2020.e05410>.
- Suni Astini, N. K. (2020). Tantangan dan Peluang Pemanfaatan Teknologi Informasi dalam Pembelajaran Online Masa Covid-19. *Cetta: Jurnal Ilmu Pendidikan*, 3(2), 241–255. <https://doi.org/10.37329/cetta.v3i2.452>.
- Sutrisna, I. P. E., Putu, N., & Utami, D. (2021). The Effectiveness of E-Learning for English Class in Efl Setting and Its Implication During Covid-19 Pandemic. *Language and Education Journal Undiksha*, 4(1), 13–21. <https://doi.org/10.23887/leju.v4i1.27373>.
- Syafiq, A. N., Rahmawati, A., Anwari, & Oktaviana, T. (2021). Increasing Speaking Skill through Youtube Video as English Learning Material During Online Learning in Pandemic Covid-19. *ELSYA: Journal of English Language Studies*, 3(1). <https://doi.org/10.31849/elsya.v3i1.6206>.
- Tavakol, M., & Sandars, J. (2014). Quantitative and Qualitative Methods in Medical Education Research: AMEE Guide No 90: Part II. *Medical Teacher*, 36, 838–848. <https://doi.org/10.3109/0142159X.2014.915297>.
- Tempelaar Chan, S. L., Lin, C. C., Chau, P. H., Takemura, N., & Fung, J. T. C. (2021). Evaluating Online Learning Engagement of Nursing Students. *Nurse Education*, 104. <https://doi.org/10.1016/j.nedt.2021.104985>.
- Valverde-Berrocoso, Garrido-Arroyo, Burgos-Videla, & Morales-Cevallos. (2020). Trends in Educational Research about e-Learning: A Systematic Literature Review (2009–2018). *Sustainability*, 12(12). <https://doi.org/10.3390/su12125153>.
- Wulandari, Sudatha, & Simamora. (2020). Pengembangan Pembelajaran Blended pada Mata Kuliah Ahara Yoga Semester II di IHDN Denpasar. *Jurnal Edutech Undiksha*, 8(1), 1–15. <https://doi.org/10.23887/jeu.v8i1.26459>.
- Yati, F., & Yaswinda, Y. (2019). Penerapan Model Evaluasi CIPP dalam Mengevaluasi Penyelenggaraan Lembaga PAUD. *Jurnal Obsesi Jurnal Pendidikan Anak Usia Dini*, 4(1). <https://doi.org/10.31004/obsesi.v4i1.238>.
- Yusuf, I., & Widyaningsih, S. W. (2020). Implementing E-Learning-Based Virtual Laboratory Media to Students' Metacognitive Skills. *International Journal of Emerging Technologies in Learning*, 15(5). <https://doi.org/10.3991/ijet.v15i05.12029>.
- Zhang, D., Zhou, L., Briggs, R. O., & Nunamaker, J. F. (2016). Instructional Video in E-Learning: Assessing The Impact of Interactive Video on Learning Effectiveness. *Information and Management*, 43(1), 15–27. <https://doi.org/10.1016/j.im.2005.01.004>.