Vol. (8), No. (2); 2022 ISSN: 2355-2069 (Print) ISSN: 2656-5765 (Online)

Published by UIN Fatmawati Sukarno Bengkulu



CIPP EVALUATION ON EMERGENCY ONLINE LEARNING DURING COVID 19 IN STKIP MNC

IMAM SANTOSA

Universitas Media Nusantara Citra Imam santosa@mncu.ac.id

MUCHLAS SUSENO

Universitas Negeri Jakarta muchlas_suseno@unj.ac.id

SYAMSI SETIADI

Universitas Negeri Jakarta syamsi.setiadi@unj.ac.id

DOI: 10.29300/ling.v8i2.6400

Received: February 18th 2022 Accepted: November 25th 2022 Published: December 20th 2022

Abstract

This study aims to evaluate the application of emergency online learning during covid 19 in STKIP Media Nusantara Citra using the CIPP evaluation model. The Context, Input, Process, and Product (CIPP) evaluation model was formed to identify the evaluation result for the sake of program improvement. The descriptive qualitative study was used in this research. The subjects of this research were the Director of STKIP MNC, the head of the quality control board, the vice director of STKIP MNC, The lecturers, the academic staff, and the students of STKIP MNC. The study utilized several instruments to gather the data; document analysis, observational checklist, questionnaire, and interview. The result of the study showed that in the context phase, the program was held based on a clear base: the Minister of Education and Culture letter No. 1 of 2020. In the input process. Moodle Learning Management system was the main component of delivering online learning. In the process stage, The Obstacles were internet networks and inadequate student-owned facilities, which are significant hurdles to the program's implementation. Moreover, the last phase, product evaluation, the use of LMS in online learning, eased the measurement of student participation in the program. However, the problems that appeared in the process evaluation must be the base of analysis in the future to ensure the sustainability of the hybrid learning program.

Keywords: CIPP, Covid-19, evaluation, online learning

INTRODUCTION

Covid-19 outbreak has triggered a fast revolution in education. The quick changes can be in various form. Ilmi et al (2020) argued, in the term of education management, that the changes have created opportunities to use technology as the main tool to manage education by the institution. However, unfortunately, the rapid changes of this situation cannot be followed by the human resources of the management. Human resources tend to think traditionally to see the changes. The transformation also existed in the activity of teaching and learning. The remote teaching activity turn out growing day by day (Shahid & Mughal,

How to cite this article: Santosa, I., Setiadi, S., & Suseno, M. (2022). CIPP evaluation on emergency online learning during Covid-19 in STKIP MNC. Linguists: Journal Of Linguistics and Language Teaching, 8(2), 169-181. doi:http://dx.doi.org/10.29300/ling.v8i2.6400

169

2020; Afriani, 2021). Yet, there is a fear that the use of remote learning or the use of technology in the activity of teaching and learning cannot be maintained in the future as there is a lot of problems arise in remote teaching and learning activity (Guangul et al., 2020; Ismail et al., 2020; Rotas & Cahapay, 2020).

The education institution responded on Covid-19 Outbreak by designing the temporary remote or online learning to ensure the continuation of teaching and learning activity. WhatsApp was utilized as the media to deliver online learning (Mulyono et al., 2021). In addition, the connectivity delivered by WhatsApp brought intense communication among participant. Besides, google classroom also becoming one of the media (Okmawati, 2020; Sutrisno, 2020). In other hand, the advance system of Learning management system (LMS), correspondingly, used as a media to deliver teaching an learning activity (Alturki & Aldraiweesh, 2021).

Nevertheless, as the implementation of online learning was in the quick alteration, the problem arises on this temporary online learning. Faize & Nawaz (2020) figured out the problem on online learning. They are connectivity/ resources, shortage of interaction, scarcity of practical work, home distraction and routine. Moreover, student anxiety during online learning become one of the problem on online learning (Irawan et al., 2020; Wang et al., 2020). Besides, the teacher also did not ready to deliver online learning respectively (Agarwal & Dewan, 2020; Ali, 2020; Bhaumik & Priyadarshini, 2020).

