

EVALUATING DIGITAL LEARNING APPLICATION IN UNIVERSITY SETTING: INDONESIAN STUDENTS' EXPERIENCES, CHALLENGES, AND LEARNING EFFECTIVENESS

SITI CHOIRIYAH

Faculty of Tarbiyah, UIN Raden Mas Said Surakarta, Indonesia

*Email Corresponding: Siti.choiriyah@staff.uinsaid.ac.id

Abstract

The closure of educational institutions due to the recent COVID-19 pandemic has resulted in a significant shift from traditional face-to-face learning to online activities. This unexpected change has brought about various challenges, issues, potentials, and other factors pertaining to the implementation of online teaching and learning. This research aims to elucidate the learning experiences of college students in Indonesia. A narrative inquiry approach employing written reflections and semi-structured interviews is utilized to investigate the online learning encounters of 23 university students studying at an Islamic education department at UIN Raden Mas Said Surakarta Indonesia. The findings of this study reveal that social media platforms have predominantly shaped the landscape of higher education learning experiences for the participating students. Despite admitting to being ill-prepared and facing challenges such as power supply disruptions, unstable internet connections, and limited access to digital devices, the students exhibited a notable enthusiasm for engaging in online learning activities. When sharing their opinions on instructional methods, a majority of them expressed a preference for the traditional face-to-face classroom interaction. These findings underscore the practical need for teachers and relevant stakeholders to enhance the effectiveness of online learning endeavors in Indonesia.

Keywords: digital learning; learning effectiveness; online learning experiences; students' challenges

Abstrak

Penutupan lembaga pendidikan karena pandemi COVID-19 baru-baru ini telah mengakibatkan pergeseran signifikan dari pembelajaran tradisional tatap muka ke aktivitas daring. Perubahan yang tidak terduga ini telah membawa berbagai tantangan, isu, potensi, dan faktor lain yang berkaitan dengan pelaksanaan belajar mengajar daring. Penelitian ini bertujuan untuk menjelaskan pengalaman belajar mahasiswa di Indonesia. Pendekatan inkuiri naratif yang menggunakan refleksi tertulis dan wawancara semi-terstruktur digunakan untuk menginvestigasi pertemuan pembelajaran daring dari 23 mahasiswa yang belajar di jurusan pendidikan Islam di UIN Raden Mas Said Surakarta Indonesia. Temuan penelitian ini mengungkapkan bahwa platform media sosial sebagian besar telah membentuk lanskap pengalaman belajar pendidikan tinggi bagi siswa yang berpartisipasi. Meski mengaku kurang siap dan menghadapi tantangan seperti gangguan pasokan listrik, koneksi internet yang tidak stabil, dan terbatasnya akses ke perangkat digital, para siswa menunjukkan antusiasme yang tinggi untuk terlibat dalam kegiatan pembelajaran daring. Saat membagikan pendapat mereka tentang metode pembelajaran, mayoritas dari mereka mengungkapkan preferensi untuk interaksi kelas tatap muka tradisional. Temuan ini menggarisbawahi kebutuhan praktis bagi guru dan pemangku kepentingan terkait untuk meningkatkan efektivitas pembelajaran daring di Indonesia.

Kata kunci: pembelajaran digital; efektivitas pembelajaran; pengalaman belajar online; tantangan siswa

INTRODUCTION

The recent ramifications of the COVID-19 pandemic have caused significant shifts in various aspects of human life. Within the realm of education, the pandemic has compelled a transition from traditional in-person classroom interactions to digitalized screen-based learning facilitated through tools like smartphones and computers (Adnan, 2020; Mukhtar et al., 2020). The utilization of digital technology for educational purposes has now become an imperative (Mseleku, 2020). In Indonesia, the integration of technology, particularly social media, has seen sporadic adoption, primarily driven by enthusiastic teachers aiming to incorporate technology into their pedagogical practices (Nunuk et al., 2020; Prasetyo et al., 2021). The necessity for online learning prompted by the COVID-19 pandemic has underscored the importance of integrating technology within higher education, fostering heightened awareness among educators (Rahmawati & Sujono, 2021). In contrast, certain countries had already initiated technology-driven enhancements in education even before the pandemic (Castaño-Muñoz et al., 2018). However, for developing nations like Indonesia, grappling with social, political, and environmental challenges, establishing a comprehensive digital learning environment poses considerable difficulties.

