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The Implementation of Blended Synchronous and Asynchronous Online Language Learning during the Covid-19 Pandemic

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This study aimed to explore, investigate, and describe students' perceptions and learning practices during the implementation of online language learning using blended synchronous and asynchronous communication. Data was obtained from the observation, the interview, the students' questionnaire derived from the Google Form, and the need analysis in the preliminary study for higher students of Nahdlatul Ulama University of Yogyakarta majoring in English Education Department. It was a case study research design. Descriptive and quantitative analysis was used to describe and interpret the obtained data from respondents. The results showed that the students were more enthusiastic about combining synchronous and asynchronous learning modes than videoconference only. Furthermore, evidence represented that the students were motivated by asynchronous tools such as WhatsApp, Google Docs, and Google Classroom: easy to reach communication, cheap costs, multifunction, and fast responses. In acquiring clear interaction and a direct meeting, live conferences like Zoom, and Google Meet became the right preferences for teachers and students.

Keywords: *asynchronous learning, hybrid learning, online language learning, students' perceptions, synchronous learning*

INTRODUCTION

Today, the world faces two challenges, including globalization and the pandemic. The term globalization or the industrial revolution 4.0 demands creativity and innovation in any sector using sophisticated technology like the Internet of Things (IoT). The pandemic is also a serious issue that changes and shifts human civilization. The Covid-19 pandemic has interrupted the stabilization of life over the world for almost two years, starting from early 2020. It is an outbreak case killing many people and transforming the situation and condition in any area, including health, economics, business, education, trades, society, and politics. All people fully do work and activities through a virtual meeting. In Indonesia, the government has enforced some emergence policies to reduce people mobilization in each aspect, such as restrictions on community activities (PPKM). This policy is implemented in all sectors, either essential or non-essential fields.

In this case, the educational sector gets serious impacts. The Ministry of Education and Culture by Nadiem Makarim informs and establishes the new policy and emergence curriculum toward distance learning where learning is emphasized on a

blended model that is 50 % Work from Office (WFO) and 50 % Work from Home (WFH). For red zone, enforcement to work from home is thoroughly obligation for all parties. All activities in accordance with teaching and learning are directly shift to online learning, distance learning, virtual meeting, and remote teaching. Activities commonly performed in online learning are synchronous group activities working collaboratively with the partner and receiving some support from teachers. For asynchronous activities, the most are sending information, messages, and materials, and chatting in collaborative works.

Teachers no longer meet students in normal situations like classrooms within online teaching and learning. Policies related to restrictions are carried out in all educational levels: early childhood education, primary education, secondary education, and even higher education to decrease the Covid-19 spread. For the primary students, this can be as a polemic issue for both teachers and students even parents in practices. Due to limited media and access, teachers cannot totally reach students' presence and interact with clear communication. Children cannot entirely handle the learning process themselves. They need more helps from parents in executing learning and doing tasks. The roles of parents are crucial in this case to support successful learning. For secondary students: junior and senior high schools, online learning also seems not excellent alternative to be implemented due to some factors including low tools, quotas, and students' geographics. Indonesia is divided into rural and urban region. For a rural district, this condition can precisely hamper students' learning processes because of low signal and internet access. Moreover, the need for sophisticated digital tools for online meetings has become more consideration, but some have no smart devices relevant to learning needs.

In higher education, like university and vocational students, online teaching and learning techniques are adopted in many ways, including virtual meetings, audio, and video recording, attaching files such as pdf, and blended learning (Favale et al., 2020). In addition, many universities or institutions use online quizzes, exercises, exams, tasks, and assignments in assessing students (George, 2020). Online learning to higher students gives fewer challenges than primary and secondary students concerning interaction and execution of tasks. Adult learners can autonomously and effectively handle and learn without any helps from parents doing what teachers instruct. However, the problems are still same. Teachers cannot entirely communicate and interact with students clearly.