Even though, the problem has risen on temporary online learning, there are some opportunities of online learning that can be maintained alongside traditional learning. Adedoyin & Soykan (2020) identify the advantages of online learning used during Covid-19. They are interactivity, flexibility, connectivity and self-pacing learning. furthermore, Adedoyin & Soykan believed that online learning could be the new acceptable learning form after Covid-19 over. The form could be delivered alongside traditional learning or it can be called hybrid learning. Yet, this new form of hybrid learning need to be assessed and designed to avoid the problem in temporary online learning. The progression of online learning during Covid impacted to the perception of teaching and learning activity. During Covid, the challenge was how to maintain the continuity of learning, however, today the challenge is about how to maintain eLearning alongside face-to-face meeting. Singh et al (2021) believed that hybrid learning would be useful to be implemented in the future. The study added that even though hybrid learning was practical. It needed great preparation by focusing certain aspect. the aspect of evaluation determined as the essential factor on delivering hybrid learning.

Gaining data for hybrid learning, the evaluation of online learning had been conducted. Zou et (2021) delivered an evaluation of EFL online learning in University level during pandemic in China. The method of evaluation was using questionaries and interview. The result indicated that the student was satisfied with the progression of eLearning. Moreover, Fauzi et al., (2021) evaluate the implementation of online learning in Indonesia. The method was survey and the result indicated that the teacher successfully delivered online learning and student was satisfied with the performance of the teacher. Firmansyah et al. (2021) revealed the conversion of offline learning to online learning because of Covid-19 in student perceptions. The method of evaluation was forum group discussion. Based on the previous research, the study used various method to evaluate the implementation of online learning. The instruments were questionaries, interview and forum group discussion. The result was too broad as the basis to implement the new hybrid program in the future. Hence, this study utilized Context, Input, Process and Product (CIPP) model to gather more comprehensive data as the basis of future program.

The CIPP Model (Context, Input, Process, and Product) are capable to be use as two categories of evaluation, summative and formative. The most important thing in this model is to provide a complete picture of each element by evaluating the context, inputs, process, and Product from all angles. With the help of this model, evaluations can be performed in a systematic way while meeting the general needs of evaluations. An important factor that distinguishes this model from other models is its focus on the context for assessing the teaching, learning, and development processes. (Stufflebeam & Zhang, 2017). Based on the discussion above, the aim of the study was to evaluate the temporary online learning program in STKIP Media Nusantara Citra. The evaluationcwas thee basis of development program of hybrid learning in the next following year.

The basic structure of the CIPP was an overall situation assessment to support goal development, an input assessment to help shape a proposal, a process assessment to guide implementation, and a product assessment to make development decisions. This model has a complete structure. That is, an assessment context to help formulate goals, assessment inputs to aid in program readiness, assessment process objectives to ensure program delivery, and product assessment to measure program achievement (Stufflebeam & Zhang, 2017). As one of the character of CIPP, CIPP provided the information to the development of the program and decision making (Ball, 2017). The evaluation program offered 3 concerns to sustainability of the program; whether to improve a program (needs assessment), how best to advance a program (formative evaluation), and whether to modify—or even continue—a current program (summative evaluation).

Linguists: Journal of Linguistics and Language Teaching

The primary purpose of an input evaluation is to assist in the prescription of a course of action for implementing essential changes. It does so by discovering and critically evaluating potentially applicable approaches, including those that are already in use. Input evaluation is done to find a problem-solving approach, design and develop programs. The input evaluation yielded a budget, timetable, suggestions, and methods. Input evaluation can also be used in learning activities to identify sources that can be used in the learning process, assisting in the development of effective learning strategies. Student component, infrastructure, media, instructor, and other factors may be included in the input. The goal of this investigation is to assist in the structure selection process. A process assessment is, in essence, a continuous check on a plan's implementation as well as documentation of the process. The goal of process evaluation is to provide feedback to the person who was in charge of the activities of the program or curriculum. The process review includes monitoring potential sources of failure, preparing preliminary material for making decisions, and summarizing the process that actually occurred. For process evaluation, data collection equipment are required. The last one is the product.