Amidst the ongoing global pandemic, educational activities must persevere. In Indonesia, educational institutions across all levels are compelled to continue teaching and learning, navigating through challenges and hurdles (Lestyanawati, 2020). With limited alternatives available, online instruction through digital platforms emerges as the primary recourse. Over recent years, Indonesian universities have developed several web-based applications to facilitate blended learning, incorporating platforms such as Learning Management System (LMS), Edmodo, and MOOC systems (Eriyaningsih et al., 2022; Setiawan et al., 2022). Additionally, social media has garnered significant attention as an alternative digital medium supporting the learning environment (Mak et al., 2022; Muftah, 2022). However, this transition is still in its experimental phase, accompanied by challenges such as inadequate internet connectivity and limited access to digital devices, particularly for students (Adedoyin & Soykan, 2023). The need to employ digital platforms for remote teaching during the pandemic has led students to acclimate to screen-based learning, departing from the conventional in-person classroom interactions. This context renders an exploration of Indonesian students' experiences and sentiments during online learning activities a compelling pursuit.

Numerous studies have investigated the implementation of online teaching and learning activities during the COVID-19 pandemic across diverse contexts, particularly in developing nations where digitalization poses significant challenges. Bujang et al. (2020) examined the adequacy of online applications utilized in Malaysian universities for virtual learning and explored educators' and learners' perceptions of this modality. Their findings indicated moderate acceptance of online learning among Malaysian educators and students as a response to the pandemic. While acknowledging the benefits of online learning, they encountered issues such as limited student engagement, unreliable internet connections, and monotonous learning experiences. Similarly, in Thailand, Kornpitack and Sawmong (2022) explored students' aversive emotions towards online learning, revealing that extended and repetitive sessions, lack of engagement, and logistical problems contributed to feelings of boredom. Nambiar (2020) suggested enhancing teacher-student interactions, addressing technological barriers, and fostering interpersonal relationships as potential remedies.

In Indonesia, higher education institutions faced challenges in transitioning from traditional classroom settings to online learning. Lestyanawati (2020) examined the hurdles educators and students encountered during online teaching and learning, identifying internet connectivity as a central issue. Students reported reduced peer interactions, impacting their satisfaction with the learning experience. Similarly, Agustina and Cheng (2020) outlined challenges and opportunities tied

to online teaching and learning during the pandemic. Gender emerged as a factor influencing the challenges experienced, with different genders showing distinct impacts on academic achievement in the online environment. Conversely, teachers' qualifications and experiences significantly influenced the effectiveness of online instruction, especially during the COVID-19 outbreak.

Collectively, these studies from neighboring countries like Malaysia and Thailand underscore the ongoing challenges in implementing online teaching and learning activities despite their potential benefits. Technological barriers persist in these countries and other developing nations, impeding the seamless integration of distance learning through digital platforms. This scenario is evident in Southeast Asian nations as well. Nugroho et al. (2021) highlighted challenges like limited student participation, delayed feedback, and teachers' unfamiliarity with digital platforms in Indonesia. Likewise, Malaysia (Kamil & Sani, 2021), Vietnam (Van & Thi, 2021), and Thailand (Phattanawasin et al., 2021) encountered technological obstacles while facilitating online teaching and learning, particularly during the tumultuous COVID-19 times.

Collectively, these preceding studies highlight the global imperative to enhance the efficacy of online teaching and learning activities. Consequently, exploring facets of online teaching and learning remains crucial, particularly in developing nations like Indonesia. This landscape underscores the research gap, emphasizing the urgency of investigating Indonesian college students' experiences during online learning. A deep understanding of their emotions, challenges, needs, and expectations in the online learning context becomes pivotal. This study aims to illuminate Indonesian higher education students' perceptions and experiences with online learning during the pandemic. Employing a narrative inquiry approach, the study seeks a comprehensive understanding of students' viewpoints. The findings are poised to enrich the effectiveness of online teaching and learning in Indonesia, offering valuable insights to stakeholders including educators, government bodies, and curriculum designers, all through the lens of college students.

