

Online learning from the higher education students' point of view (Study at a Private University in Central Java Indonesia)

Hanita Yulia ^a, Mila Chrismawati Paseleng ^b*

Universitas Kristen Satya Wacana. Jl. Diponegoro 52-60, Salatiga 50711, Indonesia

^a hanita.yulia@uksw.edu; ^b mila.paseleng@uksw.edu

* Corresponding Author.

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Abstract: Online learning conducted in some university as a result of the COVID 19 pandemic can be said to be a fairly new learning model. It is necessary to know the students' perception toward the online learning. Therefore, this quantitative and qualitative descriptive study aimed at describing students' perceptions of online learning based on their experiences in participating in the online model learning and how the online learning meet their learning needs and expectations. Questionnaires given to 142 students at the Faculty of Information Technology in a private university in Central Java were used to collect data, besides interviews and focus group discussion also employed for deeper understanding of student experiences in online learning. The results showed that there was a positive response from students towards online learning. The online learning that had been implemented could accommodate most of students' learning needs and expectations. However, this was strongly influenced by the role of the lecturer in organizing and packaging the online learning. In addition, it required habituation and the ability of students to study independently. The existence of a learning community in online learning was also a factor that can support students' success in participating at the online learning. Technical problems in form of equipment availability and inadequate internet access were the main obstacles in the implementation of online learning. Hopefully, the research results can be used to improve and develop an effective online learning in higher education in the future.

Keywords: online learning; student perception; learning community; student participation

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INTRODUCTION

Online learning is not a new learning model. The flexibility that online learning offers provides easier access to the resources and tools that learners need in order to achieve success. Some previous studies have also proven the benefits of online learning, particularly for learners. Online learning opens wider access to education where through online devices or internet networks, space and time constraints that are obstacles in the learning process can be eliminated, make learning more flexible. Online learning also provides opportunities to get to know new technologies and develop independence and self-regulated learning for students (Roddy et al., 2017, p. 8). Saleh et al. (2021, p. 6) added the advantages of online learning are experiencing various learning media and improving self-ability like activeness, independency, creativity, and digital literacy. Referring to the existing benefits, it is no wonder that the government and higher education institutions had encouraged teachers to implement online learning. In fact, many higher education institutions have prepared system for online learning. Allen and Seaman (2011) stated that online learning has become a significant part of educational strategy in higher educational institutions (Asiry, 2017, p. 167). However, currently it has often been heard that this technology-based learning has not been fully implemented in Indonesia, including in the university scope (Wairisal & Khusniyah, 2012). In addition, it was also found that not all teachers in Indonesia have the same level of ICT competence (Koh et al., 2018).

One of the reasons why online learning hasn't been maximally implemented is that there is a perception that views online learning to have less educational values. Some also stated that there is a

fear in trying new things that have not been known before, as well as the assumption that a face-to-face approach is the only option that can really accommodate the needs of learners (Hoppe, 2015, p. 3). However, right now conditions require teachers to inevitably adopt online learning. The existence of the COVID-19 pandemic doesn't make it possible to have face-to-face learning. The government calls on learning from home in order to break the chain of COVID-19 transmission. Finally, online learning is the only solution to continue the learning process. In this condition, all teaching and learning must be done online so that every student has an online learning experience in each of the courses presented. Online learning is something new for both teachers and learners, therefore, more research is needed to understand and find the key success for online learning implementation (Fitzpatrick, 2012, p. 789). It takes the active participation of learners for the success of online learning. An online learning environment that is very student-based, of course, really requires an active role of learners (Hung et al., 2010, p. 1088).