A product evaluation's goal is to measure, interpret, and judge an organization's accomplishments. Its primary goal is to determine how well the evaluand addressed the demands of all legitimate beneficiaries. Both throughout and after an activity cycle, feedback on accomplishments is critical. An evaluation of a product should look at both intended and unintended outcomes, as well as good and bad outcomes (Kellaghan & Stufflebeam, 2003). The purpose of product evaluation is to quantify and understand target attainment. During the product review, the impact of the expected and unexpected is also assessed. The evaluation takes place twice: once during the program and again thereafter. Based on the discussion above, this study aimes to evaluate the emergency online learning program in STKIP Media Nusantara Citra.

RESEARCH METHODOLOGY

The aim of this study was to evaluate the emergency online learning program in STKIP Media Nusantara Citra. The descriptive qualitative study was used in this research. Sugiyono (2013, p. 20) determined that qualitative study aimed to investigate the phenomena deeply and more comprehensively. The purpose of this research was to evaluate the implementation of emergency online learning by identifying data, facts, and events. The evaluation model exploited to accumulate data and information in this study was the CIPP model that pursued assessing a program through four components: context, input, process,

and product (Stufflebeam & Shinkfield, 2007). In the CIPP evaluation, Context, input, process, and product are the four components of the model that strive to carry out evaluation tasks. (Wirawan, 2012, p. 73).

The subjects of this research consisted of The Director of STKIP MNC, the head of the quality control board, the vice director of STKIP MNC, The lecturers, the academic staffs, and the students of STKIP MNC. The study used several instruments to gather the data; document analysis, observational checklist, questionnaire, and interview. The data of this study consisted on the data presented below

Table 1. Data Collected in this Study

	· · · · · · · · · · · · · · · · · · ·				
Context	Input	Process	Product		
Goals Necessity or needs	Material resources,FacilitiesHuman resourceContents	 Educational activities and service process Administration service 	 Students' satisfaction Achievement Program performance Barriers to achieve goals 		

FINDINGS AND DISCUSSION

Findings

The CIPP model evaluation concept was done through four stages: context, input, process, and product evaluation. The stages that would be outlined in the context evaluation were the things that caused the need for Emergency Online Learning. The emergency online learning was conducted based on government policies in the field of education related to the prevention and handling of the COVID-19 case. The government of the Minister of Education and Culture letter No. 1 of 2020 about the prevention measurement during COVID 19 outbreak. There were 12 points mentioned in the letter which focused into the implementation of social distancing, the postponement of academic activities of lecturer and students, and the implementation of remote or online learning. The letter became the main basis for the implementation of emergency online learning in STKIP Media Nusantara Citra (MNC). Based on this, whole face to face teaching and learning activities shifted into online learning. This emergency online learning started in march 2020 until now. Hence, this policy modified the mechanism of teaching and learning activity. The table below was the description of classes in 2020/2021 academic year.

Table 2. Class of 2020/2021

Major	2 Major (Mathematics program – English Program)	
Classes	9 Classes	
Courses	53 courses	

Linguists: Journal of Linguistics and Language Teaching

Vol. 8, No. 2, December 2022

Next, the input evaluation of emergency online learning activities encompassed planning concepts and facilities. The policy of the implementation online learning was the main activities to fulfil the necessity of remote learning. The planning concept in delivering online learning start with the preparation of standard operating procedures (SOP). The SOP was made to establish the technical and clear flow in conducting online learning activities. At STKIP MNC, the online learning activities utilized Learning management System, Moodle 3.10.The domain of LMS was elearning.mnccollege.id. The structure of LMS was similar with the conventional activities.



Figure 1. Welcome Page Elearning

First, the category of courses divided into 2 categories based on the major, English language education program and mathematics education program. Furthermore, inside the category, there were active courses which held in the semester. Inside the course, there are activities that must be delivered by the lecturer and must be done by the students. They were discussion, teaching material and assignment. Besides, that the LMS also accompanied with video conference application. The choice was based on lecturer preference but STKIP MNC had provided premium features of video conference by using Microsoft teams. The systematic flow of online learning was described in the table below.