METHODS

This research aims to depict the experiences of Indonesian college students participating in online learning activities. To achieve this, a qualitative approach using narrative inquiry was employed. In the context of this study, narrative inquiry was utilized to examine the perceptions of a group of Indonesian college students regarding online teaching and learning activities during the pandemic and its aftermath. Participating in this study were college students from the Department of Islamic Education at Universitas Islam Negeri Raden Mas Said Surakarta in Indonesia. These students were engaged in remote learning activities facilitated by digital technology both during the COVID-19 pandemic and the subsequent recovery phase. The study included a total of 23 participants (labeled as S1-S23), who were selected for their accessibility. The participants' ages ranged from 18 to 24, encompassing both undergraduate and postgraduate students. Among the participants, 15 were female and 8 were male.

The study collected data through two main methods: self-written reflections and semi-structured interviews. The collected data from self-written reflections and semi-structured interviews were subjected to the following analytical procedures. First, data from both sources were tabulated. Second, the data were categorized according to the themes corresponding to the research questions. Third, the data underwent coding, review, analysis, and integration to ensure comprehensive addressing of the research questions. This process yielded the final results of data analysis, forming the basis for drawing conclusions. To enhance validity and reliability, the researcher initiated the data analysis, followed by multiple rounds of discussion involving experts (two lecturers from universities in Surakarta, Indonesia) to attain consensus on the data interpretations.

FINDINGS AND DISCUSSION

Indonesian students' experiences on online learning

Based on the outcomes of the data analysis, there were two primary digital platforms utilized by college educators in Indonesia to facilitate online learning activities during the COVID-19 pandemic: social media and a web-based resource known as LMS. In general, the use of social media predominantly shaped the landscape of online teaching and learning, especially within the higher education context that was the focus of this study.

Through the amalgamation of self-written reflections and semi-structured interviews, participants expressed that Facebook, Youtube, and Instagram emerged as the most prevalent social media platforms employed for facilitating online learning activities. A considerable number of participants highlighted Facebook as the primary medium for conducting most of their online learning engagements. The practical utility of Facebook instilled a sense of familiarity for both students and teachers, rendering it an effective platform for educational content dissemination. Participants shared their insights through various responses:

"In our class, social media Facebook is extensively used. Our instructor shares course materials in a dedicated Facebook group, where we engage in discussions. Additionally, our teacher prompts discussions by posing questions and encouraging responses related to the subject matter. The Facebook group also serves as a repository for videos and quiz links. This mode of learning feels enjoyable and relaxed." (WR. S11)

"Youtube is frequently employed for a lesson study in my class. We are tasked with viewing specific theme-related videos assigned by the teacher and subsequently engaging in discussions around these videos. There was an instance when we were instructed to create our own videos on a particular topic, subsequently posting them on our individual Youtube accounts. Furthermore, fellow students were encouraged to provide feedback on these videos." (WR. S17)

"Yes, we frequently turn to Youtube for video resources. However, my teacher prefers Instagram for assignment submissions. We are regularly prompted to share content on Instagram, be it concise descriptions or videos elucidating specific subjects under discussion." (Int. S2)

Beyond social media, this study sheds light on the employment of a web-based tool called Si-Kulon (LMS) to facilitate online learning endeavors within the Indonesian college setting. While not as extensively adopted, participants' narratives reveal that certain educators utilized LMS for their online learning initiatives. This alignment is not surprising, considering previous studies exploring e-learning development in Indonesia have highlighted LMS as a favored platform for educational purposes in the country. The following remarks from participants underscore the integration of LMS into online learning activities:

"I distinctly recall utilizing LMS to study a specific subject. My instructor frequently assigned tasks to us through LMS. This approach significantly streamlines the grading process for assignments. Moreover, the instructor disseminated files, links, and quizzes via the LMS, including post-chapter quizzes." (WR. S10)

"...and additionally, my instructor incorporated LMS [Si-Kulon] in our course. She uploaded quizzes, learning materials, and reference materials on the LMS, rendering these resources readily accessible via our digital devices as long as an internet connection is available. I concur with the utilization of LMS for learning purposes. It boasts comprehensive features tailored for learning, as opposed to the use of social media platforms." (Int. S18)