Information about the students' experience in taking online learning is very useful to increase their participation in the online learning presented, where positive experiences will encourage students to be more involved in online learning in the future (Blackmon & Major, 2012, p. 83). An overview of students' experiences can be obtained from their perception of the online learning that they have experienced. How students assess or view the value of online learning and their attitudes towards online learning can be used to judge the success and effectiveness of online learning implementation (Pahinis et al., 2007, p.270). Based on student perceptions about online learning, the need for improvement and development of online learning in the future can be identified. There have some previous research been done about students' perception on online learning. Students think that it is important to have good computer skills in online learning (Asiry, 2017, p.167). Students' interests in online learning appeared to be low because they think that online learning is boring and not effective. The perspectives of the students are not very good because of the limitation of internet access, difficulty in communicating with the lecturers and they were not ready for the online activities like assignment completion (Nasution & Ahmad, 2020; Wijaya et al., 2020). Students' perspectives on online learning is positive because of its flexibility and self-regulated learning skill enhancement. They were satisfied with the online learning implemented in their institutions (Bagata et al., 2020; Shawaqfeh et al., 2020; Sulaiman, 2014). However, Sujarwo in his research found that although the students faced some barriers like the lack of internet access and incompatible tools that led to difficulty to interact and boredom (Huang, 2020, p. 125), they still thought that online learning can be a solution in pandemic condition. Agung and Surtikanti (2020, p. 234) also agreed that the students' perspective is both positive and negative. They thought that they were overwhelmed and stressful because of too many tasks and assignments to do. Internet access and incompatible tool also became the barriers in doing online learning. However, the students also realized that their IT literacy has improved significantly.

Those previous research viewed on how students appraise online learning, whether it is positive or negative. Meanwhile, there has not yet research been done that explore how online learning can meet and accommodate the students' learning needs. Isaac et al. (2019) stated that the students' satisfaction toward online learning can be viewed from how that online learning meet and accommodate their learning needs and expectation. Therefore, this study aims to describe students' perceptions of online learning based on their experiences in participating in the online model learning and how the online learning meet their learning needs and expectations. This perception is also what will regulate and manage itself in online learning. Based on student perceptions about online learning, the need for improvement and development of online learning in the future can be identified.

Online learning is the newest and popular form of learning today. Online learning refers to a learning environment that is supported by the use of the internet, where this learning includes various programs that use the internet both inside and outside the school building in order to provide access to learning materials and facilitate interaction between learners and teachers (Bakia et al., 2012, p.21). Furthermore, Sun and Chen (2016, p. 166) stated that what adult learners enjoy most from online learning is its flexibility. Meanwhile, when it comes to benefits, online learning is proven to have several benefits. Online learning can increase the interaction between teachers and learners and interaction between learners and increase students' participation related to the characteristics of those who tend to be shy because they do not need to have face to face interaction. Further, with advanced technology, online learning enables teachers, students and also university administrators to obtain data,

feedback and evaluation of their online experiences (Bell & Federman, 2013, p.172). Although it has proven to have benefits, online learning also has its challenges.

Online learning is not without problems. On the other hand, there are some challenges in implementing the online learning. Some of the obstacles are related to networking, lack of training, lack of awareness from both teachers and learners, lack of attendance/participation, and lack of interaction (Adnan & Anwar, 2020; Muthuprasad et al., 2021). Roddy et al. (2017) also added that the challenges of implementing online learning are related to factors such as technical constraints, perceived isolation, challenges related to learning balance, commitment, confusion with online content, low academic performance, and low motivation. Online learning also adds to the workload of teachers, they have to make lot of preparation such as provide media and learning resources according to the students needs in online learning (Wijaya et al., 2020, p. 5). How to develop a sense of community in online learning is also a major challenge (Sun & Chen, 2016, p. 170). These existing constraints and challenges do not necessarily derail the implementation of online learning.

The application of online learning needs to be implemented by considering several factors. There are several factors that can support the success of online learning. From the learner's side, Roddy et al. (2017) stated that there are four pillars that support students' success in online learning, such as academic support, technology support, health and well-being, and a sense of community (a feeling of having a common goal, mutual respect, supporting efforts each other, and believe that everyone makes an important contribution for learning between students, lecturers, and education staff). On the other hand, Sun and Chen (2016) stated several factors that make online learning run more effectively. These factors are related to the presence of cognitive, social, and teaching, pedagogical practices (fostering relationships; bonding; time-lines/activity schedule; communication; organization; technology; flexibility; and high expectations), design, teaching, and online learning support. The last is interaction, collaboration and community in online learning.

Regarding the sense of community or community in online learning, Yuan and Kim (2014) stated that learning community is the creation of a sense of belonging by a group of learners, where there is mutual trust, jointly building knowledge, sharing useful information, building relationships by knowing one each other, set common goals for learning, and believe that their needs will be met. There are several things that need to be considered in order to build a learning community. First, efforts to build a learning community must be started from the beginning and throughout the learning process. Second, it requires the involvement of both learners and teachers. Third, both synchronous and asynchronous technology must be utilized at creating shared spaces to interact each other. Fourth, in order to stimulate discussion, various strategies must be used. Fifth, teachers must always encourage interaction, both social and task-oriented (Wallace, 2003).