Online learning requires good infrastructures or media, great internet access, available multimodal sources, and well-prepared learning for both teachers and students. Tasks given should be clear and not burden to students. Also, to gain effective online learning, it is notable to recognize students' dimensions such as readiness to online learning (Hung et al., 2010); (Muthuprasad et al., 2021). Students with low devices will get more obstacles in receiving knowledge and information than students with high tech. Conversely, the need and wants for clear interaction becomes students' best preferences. It corresponds with the (Dahlstrom-Hakki et al., 2020) study stating that students with high disabilities convey an eagerness for high synchronous interactions in online lessons. Hence, the term of synchronous can be undertaken here. It links with the use of video conference tools in online meetings (Pineda Hoyos, 2018). It enables teachers and students to come together without any constraints and time. Tools appertained to this mode are instant message, analog telephone, Skype, audio and video conferencing, whiteboards, and application sharing (Murphy et al., 2011).

Videoconference proposes an appealing facility for distance education to link geographically between teachers and students in real-time (Rehn et al., 2016); (Murphy

et al., 2011). It can contribute to creating an interactive environment in distance learning under pedagogy and technology (Negash et al., 2008). For instance, video conferencing can be utilized to catch and see audiences directly on space with a clear voice. Teachers can call students one by one and clearly look at all students' faces on the screen in a line. The combination between visuals and sounds seems to motivate and engage students in entering the class in which students can meet others like in real communication. All on the space can show their appearance and face talking and discussing any topics.

Furthermore, teachers can manage and arrange the class effectively by either muting or unmuting students' voices during learning. Again, here, to share materials in the form of Power Point, pdf, and word, teachers can set either as a host or a co-host, even a listener. Teachers can influence students' cognitive and critical thinking within synchronous interaction and share reflection with students (Grogan, 2015). For students, it gives some experiences: convenience, technical issues, and preferences of pedagogy (McBrien et al., 2009). Unfortunately, this mode has weaknesses in practices. Both teachers and students have no alternatives when it stops in the middle of learning due to loss of signal (Roux et al., 2014). Consequently, it makes students difficult to try to enter the class again, causing lost communication. Students should find a good signal in any places in the surroundings to connect to the internet. To overcome this case, the term asynchronous mode should also be considered to gain and maintain successful learning.

Asynchronous mode is communication with any space and time in nature. It means that both teachers and students can meet at separate places and times. Tools support asynchronous modes such as content materials, discussion forums, email, fax machines, blogs, and wikis (Murphy et al., 2011). Also, the asynchronous mode offers students' convenience and simplicity in use because it is cheap and light. For those with a limited cost and low signal, asynchronous mode can be used regarding students' readiness. Software belonging to this mode are WhatsApp, Telegram, Line, WeChat, Google Classroom, and Gmail.

The advantages obtained from asynchronous modes are lots, such as saving costs, light application, low consumed memories and signals, and easy to use. Students can download and read materials given directly, even at other times. Files can be saved anytime. Moreover, an asynchronous mode can establish the social community, cognitive aspects, social, and teaching (deNoyelles, A, Zydney, J. & Chen, 2014). For presenting and discussing topics in a group, this mode is simply useful in which students can write in the chat box and give questions and answers directly, among others. Teachers can share any material forms, including video, audio, pictures, texts, and pdf. However, for gaining clear and good communication in a real time, this mode seems to be ignored by some due to little focus and extents. At times, students take long-time in their responses. Messages in chat rooms are lots so that students find it difficult to pay attention and follow along discussion with others. Indeed, a teacher cannot see students' presence in space with their face as videoconference views causing class becomes not conducive. A teacher loses students' attendance in real-time.

In some cases, a combination of synchronous and asynchronous modes in online learning becomes alternatives to increase students' attention and engagement. It is needed to engage students in distance learning in which it meets any limitations toward internet access and costs. The other name for combination is a hybrid online environment where both synchronous and asynchronous communication blends simultaneously (Perveen, 2016). It offers readiness and easiness for students based on

needs, wants, and lacks. This combination establishes an interactive learning atmosphere (Negash et al., 2008).