Indonesian students' challenges on online learning

As evidenced by the outcomes of data analysis, the majority of participants cited technical issues as the primary challenges encountered during online learning activities. S21, in their written reflection, highlighted that problems with electricity and an unstable internet connection

significantly impeded the effectiveness of their online learning experiences. Conversely, S14 disclosed that difficulty in accessing essential digital equipment such as smartphones, tablets, or computers posed a challenge. This predicament might be attributed to the prevailing political and social circumstances in Indonesia, which has consequently affected the education system. Furthermore, S6 emphasized the critical role of preparation in the success of online learning activities. However, both S6 and a majority of participants admitted to not being adequately prepared for engaging in online learning. This might be attributed to their unfamiliarity with the novel and disruptive model of teaching and learning. Below are participants' statements sharing their perspectives:

"From my experience, the problems encountered during online learning activities predominantly revolve around issues like unstable internet connections and irregular electricity supply. These problems have often deterred my participation in online classes. I am optimistic that the situation will improve, enabling smoother participation in future online learning activities." (WR. S21)

"The foremost hurdles I confront during online learning pertain to the limited availability of a stable internet network. This is a pivotal component for effective online learning, particularly amidst the pandemic, when social distancing necessitates remote engagement. My residence in a remote area compounds this challenge, as I am not only grappling with internet constraints but also sporadic electricity supply." (Int. S1)

"It's important to acknowledge that not all students hail from privileged backgrounds; in fact, the majority of us contend with the specter of poverty. Personally, I encounter difficulties in accessing high-quality digital devices. I possess only a smartphone, a gift from my father years ago, and regrettably, it sometimes falls short in supporting my online learning efforts amid the ongoing pandemic." (Int. S14)

"I firmly believe that our commitment to participating in online classroom activities is lacking. Our preparation ahead of the commencement of teaching and learning is subpar. This frequently results in dull and ineffective activities. This is my perspective." (Int. S6).

The effectiveness of online learning in Indonesian university setting

Having thoroughly examined the participants' learning experiences and the challenges they faced during online learning activities, this study now delves into their perceptions regarding the efficacy of the present teaching method. The insights drawn from self-written reflections and semi-structured interviews reveal that all Indonesian college students participating in this study harbor a preference for traditional face-to-face classroom interactions over online learning activities. It is irrefutable that the difficulties they encountered while engaging in online learning constitute the primary impetus behind their inclination. While they may express a positive outlook on online learning, their inclination remains toward offline learning within the university environment. S19 articulated that studying on campus invigorates her and instills a sense of joy, as she relishes the prospect of connecting with her peers and instructors. Similarly, S17 contended that face-to-face classroom interactions surpass online learning in terms of effectiveness, attributed to its pragmatic nature and ease of access. In a broader context, participants lean towards traditional in-person classroom learning over online activities facilitated through digital technology. Here are a few excerpts from the participants' statements:

"When given the choice, I would opt for offline learning at my university. It motivates me to wake up early and head to campus. The direct face-to-face interaction on campus prepares me better, as I get the chance to interact with both friends and teachers." (WR. S19)

"Undoubtedly, I favor attending classes on campus. Participating in online learning activities presents numerous challenges. Consequently, I firmly believe that face-to-face classroom engagements remain the most suitable approach in our educational context." (Int. S14)

"I certainly prefer the classroom environment. It offers a more gratifying and effective way of comprehending study materials. This holds true, especially for me as a medical science student. Given the necessity of laboratory work, engaging in campus activities proves to be more productive." (Int. S17)

"My preference is for face-to-face learning due to its superior effectiveness." (S16)

Based on the results of data analysis, this study presents compelling conclusions. Concerning the experiences of Indonesian university students in online learning activities, the extensive utilization of social media and the web-based resource LMS is evident. These platforms have played a crucial role in facilitating online teaching and learning activities during the pandemic (Mahsusi et al., 2023). Addressing the challenges encountered by the participants, this research highlights that inadequate preparation for online learning, combined with issues of unstable internet connections, electricity supply, and limited device access, present significant obstacles for Indonesian students engaging in online education. In terms of their perceptions regarding effectiveness, Indonesian college students predominantly favor the conventional face-to-face learning approach over online methods that rely on technological tools. This section delves into the distinct characteristics, implications, and interpretation of these findings in relation to existing theories and prior research discoveries.