Finally, learners must be given tasks that require collaboration. To achieve success in online learning through the optimization of the learning community, of course, the active participation of learners is required. The participation of learners is strongly influenced by their perceptions of online learning. Perception can be called as the process of interpreting the stimulus received by the five senses into an understanding. It takes an experience to shape one's perception. Therefore, in this study, students' perceptions could be seen from their experiences in participating in online learning. The perception will influence the students role at using various media and technologies for the success of online learning. This perception is also what will regulate and manage itself in online learning (Zimmerman & Martinez-Pons, 1988). The more positive students' perceptions of online learning, the greater their participation in online learning which will then lead them to the success of online learning. Therefore, this study aims to describe students' perceptions of online learning based on their experiences in participating in the online model learning and how the online learning meet their learning needs and expectations.

METHOD

The research aimed at describing students' perceptions of online learning based on their experiences in participating in the online model learning and how the online learning meet their learning needs and expectations. It is a descriptive analysis using a combination of quantitative and qualitative approaches. Survey using questionnaires, interviews, and Focus Group Discussion were employed to retrieve data. The subjects of this study are 142 students of Information Technology Faculty of the

Satya Wacana Christian University who have been taking online learning as a result of the COVID 19 pandemic for approximately four months. These students are from six different study programs at the Information Technology Faculty of the Satya Wacana Christian University, such as S1 Informatics and Computer Engineering Education, S1 Visual Communication Design, S1 Public Relations, S1 Library and Information Science, S1 Informatics Engineering and D3 Information Engineering. The sampling technique used was purposive sampling, namely selecting students who took part in online learning using a system owned by the college (Flexible Learning).

The object of this research is the students' perceptions of online learning that they have participated in. The survey was conducted to see the quality of online learning that has been done at Information Technology Faculty of the Universitas Kristen Satya Wacana. The questions were about students' participation in online classes, online course organization, content delivery, barriers and key factors for online learning success, and students' expectation for online learning. In addition, structured interviews and Focus Group Discussion were also conducted to dig deeper into the students' experiences and opinions regarding online learning that has been undertaken. Students' perceptions in this study were obtained from their experiences in participating in online learning which was seen from the benefits of online learning for them, the performance of online learning, their expectations for online learning and things they are supposed to do in online learning. Data collecting were conducted after the semester ended. Furthermore, descriptive data analysis techniques both quantitative and qualitative were used in this study. Quantitative data analysis was done by calculating proportion of participants in each response in the form of percentage. On the other hand, the qualitative data was classified and sorted according to keywords (benefits, barriers, expectations, and key success). In presenting data, data tabulation and elaboration in form of description were done to make it easier to understand.

RESULTS AND DISCUSSION

In accordance with the government's recommendation regarding the implementation of online learning in order to break the chain of COVID 19 transmission, Satya Wacana Christian University began implementing online learning using the Moodle-based Learning Management System which had been in place since 2006. The system is known as FLearn (Flexible Learning). It is expected that all existing courses are implemented using this system. Likewise, the Information Technology Faculty has begun implementing online learning for all courses presented since March 2020. Because the online learning model is a new learning model for students, it is necessary to know about the students' perception toward the online learning that they have participated in, for the improvement and development of the next online learning. The results of the survey that were distributed to 142 students of Information Technology Faculty (FTI) of Satya Wacana Christian University regarding the content forms in online learning that have been conducted are presented in [Table 1](#).

Table 1. Perceptions of Content Forms in Online Learning at FTI

Content form	Proportion of online content form (%)	Content that help most in learning process (%)
image	2.11	4.23
video	18.31	58.45
Reading text	28.87	9.86
slide	46.48	21.13
Audio	0.70	3.52
other	5.63	5.63

From [Table 1](#), it is found that the most widely used forms of online content in online learning that students have participated in are such as presentation slides (46.48%), reading text (28.87%), video (18.31%), and the lowest one is audio (0.7%). From all the forms of the existing online content, according to them, video content is what helps them most in the learning process. There are 58.45% of the respondents who answered that the content that helps them most in their learning process is in the form of videos. However, if you look at the existing data, even though students think the form of content that helps them most in their learning process is video content, it turns out that not many lecturers have used this form of content.