Based on Heilporn (2021), students' engagement included three interrelated aspects: emotion, Emotional aspects concerned with the students' reaction toward learning activities. Aspects of behavior relates to students' participation toward activities and conformity to norms, while engagement of cognitive refers to embedded psychology in activities to understand knowledge. Teachers can perform this mode in any courses simultaneously. For courses that need to meet students' presence, such as presentation and discussion, the synchronous mode can be applied while for giving tasks and exercises, the asynchronous model is relevant to students' wants. Teachers can choose any digital platforms connected with either synchronous or asynchronous communication. For instance, when a teacher wants to greet and to see all students in real time, software like Zoom, Google Meet, Skype, and Hangout can be used, whereas WhatsApp, Telegram, Line, and WeChat can be utilized to engage students in doing tasks or exercises. Moreover, Google Docs, as an online program to edit words enables teachers to give synchronous and asynchronous corrective feedback to students (Shintani, 2015). Both teachers and students can work together in the same time while online allowing teachers to observe students in composing texts. Asynchronous feedbacks can be given in the end of writing process. The following design of blended learning environment is an adoption from (Negash et al., 2008).

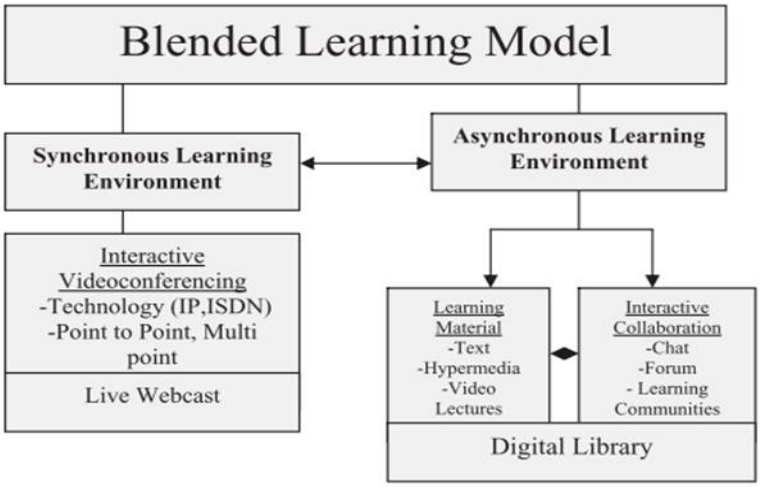

Figure 1. The blended learning models

Based on figure one related to the blended learning model proposed above, the process of online learning runs with two modes simultaneously: synchronous learning environment and asynchronous learning environment. For live communication, it can be videoconferencing, whereas for asynchronous learning uses interactive collaboration: forum, chat, text, and learning communities.

Against these issues elaborated above, this study investigate and describes both the implementation of blended synchronous and asynchronous online language learning and the advantages and disadvantages of this mode applied in online learning during Covid-19 pandemic to students majoring in English subject at Nahdlatul Ulama University of Yogyakarta. This study is conducted based on the online language learning cases during the Covid-19 pandemic to English study program.

RESEARCH METHOD

This study used a qualitative approach with a case study research design. Qualitative research focuses on the process of doing research rather than the results or the products (Cooper & E.White, 2012). The term case study here was employed to collect enough information about a person, social setting, event, or group, which enables the researcher to recognize how it operates (L.Berg, 2001). This study was conducted to investigate, to explore, and to describe the implementation of online language learning using a blended environment, both synchronous and asynchronous modes during the Covid-19 pandemic. Also, this study aimed to know the advantages and disadvantages of this combination toward online language learning. The students' perceptions of online language learning using this combination were also inquired. The respondents were the students of the Department of English Education at Nahdlatul Ulama University of Yogyakarta with 76 students divided into four grades. Again, all English lecturers were respondents to be interviewed related to teaching and learning processes using some digital tools. The researcher used multiple methods such as questionnaire, interview, and observations to get data. In the form of Google Form, the questionnaire was employed to know students' perceptions toward online language learning using combination modes. Again, the students' preferences or willingness in using some digital platforms like WhatsApp were also carried out. Before, during, and after conducting online learning, the questionnaire was also conveyed to recognize the students' preferences and willingness toward modes and digital platforms used. Then, the obtained data were analyzed using quantitative and qualitative analysis to compare data from interview and questionnaire.