In connection with the first research question, the study reveals the widespread adoption of social media as a technological conduit to support online teaching and learning activities within Indonesia's higher education landscape. The substantial utilization of platforms such as Facebook, Youtube, Instagram, and Twitter for educational purposes is unsurprising, given the extensive usage of social media by the Indonesian population. This strong engagement with social media in Indonesia positions these platforms as common arenas for various daily activities, including educational online teaching and learning endeavors (Mahmud & German, 2021). Moreover, the inherent user-friendliness, practicality, and familiarity associated with social media contribute to its potential as an effective platform for fostering interaction and communication, a crucial element for successful online learning activities. These findings align with similar research conducted in contexts such as Malaysia (Mahmud & German, 2021), Thailand (Phattanawasin et al., 2021), and Vietnam (Van & Thi, 2021). In essence, the practicality of social media confirms its role as a conduit for various activities, including online teaching and learning.

Continuing the discourse on the first research question, the study underscores the prevalent adoption of LMS as a platform supporting online teaching and learning activities for the participants. Recognized as a global educational network, LMS facilitates connections between individuals striving to achieve learning objectives (Rahardja et al., 2022; Veluvali & Suriseti, 2022). The platform empowers educators to connect with students and parents, providing a space to disseminate content, texts, videos, assignments, and even automated grading of assignments. Given its versatile features, the popularity of LMS as a favored online learning platform within the Indonesian context is unsurprising. This aligns with Indonesia's trajectory in e-learning development, which has embraced digital learning through platforms like Edmodo and Massive Open Online Courses (MOOC) systems since 2016. This inclination towards LMS is not a novel trend in the realm of online learning, as evidenced by previous studies conducted in Indonesian contexts (Al Huseini & Hadiananto, 2022; Febriyanti et al., 2022; Makruf et al., 2022).

Responding to the second research question, the study unveils a range of challenges that Indonesian college students grapple with during online learning activities. The narratives of the participants predominantly emphasize the significance of unstable internet connections and electricity supply issues as primary obstacles to effective online learning during the pandemic. An analysis of these challenges suggests that Indonesia's digital transformation has progressed at a gradual pace. This observation aligns with Indonesia's late adoption of digital initiatives in education, commencing in the late 2010s. Additionally, Indonesia's ongoing efforts to establish up-to-date

information and communication technology (ICT) infrastructure, capacities, and training contribute to the persistence of digital learning difficulties, such as inadequate internet resources, limited access to digital equipment, and electricity shortages, as identified in this study. This corroborates the findings of prior research examining online and digital learning activities in Indonesia (Rizki et al., 2022; Sukardjo et al., 2020).

Shifting to the third research question, the study underscores the inclination of most Indonesian college students to view face-to-face classroom interactions as more effective compared to online learning methods. This perspective is substantiated by the challenges and issues they encounter during online learning. Their preference is grounded in considerations of achievement and satisfaction. The appeal of on-campus learning lies in the optimal utilization of learning facilities, such as laboratories and campus libraries. Additionally, the opportunity for social interaction with classmates and friends during in-person learning enhances their overall satisfaction. This alignment resonates with findings by Sukardjo et al. (2020), highlighting student satisfaction's dependence on interactions between students and teachers, as well as among students themselves.

In conclusion, this study's findings underscore the importance of online learning for Indonesian university students, particularly before the COVID-19 era. However, due to the array of challenges they face, students still lean towards traditional face-to-face learning in formal classroom settings, as opposed to remote digital learning via technological platforms. These findings hold crucial implications for higher education policies, guiding the design of teaching-learning activities, and offering direction to educational stakeholders in shaping effective policies aligned with digital learning practices.