Table 3. The systematic flow	of online learning
Time	Particir

Scheme	Time	Participant activities
Teacher Upload	2 days before time	The teacher upload activities, discussion,
activities	scheduled	assignment and material in LMS.
Video conference	In the scheduled time 50 minutes for 2 credits 75 minutes for 3 credits 100 minutes for 4 credits	The teacher held video conference The student joined video conference
Attendance list	After the class over	The teacher noted student attendance list

The support of facilities and infrastructure was the main structure of the implementation of elearning. To support the elearning process, STKIP MNC used server that supported by MNC Information Technology Holding.

Furthermore, process evaluation tracked to evaluate the implementation of plans in organizing online learnings. The process evaluation's focuses were the schemes and work plans' effectiveness, facilities and infrastructure, and obstacles in the implementation of online learning. Implementation in the process of conducting online learning implied into the scheme, work plan, and standard operating procedures that have been made by the committee and with the approval of the relevant officials. The implementation phase was executed well; however, there were technical obstacles and problems experienced by students. These problems included the problem of access to online exams and technical problems of geographical location, which caused the internet network to be substandard, and the lack of supporting facilities. An overview of the implementation of the online learning work plan and scheme was presented in figure 2.

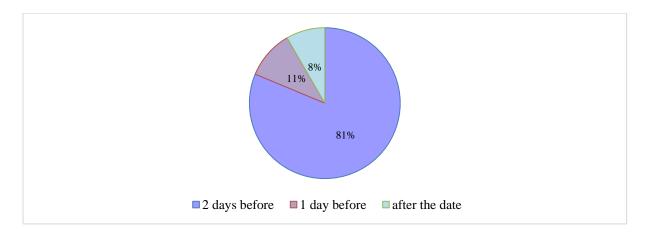


Figure 2. Upload Date Of Teacher

In figure two, the data showed that 81% meeting fulfilled the requirement of online learning to upload 2 days before or about 517 meetings, and 66 meetings were uploaded 1 day before the class began and 53 classes were uploaded after the class began.

Through these data presentations, it can also be elucidated that the implementation of schemes and work plans has been going well, although there were still obstacles for students, especially from the first week. The obstacles experienced by participants in the implementation of online learning were inseparable from students' technical factors. Based on the interviews of several students, one factor that was an obstacle for students in taking online learning was the weakness of the internet network, which was influenced by the geographical location of the student's residence. These findings were also strengthened through the results of interviews, that most of the obstacles experienced by test participants

were problems with the internet network where each student lived. The results of these findings prove that in process evaluation, problems in implementing online learning were more experienced by students.

At last, product evaluation sought to gather information about the results or products in conducting online learning. The products produced in the implementation of online school exams were in the form of student participation in the online learning. The result of student participation portrayed in the student log in LMS and also the attendance of student in video conference. The figure 3 showed the student participation in the activity. This study presented the limited data from the universities. To maximise the result, the enrichment data will make the evaluation better.

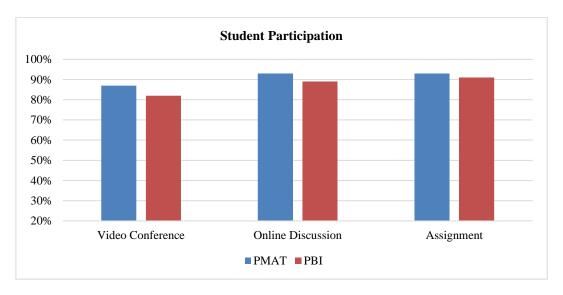


Figure 3. Student Participation

Based on the figure 3, it can be elucidated that the student participation of online learning activity quite diverse. The data showed the comparison between 2 majors in STKIP MNC, English language education program (PBI) and Mathematics Education Program (PMAT). There were three activities that student must participate; video conference, online discussion and assignment. In video conference, the participation of students was the lowest one compared to other activities. PMAT participation number was 84%, it was higher than PBI with 81%. Next was Online discussion. This activity was higher than all, the participation of PMAT was 92% and PBI was 89%. And the last activity was assignment, the assignment participation was 92%, meanwhile PBI was 90%. In overall, PBI participation was lower than PMAT in all aspects. Referring to the results of data collection obtained, the product evaluation showed that the implementation of online learning product evaluations had been conducted properly, but there were still obstacles experienced by students.