RESULTS AND DISCUSSION

There were two main points to be elaborated on in this section, including a description of the implementation of blended online learning and the benefits or advantages of using this mode. The data were taken from observation and questionnaire. The devices utilized were laptop, tablet, and android integrated with any digital platforms like Zoom and Google Meet for virtual meeting in a real time and Google Classroom, WhatsApp, Drive, and Google Docs for sharing materials in the form of files and doing exercises or tasks. In some exercises, the teacher used any online platforms like Quizzes and Kahoot in the middle of learning to make a quiz or a game in order that the students were motivated and active in entering the class and do tasks easily.

The following was the data of the students' preferences toward the combination of modes in online learning taken from the Google Form.

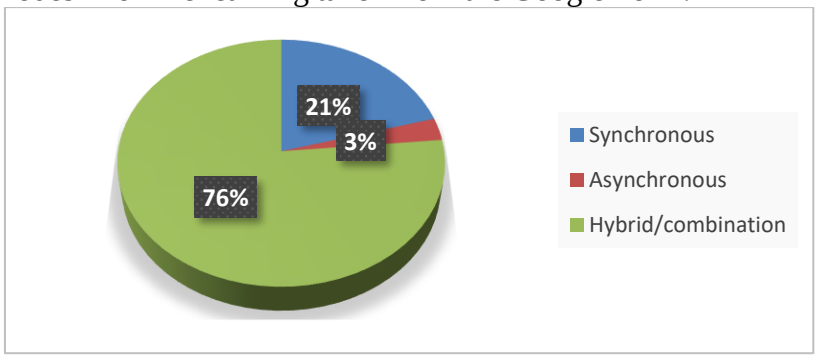

Figure 2. the types of communication

According to the figure one related to the types of communication used in online language learning, about 76 percent, the students preferred to hybrid or combination both synchronous and asynchronous communication. In the range 21 percent, the students desired to use synchronous mode. The residue was the asynchronous modes scored about 3 percent. This evidence pointed out that the high rate toward blended communication became decision to implement this mode in the online language learning. Then, the selection to digital platforms utilized in hybrid environment was shown in the figure two as follows