On the other hand, data in [Figure 1](#) shows that 83.80% of students thought that the presentation of various forms of online content in the online learning that they participated in could help them understand the material. Regarding activities carried out online through the existing Learning Manage-

ment System had been varied. Furthermore, data in Figure 2 shows that 79.58% of student argued that the variety of the existing activities can facilitate them to achieve the learning goals. This data imply that the online learning organization include the form of learning materials presentation and learning activities have significant contribution in students knowledge constructions towards learning goal achievement.

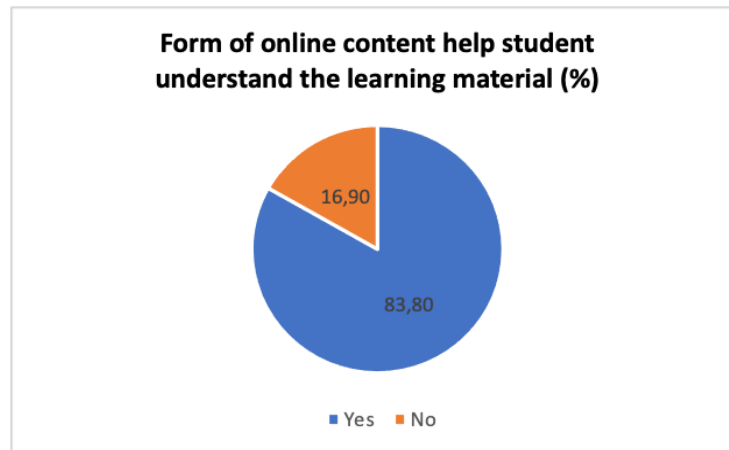


Figure 1. Perception on the benefit of learning material various presentation

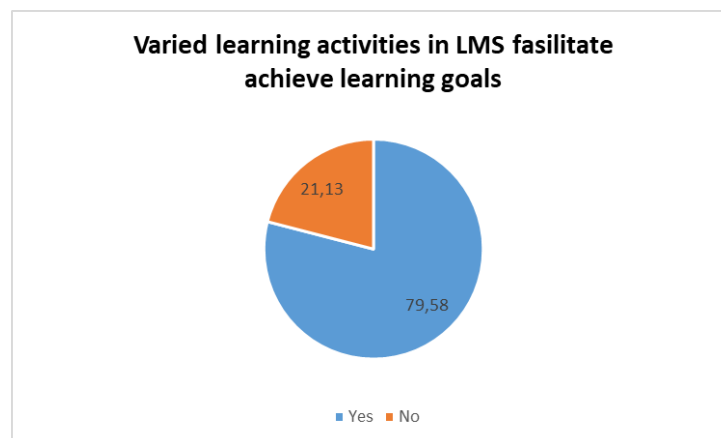


Figure 2. Perception on the benefit of varied activities in LMS

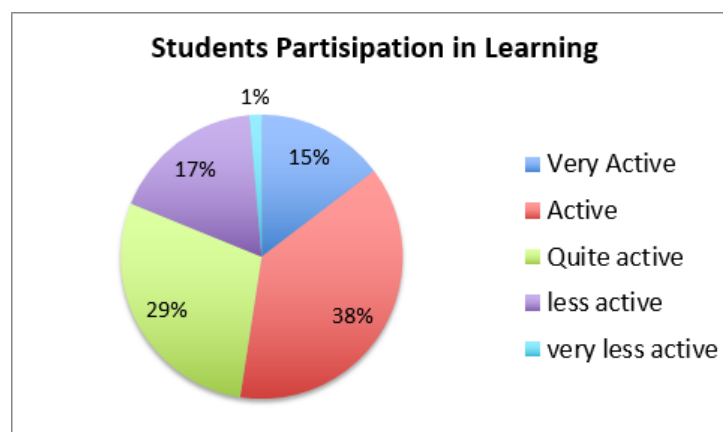


Figure 3. Perceptions on Activities and Participation in Online Learning

Based on the survey results, it was also found that students' perceptions of their activities and participation in online learning that they had participated in were presented in Figure 3. During the online learning process, 14.79% of the students identified themselves as very active at participating in the online learning, 38.03% were active, while 28.87% were quite active. While others, 17.61% stated that they were less active and 1.41% identified themselves as very less active. From the data obtained,

it can be seen that the FTI students were active in participating in online learning, where as many as 81.69% of the 142 students were in the quite active to very active category. This is a factor for the success of online learning as stated by [Hung et al \(2010\)](#) that it requires active participation of learners for the success of online learning.