Discussion

Online learning implementation of STKIP MNC had been evaluated by using CIPP model to deliver an overview of the aspect of Context, Input, Product, and Process. The result of the study was expected to be a comprehensive recommendation to designing hybrid learning in the future. In the context evaluations findings, the plan or the need to implement online learning was the main focus of the analysis of this phase. The background of the need in implementing online learning because of the condition of COVID-19 Outbreak. The response was based on the letter of the government of the Minister of Education and Culture No. 1 of 2020 about the prevention measurement during COVID 19 outbreak. This letter forced the postponement of face-to-face academic activities and converted it to online activities. As Yunus & Rezki (2020) mentioned that the policy to prevent the spread of COVID-19 instructed every level of education institution to follow the guideline on conducting teaching and learning activities. This was in line with Wirawan (2021) who argued that the primary basis of context evaluation was identifications, needs, and policies. This can be concluded that the implementation of online learning in STKIP MNC was good because it followed clear needs and policies.

Moreover, the evaluation of the input aspect was a form of follow-up in conducting emergency online learning. At this phase, the STKIP MNC has formed a policy on alternative steps needed to conduct teaching and learning activities during the pandemic of COVID-19. The input component in organizing online learning included planning and facilities used as support in the activities. In the input evaluation, there have been supporting components in managing the program. Moodle Learning Management system was utilized as the main component of delivering online learning. This application clearly supported the implementation of online learning. This in line with Jati (2013) which believed the existence of LMS would bring benefits of online learning systems. It was also encouraged by the research results (Liu & Yu, 2018, p. 841) which suggested that the feasible and well-maintained system delivered great support of the program. Besides, Hémard and Cushion (2010, p. 119) believed that online learning needs the great system to deliver learning activities. The previous research drew that the implementation of online learning in STKIP MNC was good.

In addition, the process evaluation phase was an evaluation of the implementation of the plans made in the emergency online learning. The results of the process evaluation indicated that some of the problems existed in conducting online learning activity in STKIP MNC. The Obstacles were internet networks and inadequate student-owned facilities, which appear to be major hurdles to the implementation of the program. The geographical location of the student's domicile was also one of the factors that hindered students' participation in online learning. As a result, conducting online school exams did not always work. Besides, the uploaded material was one of the problems in process evaluation. The teacher seldomly was late in uploading material in elearning. This was aligned with (Altakhaineh & Rahrouh, 2015; Asha, 2021; Brueck & Lenhart, 2015; Ismail et al., 2020). Even though, the problems and challenge existed, the deliverance of online learning in STKIP MNC was going smoothly.

The last one was product evaluation. This stage assessed the extend of the product on emergency online learning in STKIP MNC. This program ensured the continuity of teaching and learning activity. The use of LMS in online learning eased the measurement of student participation in the program. Research findings indicated that the student participation level of emergency online learning was quite high. It portrayed in average of student participation in three activities in 87%. Yet, the number needed to increase by solving obstacles or figure out the solution to gain more participation of the students. The result on how the use of LMS of Moodle in maintaining student participation was in line with Acar & Kayaoglu (2020). According to Acar & Kayaoglu, Moodle contributed on the feasible tools to sustain the teaching and learning activity during covid 19. Besides, the choice of LMS Moodle was a good choice as mention by Mursyidah et al. (2021). Mursyidah et al. Argued that Moodle could escalate student motivatio and learning outcome during COVID-19 pandemic.