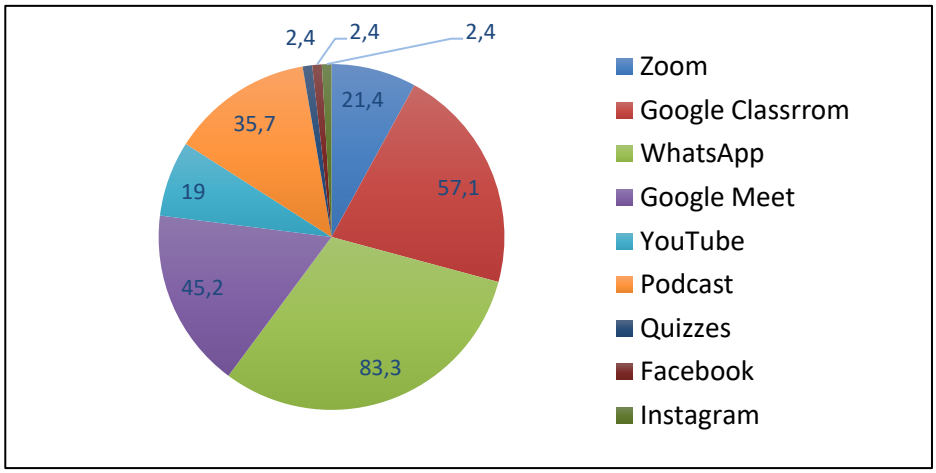

Figure 3. Digital platforms

Based on the figure one in relation to digital platforms used for online learning totally nine tools, it was clear that the students preferred to learn with both synchronous and asynchronous communication. In this case, WhatsApp obtained the biggest score in the range of 83,3 percent. Next asynchronous mode was the Google Classroom in the range 57,1 percent. Again, the Google Meet was in the range 45,2 percent and the Zoom was 21,4 percent. In the form of Podcast scores 35,7 percent while YouTube scores 19 percent. The residues about 2,4 percent were two social media platforms: Facebook and Instagram, and Quizzes. These students' preferences to any tools were suited with the students' needs toward online learning and materials given and taught. In this case, courses taught were English skills: listening, speaking, reading, writing, and subjects related to English education. The students preferred to employ either Zoom or Google Meet for presenting and discussing topics. Indeed, the students could say to others directly like live conference giving opinions, questions, and responses toward discussion. WhatsApp and Google Classroom became the favorite option to engage students in working tasks. The students could save files and open them in unlimited time. Again, the teacher could manage and administer many files such as pdf, word, excel, ppt, and other resources.

Furthermore, the applying of combination of blended communication using any tools here was espoused and based on the survey to students toward the disabilities and obstacles in online learning. The following figure below showed the students' disabilities toward online learning in detail.

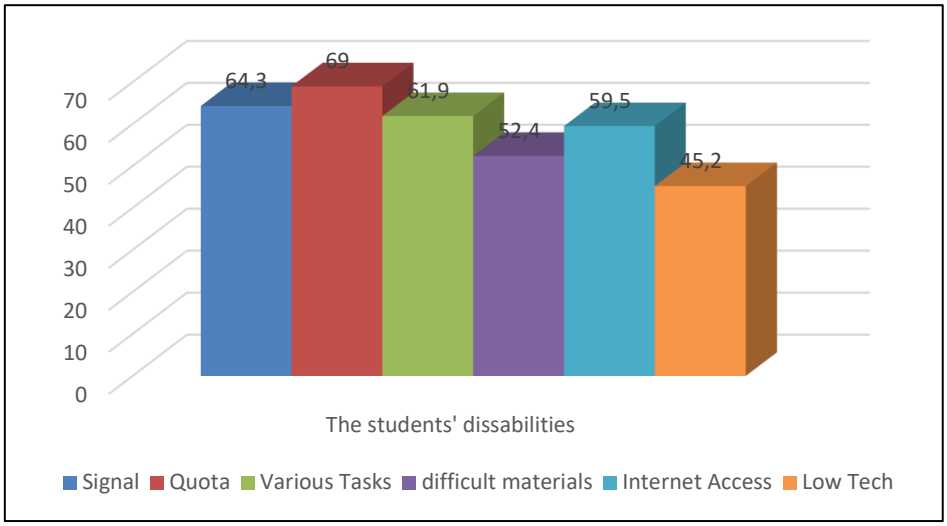

Figure 4. The students' dissabilities to online learning

In figure two above talked about six findings which relates to the students' disabilities to online learning including signal, quota, various tasks, difficult materials, internet access, and low tech. The data were carried out during online learning in the preliminary study. The biggest score was the students' response toward the quota used in the range 69 percent. The second one was the signal in the range 64,3 percent. The third was the students got many tasks in the range 61,9 percent. Internet access included here with the range 59,5 percent. Again, materials seem to be difficult to students in the range 52,4 percent. The residue was about low technology used in the range 45,2 percent. It was clear that all those represented obstacles occurring during online learning. Four the students' disabilities: the signal, the quota, internet access, and low tech was based and supported by the students' geographic divided into rural and urban region showed in the figure three. For the students in rural areas, reaching and finding out the clear and good signal was difficult. Indeed, to join online learning fully, the need to high technology like smartphone and laptop were crucial. However, it seemed to be hard in practices. The majority of the students did not have sufficient devices even with no laptops. For the urban region, conducting online learning seemed clear and ran well. Two last aspects, namely various tasks and difficult materials, were based on the students' perspectives in receiving knowledge in each course. The following figure showed the students' geographic location where the students placed in the rural region were about 65 percent, whereas in the range 35 percent, the students lived in an the urban areas.