A structured interview was conducted and open questions in the questionnaire were distributed to dig deeper into the student experiences in taking online learning. It was found that online learning was beneficial for most students for several reasons. First, the variety of content can be complementary, and it can facilitate their learning styles. Second, the organization of complete, detailed and systematic content of the material makes it easier for them to study it and acquire complete knowledge. Third, the form of digitally packaged material allows students to learn according to their speed and ability. Students can repeat parts that are difficult to understand. Fourth, various activities facilitate them to master the material and make learning more enjoyable. Fifth, the combination of synchronous and asynchronous activities allows for more flexible interactions and supports independent learning. For example, the use of discussion forums and video conference.

This is in line with what [Yuan and Kim \(2014\)](#) stated that both synchronous and asynchronous technology must be utilized because it allows the creation of spaces to share information and to have interaction in order to achieve learning goals. Sixth, online learning systems that can be accessed using mobile devices make learning more flexible. Seventh, activities that require collaboration with online application support will enable students to collaborate even in physical distancing conditions. Eighth, challenging assignments can sharpen the students' knowledge and skills as well as increase the students' creativity.

Apart from the benefits, students also experienced several obstacles or challenges in implementing online learning. First, unsupported internet devices and networks and technical problems in the system (the LMS used) are the main obstacles in online learning. Second, poor online learning organization and packaging, for example lecturers only provide material without supporting activities (discussions, assignments, tests, etc.) and the absence of a clear timeline will cause confusion for students. Third, lack of support from lecturers and the lack of activities that require interaction and collaboration make students unmotivated and feel alone. In this case, the learning community is not formed. Indeed, the development of a learning community in online learning is a supporting factor for online success ([Yuan & Kim, 2014](#)). Fourth, the slow response from the lecturer and the lack of information provided makes it difficult for students to carry out activities and complete the assignments given. Fifth, the lack of ability in managing time and self-discipline makes students left behind and even can't complete the online learning. Sixth, the use of new online tools without clear usage guidelines creates technical problems and distracts students' focus. Seventh, even though the learning is done online, the paradigm that is owned is still like face-to-face learning. This can be seen from the attitude of the students when they are given learning that demands independence and activeness (reading and studying the materials, doing assignments, and have tests on each material), they feel burdened and are reluctant to do it. As a result, they prefer face-to-face learning to online learning. This condition shows that students were not accustomed to online learning. This contradicts the research results of [Roddy et al. \(2017\)](#), where online learning is supposed to develop independence and self-regulated learning for students.

However, talking about habituation, this condition is in line with the opinion of [Hoppe \(2015\)](#) that there is often a fear of trying new things (online learning) and the assumption that a face-to-face approach is the only option that can accommodate the needs of learners. When the students were asked about the factors that they think can support success in online learning, several students stated that self-discipline and time management are the keys to successful online learning. This is an internal factor that comes from the students themselves. In addition, they admitted that there is motivation to continue to be actively involved in learning when they successfully complete the given activity or task. They also added that their curiosity about the use of new technology made them actively participate in the learning process because the presentation of various materials and activities carried out by lecturers involved various types of online applications. On the other hand, there were external factors that also support the success of online learning for students. First, support from lecturers and classmates can motivate students to overcome the obstacles they encounter. Second, the availability of technological devices and adequate internet connection is also a supporting factor for the success of online learning. Third, the systematic, directed, interesting organization of online learning and accompanied

by a clear timeline, making it easier for students to take part in online learning. Fourth, a conducive environment also greatly affects students in participating in online learning. A good living environment with support from people around them helps them to be able to follow online learning well.