CONCLUSION

The objective of this study is to shed light on the experiences of Indonesian college students who have engaged in online learning during the COVID-19 pandemic. The study focuses on three key themes, as delineated in the research questions: (1) the nature of online learning activities undertaken by students, (2) the challenges encountered by students in the online learning process, and (3) the students' perceptions concerning the efficacy of online learning. To achieve this objective, a qualitative approach utilizing narrative inquiry has been adopted, employing self-written reflections and semi-structured interviews as the means of data collection. The findings reveal that a substantial portion of online learning activities within the Indonesian higher education context is facilitated through the integration of social media platforms for educational purposes. Additionally, a web-based tool named LMS is utilized in some universities. The challenges faced by students include inadequate preparation, lack of motivation in participating in online classrooms, and technical issues such as unstable internet connectivity, electricity disruptions, and limited access to digital devices. In terms of student perceptions, all participants in this study express a preference for traditional face-to-face classroom interactions over online learning.

While the results of this study are intriguing, it is important to acknowledge several limitations. Firstly, the study's participant pool remains confined to a single university, which hinders the generalization of findings to the broader educational landscape in Indonesia in terms of online learning experiences. Consequently, it is recommended that future research endeavors adopt a quantitative survey approach involving a larger participant cohort to achieve greater comprehensiveness in examining students' online learning experiences. Secondly, due to constraints in time and resources, the study lacked the incorporation of multiple data collection instruments. An effective strategy to mitigate this limitation would be to complement the self-written reflections and semi-structured interviews with classroom observations to corroborate the participants' responses.

Additionally, investigating the perspectives of educators and teachers regarding online learning activities would further enrich the literature on this subject within the Indonesian educational context. Consequently, future studies are strongly encouraged to address these aspects for a more comprehensive understanding.

REFERENCES

- Adedoyin, O. B., & Soykan, E. (2023). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 31(2), 863–875.
- Adnan, M. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. *Journal of Pedagogical Research*, 1(2), 45–51. <https://doi.org/10.33902/jpsp.2020261309>
- Agustina, P. Z. R., & Cheng, T.-H. (2020). How students' perspectives about online learning amid the COVID-19 pandemic? *Studies in Learning and Teaching*, 1(3), 133–139.
- Al Husaeni, D. N., & Hadiananto, D. (2022). The influence of spada learning management system (LMS) on algorithm learning and programming of first grade students at Universitas Pendidikan Indonesia. *Indonesian Journal of Multidisciplinary Research*, 2(1), 203–212.
- Bujang, S. D. A., Selamat, A., Krejcar, O., Maresova, P., & Nguyen, N. T. (2020). Digital learning demand for future education 4.0—Case studies at Malaysia education institutions. *Informatics*, 7(2), 13.
- Castaño-Muñoz, J., Colucci, E., & Smidt, H. (2018). Free digital learning for inclusion of migrants and refugees in Europe: A qualitative analysis of three types of learning purposes. *International Review of Research in Open and Distributed Learning*, 19(2).
- Eriyaningsih, F., Hariyadi, H., & Nuryatin, A. (2022). Penggunaan Model Blended Learning dalam Mata Pelajaran Bahasa Indonesia di Era Normal Baru. *Diglosia: Jurnal Kajian Bahasa, Sastra, Dan Pengajarannya*, 5(1), 153–162.
- Febriyanti, R. H., Usman, H., Lustyantje, N., Iasha, V., & Setiawan, B. (2022). Utilizing Learning Management System in Online Writing Instruction in Higher Education: Indonesian Faculty Member Perspectives. *Journal of Higher Education Theory & Practice*, 22(10).
- Haydon, G., Browne, G., & van der Riet, P. (2018). Narrative inquiry as a research methodology exploring person centred care in nursing. *Collegian*, 25(1), 125–129.
- Kamil, M. J. M., & Sani, M. N. A. (2021). The challenges and initiatives of teaching product design's course online during the covid-19 pandemic in malaysia. *Asia Pacific Journal of Educators and Education*, 113–133.
- Kornpitack, P., & Sawmong, S. (2022). Empirical analysis of factors influencing student satisfaction with online learning systems during the COVID-19 pandemic in Thailand. *Heliyon*, 8(3).
- Lestyanawati, R. (2020). The strategies and problems faced by Indonesian teachers in conducting e-learning during COVID-19 outbreak. *CLLiENT (Culture, Literature, Linguistics, and English Teaching)*, 2(1), 71–82.
- Mahmud, Y. S., & German, E. (2021). Online self-regulated learning strategies amid a global pandemic: Insights from Indonesian university students. *Malaysian Journal of Learning and Instruction*, 18(2), 45–68.
- Mahsusi, M., Hudaa, S., Nuryani, N., Bahtiar, A., & Subuki, M. (2023). Integrated Application-Based Digital Learning Technology in Successful Learning Activities During the Pandemic. *Journal of Applied Engineering and Technological Science (JAETS)*, 4(2), 633–643.