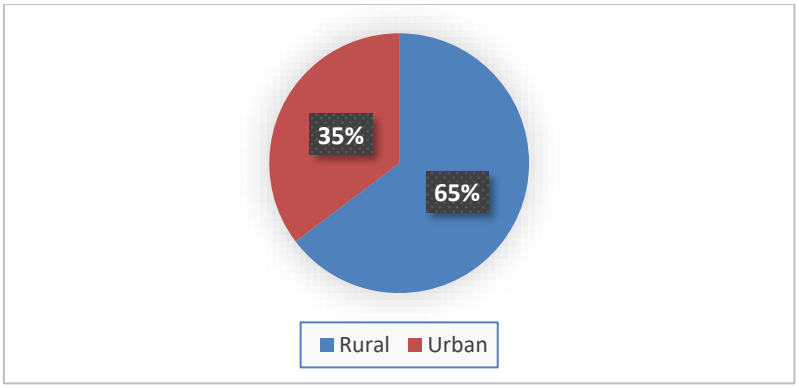

Figure 5. The students' geographic

The next finding was from the lecturer and the students' interview responses toward online learning. According to the lecturer, blended synchronous and asynchronous modes were a good choice to be applied when the students got troubles in achieving information, reaching on space, and understanding the materials given. For instance, when learning was conducted live, sometimes, in the middle, both the teacher and the students got low signals causing lost contact, and out of the room. In this case, the teacher could change directly into an asynchronous mode like via WhatsApp. The biggest challenge faced was the internet access and signal. It happened in the speaking course that demanded the students join a live meeting. Again, basically, most students preferred easy communication and interaction. In the speaking course, the teacher used either Zoom or Google Meet. Here, the students could speak up with others confidently despite the space. The teacher could immediately correct and give feedback on the students' mistakes in sounding words. Listening and pronunciation skills could be also taught here.

If the signal was stable, real live learning could run well without any pauses and be stuck in the middle of learning. In practice, when it met troubles in the middle of the learning, directly, the teacher changed to the WhatsApp app to minimize misconnection during learning. For instance, in the pronunciation course, the presence of the students in Zoom was not mandatory. The teacher could upload files on voice notes to be downloaded and listened to. The record of sounds allowed students to learn words, phrases, clauses, sentences, and even paragraphs autonomously. Voice notes on WhatsApp enabled the students to learn any English sounds recorded by the teacher. The students could reply to voices anytime and listen on Android or Laptop.

For reaching the writing course, asynchronous mode assisted the students write more easily. Some features or menus in any tools could engage students in active learning. For instance, the use of Google Docs contributed to improving the students' writing skills due to lots of functions. Any other tools like Grammarly could be included in supporting students to check grammar and correct language order instantly. In technical issues like mechanic parts, the students could simply and systematically manage layout and paragraph. For those who did not have high tech like laptop, the WhatsApp Group provided several simplicity and facilities to the students in developing language skills like reading and writing. The students could write down sentences and paragraphs directly in the chat room. The features offered on the android keyboard could check texts with the correction simultaneously so that the need to open the manual dictionary was ignored. Furthermore, WhatsApp app was the very most popular device used worldwide, giving easiness in virtual communication like sending files, messages, voices, links, and video. The students no longer though about costs and any obstacles. The teacher could move to record video in designing materials if synchronous communication like Zoom and Google Meet was difficult to be conducted. Here, the available materials should be fully prepared.

For the students' reading activities, WhatsApp led in running materials well. The activities related to reading English texts mostly were referred to open journals and other resources like e-library on any links given in the WhatsApp chat room. The students could open texts in the form of pdf. The benefits were that the students no longer searched for any textbooks coming to the library at Campus or University. They could save money on printing materials in the form of paper. This finding was also justified by (Ahmed, 2019) in his study about the effectiveness of WhatsApp in increasing reading and writing skills. The result declared that WhatsApp served facilities and spaces to learn and practice language, especially in the written context.

Research conducted by (Kholis, 2020) related to the use of WhatsApp app in distance language learning stated that WhatsApp could support making online learning effective due to its cheap cost and ease of use.

In accordance with the students' perceptions toward the combination both synchronous and asynchronous mode, the researcher obtained the data from interview. The following was the explanation based on the transcript.