Finally, students also had expectations for better implementation of online learning based on their perceptions. First, students hope that lecturers can better identify and understand the obstacles faced by students related to the implementation of online learning, especially technical problems. Second, it is hoped that lecturers can use tools that are familiar and easy to use in online learning. Third, students hope that lecturers can maximize the use of learning content in form of video because they feel that this form of content can best help their understanding, especially in practical courses. Fourth, students hope that lecturers can use video conference applications effectively and maximize asynchronous technology so it wouldn't overload students' internet quota. Fifth, it is necessary to improve the organization and packaging of the online learning by considering students' learning loads. It will help students to take part in online learning. Sixth, students need to be equipped with provision about online learning and the technologies used in online learning. Finally, students expect the lecturers to be role models in terms of discipline and skills in exploring new technologies related to online learning.

CONCLUSION

Based on this research results and discussion, it can be concluded that there was a positive response from the students to the implemented online learning. This was shown by good students' participation. This was because students feel the benefits of online learning. The online learning that had been implemented could meet most of students' learning needs and expectations. However, this was strongly influenced by the role of the lecturer at organizing and packaging the online learning. In addition, it required habituation and the ability of the students to study independently. The existence of a learning community in online learning was also a factor that can support students' success in participating in online learning. Therefore, it's necessary to have support from lecturers, friends and the environment where the students are. Technical problems in form of equipment availability and inadequate internet access were the main obstacles in the implementation of online learning. The suggestion for improving the implementation of online learning in the future is: it is necessary to have readiness both from students (through provisioning and habituation) and from lecturers (training on online learning) as well as institutions related to supporting facilities for implementing online learning. Therefore, the recommendation for further research is to conduct a study on the readiness of implementing online learning both in terms of students, lecturers, and institutions.

REFERENCES

- Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1), 45–51. <https://doi.org/10.33902/JPSP.2020261309>
- Agung, A. S. N., & Surtikanti, M. W. (2020). Students' perception of online learning during COVID-19 Pandemic: A case study on the English students of STKIP Pamane Talino. *SOSHUM : Jurnal Sosial Dan Humaniora*, 10(2), 225–235. <https://doi.org/10.31940/soshum.v10i2.1316>
- Allen, I. E., & Seaman, J. (2011). *Going the distance: Online education in the United States, 2011*. Babson Survey Research Group and Quahog Research Group, LLC.
- Asiry, M. A. (2017). Dental students' perceptions of an online learning. *Saudi Dental Journal*, 29(4), 167–170. <https://doi.org/10.1016/j.sdentj.2017.03.005>
- Bagata, D. T. R., Umamah, A., & Fikri, D. (2020). EFL University students' perception of the use of online learning platform in the Covid 19 Pandemic. *Jurnal Penelitian, Pendidikan, Dan Pembelajaran UNISMA*, 15(34). <http://riset.unisma.ac.id/index.php/jp3/article/view/8102>
- Bakia, M., Shear, L., Toyama, Y., & Lassetter, A. (2012). *Understanding the implications of online learning for educational productivity*. U.S. Department of Education.
- Bell, B. S., & Federman, J. E. (2013). E-learning in postsecondary education. *The Future of Children*, 23(1), 165–185. <https://doi.org/10.1353/foc.2013.0007>