- Mak, M. Y. C., Poon, A. Y. M., & Chiu, D. K. W. (2022). Using social media as learning aids and preservation: Chinese martial arts in Hong Kong. In *The digital folklore of cyberculture and digital humanities* (pp. 171–185). IGI Global.
- Makruf, I., Rifa'i, A. A., & Triana, Y. (2022). Moodle-Based Online Learning Management in Higher Education. *International Journal of Instruction*, 15(1), 135–152.
- Mseleku, Z. (2020). *A literature review of E-learning and E-teaching in the era of Covid-19 pandemic*. Sage Los Angeles, CA, USA:
- Muftah, M. (2022). Impact of social media on learning English language during the COVID-19 pandemic. *PSU Research Review*.
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S27.
- Nambiar, D. (2020). The impact of online learning during COVID-19: students' and teachers' perspective. *The International Journal of Indian Psychology*, 8(2), 783–793.
- Nugroho, A., Haghegh, M., & Triana, Y. (2021). Emergency Remote Teaching amidst Global Pandemic: Voices of Indonesian EFL Teachers. *VELES Voices of English Language Education Society*, 5(1), 66–80.
- Nunuk, S., Dewi, R., & Suharno, S. (2020). Digital learning, smartphone usage, and digital culture in indonesia education. *Интеграция Образования*, 24(1 (98)), 20–31.
- Phattanawasin, P., Toyama, O., Rojanarata, T., Laopoonpat, P., Pochanakom, K., Limmatvapirat, C., Sukonpan, C., Nantanakorn, P., & Niratisai, S. (2021). Students' Perspectives and Achievements toward Online Teaching of Medicinal Chemistry Courses at Pharmacy School in Thailand During the COVID-19 Pandemic. *Journal of Chemical Education*, 98(10), 3371–3378.
- Prasetyo, A., Anggadwita, G., & Pasaribu, R. D. (2021). Digital learning challenge in Indonesia. In *IT and the Development of Digital Skills and Competences in Education* (pp. 56–71). IGI Global.
- Rahardja, U., Aini, Q., Khairunisa, A., Sunarya, P. A., & Millah, S. (2022). Implementation of blockchain technology in learning management system (lms). *APTISI Transactions on Management (ATM)*, 6(2), 112–120.
- Rahmawati, A., & Sujono, F. K. (2021). Digital communication through online learning in Indonesia: Challenges and opportunities. *Jurnal ASPIKOM*, 6(1), 61–76.
- Rizki, P. N. M., Handoko, I., Purnama, P., & Rustam, D. (2022). Promoting self-regulated learning for students in underdeveloped areas: The case of Indonesia Nationwide Online-Learning Program. *Sustainability*, 14(7), 4075.
- Setiawan, A. A., Muhtadi, A., & Hukom, J. (2022). Blended Learning and Student Mathematics Ability in Indonesia: A Meta-Analysis Study. *International Journal of Instruction*, 15(2), 905–916.
- Sukardjo, M., Ibrahim, N., Ningsih, H. P., & Nugroho, A. W. (2020). Implementation-blended learning in Indonesian Open Junior High Schools. *International Journal of Innovation, Creativity and Change*, 10(12), 638–654.
- Van, D. T. H., & Thi, H. H. Q. (2021). Student Barriers to Prospects of Online Learning in Vietnam in The Context of Covid-19 Pandemic. *Turkish Online Journal of Distance Education*, 22(3), 110–123.
- Veluvali, P., & Suriseti, J. (2022). Learning management system for greater learner engagement in higher education—A review. *Higher Education for the Future*, 9(1), 107–121.



JP3T

JURNAL PENELITIAN, PENGEMBANGAN PEMBELAJARAN DAN TEKNOLOGI

<https://jurnalcendekia.id/index.php/jp3t/>

Volume: 1 No: 2 Bulan: Juni Tahun : 2023 | Hal : 87-95