Most students agreed with this mode to be performed in online learning due to the students' disabilities: reach, engagement, and tools used. The students were happy and motivated in executing online learning in each course. They could save and manage the cost. Indeed, the students could handily operate and handle online learning by using some software like WhatsApp because it is used in daily life for exchanging, sharing, and sending messages and information. They seemed to unburdened joining videoconference using either Zoom or Google Meet. Due to synchronization to Google, the Google Meet facilitated the students simply to connect soon on space. The features offered were concise and handy so that the students could take action fast. Furthermore, the students felt happy due to the light application used and cheap cost.

About engaging the students, the findings was supported by the study conducted by Shamsudin et al. (2019) on the topic of integration both synchronous and asynchronous gameplay to increase vocabulary. The result showed that the combination contributed to making classroom fun and engaging. The students directly learned both two modes simultaneously. Moreover, the combination of two modes got acceptance by (Perveen, 2016), recommending blending both synchronous and asynchronous manner to establish a great environment for language learning. The students had more chances to learn both models than just one. The students obtained learning opportunities and experiences using a hybrid environment how they could manage and follow the teacher's instructions with the direct execution supported by digital tools. This impression could not be discovered in the normal situation.

In some cases, the students' technical skills developed significantly due to the frequency of utilizing any digital tools. Skills besides language performance such as operating the World Wide Web or www and connecting devices on the internet were advanced. In addition, the students got more knowledge and lots of information from many resources linked to the device because the students somewhat did online learning by searching and browsing on the internet based on the teacher's instruction toward lessons. Skills related to reading or literacy also increased fast. The most important things were students' engagement in online learning. Motivation to join the online class in every lesson developed so that the class became effective and efficient.

Beside the advantages having gained by the students both in the technical aspects and learning process, unfortunately, this mode got little poorly responses from those who were unfamiliar with the utilization of technology. Some should gradually adjust to the learning familiarity using some software. For instance, in the writing class using Google Docs, some students were still confused in handling this due to any features offered. To use it clearly, the students' devices should also be connected to the internet. The second instance was met when the students used Google Classroom to submit assignments and download materials given. The students should search the menu of assignments in Classroom. For those who exactly belonged to as technology illiterate or ignorant, online learning became a new challenge that it should be solved with the trial and learn seriously. In the Zoom meeting or the Google Meet, the students frequently forget to mute their voices , disturbing and obstruct clear communication and learning processes. Hence, the teacher needs to remind the students to unmute the speaker in every meeting. In applying the WhatsApp app, some ignored the information

or messages given by the teacher because of lots of chats demanding the students to scroll through the previous messages.

CONCLUSION

Based on the findings and discussion section, it is clear that applying blended synchronous and asynchronous learning modes in the online learning provides students some benefits like improving the students' motivation and increasing engagement in the learning process. Besides, it gives convenience, easiness, and challenges related to technical issues such as familiarity to some software used. Online language learning runs well and does not burden students in finishing courses and tasks due to the combination of modes. The students got lots of learning experiences toward two modes conducted simultaneously in each course. The teacher uses either Zoom or Google Meet to attain the students' presence, to speak up with any topics, to utter words, and to present materials, while asynchronous communication can be achieved by using some software including WhatsApp, Google Classroom, and Google Docs. The reading and writing courses can be taught by using both WhatsApp and Google Docs. Moreover, to maintain and gain online learning, teachers should also consider and recognize students' needs, wants, lacks, and even readiness to participate in online learning. Helps of digital tools in this case support in gaining successful learning not handling students in all aspects and activities. As a teacher, knowing the students' wants and preferences toward online learning should be prioritized besides transforming knowledge and information using digital platforms.

REFERENCES

Ahmed, S. T. S. (2019). WhatsApp and learn English: a study of the effectiveness of WhatsApp in developing reading and writing skills in English. *ELS Journal on Interdisciplinary Studies on Humanities*, *2*(2), 148–156.