CONCLUSION

Online learning implementation of STKIP MNC had been evaluated by using CIPP model to deliver an overview of the aspect of Context, Input, Product, and Process. The result of the study was expected to be comprehensive recommendation to designing hybrid learning in the future. In the context evaluation, the base of the emergency was the letter of the government of the Minister of Education and Culture No. 1 of 2020 about the prevention measurement during COVID 19 outbreak. In the input evaluation, there have been supporting components in managing the program. Moodle Learning Management system was utilized as the main component of delivering online learning. This application supported the implementation of online learning activity in STKIP MNC. The Obstacles were internet networks and inadequate student-owned facilities, which appear to be major hurdles to the implementation of the program. And the last phase, product evaluation, the use of LMS in

online learning eased the measurement of student participation in the program. Research findings indicated that the student participation level of emergency online learning was quite high. It portrayed in the average of student participation in three activities in 87%. Yet, the number needed to increase by solving obstacles or figure out the solution to gain more participation of the students. In summary, the implementation of online learning during pandemic covid-19 was successful. However, the problems that appeared in the process evaluation must be the base of analysis in the future to ensure the sustainability of hybrid learning program. This study focused on one particular universities, to give more comprehensive model and pattern on how o deliver online learning, further research need to be conducted in not only one university but more.

REFERENCES

- Acar, A., & Kayaoglu, M. N. (2020). Moodle as a potential tool for language education under the shadow of covid-19 [Covid-19'un gölgesinde dil eğitimi için potansiyel bir araç olarak moodle]. *Eurasian Journal of Educational Research*.
- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. In *Interactive Learning Environments*. https://doi.org/10.1080/10494820.2020.1813180
- Afriani, Z.L. (2021). Potret Pembelajaran Daring di Indonesia di awal Pandemi hingga Era Kenormalan Baru. In Wijayanto, Kurniawan, Muhajir., & Yulianti (Eds), *Waktunya Merdeka Belajar* (pp. 157-163). Tulungagung: Akademia Pustaka.
- Agarwal, M. S., & Dewan, D. J. (2020). An analysis of the effectiveness of online learning in colleges of Uttar Pradesh during the COVID 19 lockdown. *Journal of Xi'an University of Architecture & Technology*, 12(5), 2957–2963.
- Ali, W. (2020). Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 Pandemic. *Higher Education Studies*. https://doi.org/10.5539/hes.v10n3p16
- Altakhaineh, A. R. M., & Rahrouh, H. (2015). The use of euphemistic expressions by Arab EFL learners: Evidence from Al Ain University of Science and Technology. In *International Journal of English* researchgate.net. https://www.researchgate.net/profile/Abdel-Rahman-Altakhaineh/publication/276314970_The_Use_of_Euphemistic_Expressions_by_Arab_EFL_Learners_Evidence_from_Al_Ain_University_of_Science_and_Technology/links/55c8d13608aeb97567476e08/The-Use-of-Euphemistic-Exp
- Alturki, U., & Aldraiweesh, A. (2021). Application of learning management system (Lms) during the covid-19 pandemic: A sustainable acceptance model of the expansion technology approach. Sustainability (Switzerland). https://doi.org/10.3390/su131910991
- Asha, L. (2021). Online learning problems and the principal's efforts to overcome the problems. *Al-ishlah: Jurnal Pendidikan*. https://doi.org/10.35445/alishlah.v13i2.932