- Blackmon, S. J., & Major, C. (2012). Student experiences in online courses. A qualitative research synthesis. *The Quarterly Review of Distance Education*, 13(2), 77–85.
<https://www.cu.edu/doc/student-experiences-online-classesqual-study.pdf>
- Fitzpatrick, T. (2012). Key success factors of elearning in education: A professional development model to evaluate and support elearning. *US-China Education Review*, A(9), 789–795.
- Hoppe, D. W. (2015). *Addressing faculty readiness for online teaching*. https://www.d2l.com/wp-content/uploads/2015/02/Addressing-Faculty-Readiness_BestPracticesPaper_Final.pdf
- Huang, Y. (2020). Research on online education in the midst of the COVID-19 Pandemic. *Journal of Advances in Education Research*, 5(2), 125–137. <https://doi.org/10.22606/jaer.2020.52005>
- Hung, M. L., Chou, C., Chen, C. H., & Own, Z. Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers and Education*, 55(3), 1080–1090.
<https://doi.org/10.1016/j.compedu.2010.05.004>
- Isaac, O., Aldholay, A., Abdullah, Z., & Ramayah, T. (2019). Online learning usage within Yemeni higher education: The role of compatibility and task-technology fit as mediating variables in the IS success model. *Computers and Education*, 136, 113–129.
<https://doi.org/10.1016/j.compedu.2019.02.012>
- Koh, J. H. L., Chai, C. S., & Natarajan, U. (2018). Developing Indonesia teachers' technological pedagogical content knowledge for 21 st century learning (TPACK-21CL) through a multi-prong approach. *Journal of International Education and Business*, 3(1), 11–33.
[http://crie.org.nz/journal/vol3no1/Koh et al TPACK_indonesia.pdf](http://crie.org.nz/journal/vol3no1/Koh%20et%20al%20TPACK_indonesia.pdf)
- Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID -19 pandemic. *Social Sciences & Humanities Open*, 3(1), 1–11. <https://doi.org/10.1016/j.ssaho.2020.100101>
- Nasution, A. K. P., & Ahmad, N. Q. (2020). Student perceptions of online learning during the Covid-19 Pandemic. *Jurnal As-Salam*, 4(2), 195–204. <https://doi.org/10.37249/as-salam.v4i2.219>
- Pahinis, K., Stokes, C. W., Walsh, T. F., & Cannavina, G. (2007). Evaluating a blended-learning course taught to different groups of learners in a dental school. *Journal of Dental Education*, 71(2), 269–278. <https://doi.org/10.1002/j.0022-0337.2007.71.2.tb04275.x>
- Roddy, C., Amiet, D. L., Chung, J., Holt, C., Shaw, L., McKenzie, S., Garivaldis, F., Lodge, J. M., & Mundy, M. E. (2017). Applying best practice online learning, teaching, and support to intensive online environments: An integrative review. *Frontiers in Education*, 2, 1–10.
<https://doi.org/10.3389/feduc.2017.00059>
- Saleh, M. N. I., Sari, R., & Alim, P. (2021). University students' perception on the implementation of online learning during the Covid-19. *Nazhruna: Jurnal Pendidikan Islam*, 4(1), 1–17.
<https://doi.org/10.31538/nzh.v4i1.1022>
- Shawaqfeh, M. S., Al Bekairy, A. M., Al-Azayzih, A., Alkatheri, A. A., Qandil, A. M., Obaidat, A. A., Al Harbi, S., & Muflih, S. M. (2020). Pharmacy students perceptions of their distance online learning experience during the COVID-19 Pandemic: A cross-sectional survey study. *Journal of Medical Education and Curricular Development*, 7, 238212052096303.
<https://doi.org/10.1177/2382120520963039>
- Sulaiman, F. (2014). Online learning conveniences from students' perception: A case study in Universiti Malaysia Sabah. *Global Journal of Human-Social Science Linguistics & Education*, 14(1), 39–43. https://globaljournals.org/GJHSS_Volume14/5-Online-Learning-conveniences-from-Students.pdf
- Sun, A., & Chen, X. (2016). Online education and its effective practice: A research review. *Journal of Information Technology Education: Research*, 15(2016), 157–190.
<https://doi.org/10.28945/3502>
- Wairisal, L. P., & Khusniyah, N. (2012). Analisis perilaku penggunaan teknologi informasi (Studi pada dosen Universitas Pattimura Ambon). *Jurnal Aplikasi Manajemen*, 10(4), 761–771.
<https://jurnaljam.ub.ac.id/index.php/jam/article/view/463>
- Wallace, R. M. (2003). Online Learning in Higher Education: a review of research on interactions

among teachers and students. *Education, Communication & Information*, 3(2), 241–280.

<https://doi.org/10.1080/14636310303143>

Wijaya, T. T., Ying, Z., Purnama, A., & Hermita, N. (2020). Indonesian students' learning attitude towards online learning during the coronavirus pandemic. *Psychology, Evaluation, and Technology in Educational Research*, 3(1). <https://doi.org/10.33292/petier.v3i1.56>

Yuan, J., & Kim, C. (2014). Guidelines for facilitating the development of learning communities in online courses. *Journal of Computer Assisted Learning*, 30(3), 220–232.

<https://doi.org/10.1111/jcal.12042>

Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology*, 80(3), 284–290.

<https://doi.org/10.1037/0022-0663.80.3.284>