Cooper, K., & E.White, R. (2012). *Qualitative Research in the Post-Modern Era: Contexts of Qualitative Research*. New York: Springer.

Dahlstrom-Hakki, I., Alstad, Z., & Banerjee, M. (2020). Comparing synchronous and asynchronous online discussions for students with disabilities: The impact of social presence. *Computers and Education*, *150*, 1–11. https://doi.org/10.1016/j.compedu.2020.103842

deNoyelles, A, Zydney, J. & Chen, B. (2014). Strategies for creating a community of inquiry through online asynchronous discussions. *Journal of Online Learning and Teaching*, *10*(1), 153–165.

Favale, T., Soro, F., Trevisan, M., Drago, I., & Mellia, M. (2020). Campus traffic and e-learning during COVID-19 pandemic. *Computer Networks*, *176*, 1–9. https://doi.org/10.1016/j.comnet.2020.107290

George, M. L. (2020). Effective teaching and examination strategies for undergraduate learning during COVID-19 school restrictions. *Journal of Educational Technology Systems*, *49*(1), 23–48. https://doi.org/10.1177/0047239520934017

Grogan, D. (2015). Disentangling the threads: analysing synchronous online discussions. *Creative Education*, *06*(03), 338–349. https://doi.org/10.4236/ce.2015.63032

Heilporn, G., Lakhal, S., & Bélisle, M. (2021). An examination of teachers' strategies to foster student engagement in blended learning in higher education. *International Journal of Educational Technology in Higher Education*, *18*(25), 1–25. https://doi.org/10.1186/s41239-021-00260-3

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

Kholis, A. (2020). The use of WhatsApp app in distance language learning in pandemic Covid-19: a case study in Nahdlatul Ulama University of Yogyakarta. *LET: Linguistics, Literature, and English Teaching Journal, 10*(2), 24–43. https://doi.org/10.18592/let.v10i2.4051

L.Berg, B. (2001). *Qualitative Research Methods for the Social Sciences* (4th ed.). London: Allyn and Bacon. https://doi.org/10.1177/1049909106294983

McBrien, J. L., Jones, P., & Cheng, R. (2009). Virtual spaces: employing a synchronous online classroom to facilitate student engagement in online learning. *International Review of Research in Open and Distance Learning*, *10*(3), 1–17. https://doi.org/10.19173/irrodl.v10i3.605

Murphy, E., Rodríguez-Manzanares, M. A., & Barbour, M. (2011). Asynchronous and synchronous online teaching: Perspectives of Canadian high school distance education teachers. *British Journal of Educational Technology*, *42*(4), 583–591. https://doi.org/10.1111/j.1467-8535.2010.01112.x

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

Negash, S., Whitman, M. E., Woszczynski, A. B., Hoganson, K., & Mattord, H. (2008). *Handbook of distance learning for real-time and asynchronous information technology education*. New York: Information Science Reference. https://doi.org/10.4018/978-1-59904-964-9

Perveen, A. (2016). Synchronous and asynchronous e-language learning: a case study of virtual University of Pakistan. *Open Praxis*, *8*(1), 21–39. https://doi.org/10.5944/openpraxis.8.1.212

Pineda Hoyos, J. E. (2018). Error correction and repair moves in synchronous learning activities. *International Journal of Educational Technology in Higher Education*, *15*(23), 1–17. https://doi.org/10.1186/s41239-018-0105-2

Rehn, N., Maor, D., & McConney, A. (2016). Investigating teacher presence in courses using synchronous videoconferencing. *Distance Education*, *37*(3), 1–16. https://doi.org/10.1080/01587919.2016.1232157

Shamsudin, H., Hashim, H., & Yunus, M. M. (2019). Integration of asynchronous and synchronous gameplay to improve pupils' vocabulary. *Creative Education*, *10*(12), 3101–3106. https://doi.org/10.4236/ce.2019.1012234

Shintani, N. (2015). The effects of computer-mediated synchronous and asynchronous direct corrective feedback on writing: a case study. *Computer Assisted Language Learning*, *29*(3), 1–24. https://doi.org/10.1080/09588221.2014.993400