- Ball, S. (2017). *Evaluating Educational Programs*. https://doi.org/10.1007/978-3-319-58689-2 11
- Bhaumik, R., & Priyadarshini, A. (2020). E-readiness of senior secondary school learners to online learning transition amid COVID-19 lockdown. *Asian Journal of Distance Education*. https://doi.org/10.5281/ZENODO.3891822
- Brueck, J. S., & Lenhart, L. A. (2015). E-books and TPACK: What teachers need to know. *The Reading Teacher*. https://doi.org/10.1002/trtr.1323
- Faize, F. A., & Nawaz, M. (2020). Evaluation and Improvement of students' satisfaction in Online learning during Covid-19. *Open Praxis*. https://doi.org/10.5944/openpraxis.12.4.1153
- Fauzi, I., Salim, H., & Syafrudin, U. (2021). Online learning paradigm in elementary schools: an evaluation by teachers in Indonesia during the covid-19 pandemic. *Jurnal Iqra'*: *Kajian Ilmu Pendidikan*, 6(2), 166–183.
- Firmansyah, R., Putri, D. M., Wicaksono, M. G. S., Putri, S. F., Widianto, A. A., & Palil, M. R. (2021). Educational Transformation: An Evaluation of Online Learning Due to COVID-19. *International Journal of Emerging Technologies in Learning*. https://doi.org/10.3991/ijet.v16i07.21201
- Guangul, F. M., Suhail, A. H., Khalit, M. I., & Khidhir, B. A. (2020). Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College. *Educational Assessment, Evaluation and Accountability*. https://doi.org/10.1007/s11092-020-09340-w
- Ilmi, Z., Darma, D. C., & Azis, M. (2020). Independence in Learning, Education Management, and Industry 4.0: Habitat Indonesia during COVID-19. *Journal of Anthropology of Sport and Physical Education*.
- Irawan, A. W., Dwisona, D., & Lestari, M. (2020). Psychological Impacts of Students on Online Learning During the Pandemic COVID-19. *KONSELI: Jurnal Bimbingan Dan Konseling (E-Journal)*. https://doi.org/10.24042/kons.v7i1.6389
- Ismail, N. S., Bakar, N. M. A., & Wafa, S. W. W. S. S. T. (2020). Online Learning Challenges during Pandemic COVID-19 in Malaysian Higher Learning Institution. *Universal Journal of Educational Research*. https://doi.org/10.13189/ujer.2020.081282
- Jati, G. (2013). Learning management system (Moodle) and e-learning content development. *Jurnal Sosioteknologi*. https://doi.org/10.5614/sostek.itbj.2013.12.28.3
- Kellaghan, T., & Stufflebeam, D. L. (2003). International handbook of education evaluation. Part 2: Practice. In *Kluwer International Handbooks of Education*.
- Mulyono, H., Suryoputro, G., & Jamil, S. R. (2021). The application of WhatsApp to support online learning during the COVID-19 pandemic in Indonesia. *Heliyon*. https://doi.org/10.1016/j.heliyon.2021.e07853
- Mursyidah, H., Hermoyo, R. P., & Suwaibah, D. (2021). Does flipped learning method via MOODLE can improve outcomes and motivation of discrete mathematics learning during COVID-19 pandemic? *Journal of Physics: Conference Series*.

- https://doi.org/10.1088/1742-6596/1720/1/012007
- Okmawati, M. (2020). The Use of Google Classroom during Pandemic. *Journal of English Language Teaching*. https://doi.org/10.24036/jelt.v9i2.109293
- Rotas, E. E., & Cahapay, M. B. (2020). Difficulties in Remote Learning: Voices of Philippine University Students in the Wake of Covid-19 Crisis. *Asian Journal of Distance Education*.
- Shahid, R., & Mughal, A. M. (2020). E-learning: A way out in COVID-19 Crisis. *Journal of Rawalpindi Medical College*. https://doi.org/10.37939/jrmc.v24i3.1486
- Singh, J., Steele, K., & Singh, L. (2021). Combining the best of online and face-to-face learning: Hybrid and blended learning approach for Covid-19, post vaccine, & post-pandemic world. *Journal of Educational Technology Systems*. https://doi.org/10.1177/00472395211047865
- Stufflebeam, D. L., & Zhang, G. (2017). The CIPP Evaluation Model: How to Evaluate for Improvement and Accountability. In *The CIPP Evaluation Model: How to Evaluate for Improvement and Accountability*.
- Sutrisno, S. (2020). Increased learning activities and outcomes through online learning with google classroom in the covid-19 pandemic period. *Ideguru: Jurnal Karya Ilmiah Guru*. https://doi.org/10.51169/ideguru.v5i1.151
- Wang, C., Zhao, H., & Zhang, H. (2020). Chinese college students have higher anxiety in new semester of online learning during Covid-19: A Machine Learning Approach. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2020.587413
- Warju, W. (2016). Educational Program Evaluation using CIPP Model. *Innovation of Vocational Technology Education*. https://doi.org/10.17509/invotec.v12i1.4502
- Zou, B., Huang, L., Ma, W., & Qiu, Y. (2021). Evaluation of the effectiveness of EFL online teaching during the COVID-19 pandemic. *SAGE Open*, *11*(4), 21582440211054492. https://doi.org/10.1177/21582440211054491