
College Students' Perception on The Implementation of Virtual Flipped Classroom (VFC) in EFL Classroom

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Abstract

Covid-19 pandemic has spread around the world which affects many factors in human life, particularly in educational sector. It forced students to embark at digital learning. The digital learning was implemented by applying flipped learning model with the implementation of virtual conference platform and Learning Management System (LMS). This study was a mixed-methods explanatory sequential research design. Qualitative and quantitative data were analyzed to gain the data of students' perception toward the implementation of digital learning in English class. The data were collected by observing, distributing questionnaires and doing deep interviews. The result showed that digital learning promotes self-learning, flexibilities, and trigger the creativities of students and their confidence as well. Digital learning in the form of Virtual Flipped Classroom (VFC) also ensured the learning continuity in any pandemic situation. Despite of the benefits of digital learning, there were still challenging in digital learning situation related to the internet connection support.

Keywords: Covid-19 pandemic, digital learning, learning management system, perception, virtual flipped classroom (VFC)

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1. Introduction

The development of information and communication technology has an impact on many aspects and one of them is the educational aspect. Now the education system is also prepared to face challenges of the industrial revolution 4.0 and 21st century teaching and learning. Beers (2011) states that curriculum in 21st century teaching and learning should implicate the four skills; *critical thinking, communication, collaboration, problem-solving, dan creativity* (Beers, 2011). This situation requires the education system to be able to integrate technology into the teaching and learning process. In addition, traditional classes and monotonous teaching methods are now outdated. The traditional or conventional teaching method here can be interpreted as a classroom teaching system where the teacher gives an explanation at the beginning then continues with giving exercises and homework. Some of the statements that teachers have been doing for years and are now outdated (Harida et al., 2020) Students in traditional classes often become confused and frustrated leading to errors in understanding or *misconception* (Kirschner et al., 2006) This happens due to the slow delivery of information (D'Souza & Rodrigues, 2015). Students are not actively involved in the learning process and are forced to listen to lecturers' explanations that result in passive learning in the classroom (Khalaf & Zin, 2018).

In this era, traditional methods in the teaching and learning process are not up to date because in the teaching and learning process there are several requirements that teachers must be creative and innovative in conveying knowledge to students. This change in teaching techniques was initiated by Jonathan Bergmann and Aaron Sams in 2007 who started taking notes and posting their lectures and demonstrating online for absentee students so that they could still complete their studies. It was from that moment that a new pedagogical model called *Flipped Learning* (Yu, 2019). The concept of flipped classroom or *Flipped learning* is that all activities that were traditionally done in the classroom are now done at home and that were traditionally done as homework are now done in the classroom (Bergmann & Sams, 2012). *Flipped classroom* is an implementation of reverse learning. In *flipped learning*, class materials are accessed by students using *online* devices such as *smartphones* or laptops, while class time is used for learning activities (Singay, 2020).

The use of technology in learning process by using any kinds of digital platforms and devices can be defined as digital learning (Rochmawati & Martanti, 2022). Nguyen et al. (2022) defines digital learning as the use of technology, application, learning contents, and digital devices to design and carry out learning activities to create a good learning setting and active learning, enhance learners' higher order thinking skill (creative thinking, analytical thinking, and problem solving thinking (Nguyen et al., 2022). Digital learning covers either systematic or spontaneous process of acquiring knowledge or skills by effectively using any type of technological devices such as smartphones, tablets, computers, or others (Aditya, 2021). Technology in learning can provide enriched learning experience to promote self-

directed discovery and reflections that improve well-being (Moldavan et al., 2022). Digital learning media can be various such as interactive white board which was significantly improve students' performance (López, 2010).

Inverted learning implemented in *flipped classrooms* was first developed by Jonathan Bergmann and Aaron Sams. The flipping class is known by a variety of names including inverted class and more simply, flip (Arnold-Garza, 2014). According to Bergmann & Sams (2012), a reverse classroom is described as a setting where 'what was traditionally done in the classroom is now done at home and what was traditionally done as homework is now completed in the classroom (Bergmann & Sams, 2012). In other words, the order is being reversed (Basalt, 2015). Students are invited to actively learn before entering the classroom. Teachers or lecturers provide digital or electronic resources and information for students to view the content of the subject matter before coming to a traditional classroom (T.T.T. & N.V., 2018) Instead of listening to the teacher or lecturer in the classroom, students read the course literature and assimilate the lecture material through video at home and engage in problem-solving, analysis, and teacher-guided discussions in the classroom (Nouri, 2016).

Arnold-Garza (2014) conveyed several advantages of the *Flipped Classroom* learning method, including: 1) make more efficient use of classroom learning time, 2) Provide opportunities for learners to learn more actively, 3) Increase interaction between learners and between students and teachers, 4) Increase student responsibility in learning, 5) Facilitating the diverse learning styles of learners (Arnold-Garza, 2014). Digital learning can be delivered in two ways, namely synchronous and asynchronous. Hrastinski (2008) interprets that asynchronous mode in online learning is generally facilitated by media such as e-mail and discussion boards, now we know it as Learning Management System (LMS) as in schoology, moodle, edmodo, etc. The system supports the working relationship between the learner and the teacher or lecturer even if the participant is in a different place and time. Thus, that is the key to *flexible learning* (Hrastinski, 2008). In this era, asynchronous modes in the teaching and learning process may have a variety of learning systems. In the world of education, lecturers and students can have online virtual classes. In this virtual class, lecturers can send any teaching material such as lecturer audio/video, handouts, power point presentations, and also certain links. The asynchronous environment provides students with materials available in the form of digital media. Materials can be accessed anytime anywhere in the Learning Management System (LMS). An LMS is a set of tools that house course content and provide a communication framework between lecturers and students (Perveen, 2016). In this study, researchers used an LMS called Schoology. Schoology is a learning management system (LMS) that facilitates teachers or lecturers to create, compile, and share learning materials and resources ((Schoology, n.d.). The application of asynchronous mode in the teaching and learning process has several benefits; a) allow students to take online courses on their own schedule, b) provide materials, lecturers, tests, and assignments that can be accessed at any

time, c) allow students overall the freedom to contribute whenever they choose (Murphy et al., 2011).

Synchronous learning is generally supported by media such as video conferencing and chat. It has the potential to support online learners in the development of learning communities. Learners and teachers experience synchronous online learning by asking and answering questions, discussing in real time (Hrastinski, 2008). Language learning with a synchronous model is closer to the communicative way of language teaching/learning. To support synchronous learning, there are several platforms that support video conferencing such as Zoom, Google Meet, Webex, Microsoft teams, etc. During the COVID-19 pandemic, the use of video communication for teaching and learning has grown rapidly. An example of a video communication platform is Zoom.

Schoology is a learning management system (*LMS*) that provides facilities for teachers to create, compile, organize, and share learning materials and resources for their students (McBride, 2016). Schoology has a variety of features that can support the learning process, such as classroom management, attendance lists, online assessment books, tests and quizzes, and homework. Schoology also has an attractive *interface* like a social media that facilitates the process of collaboration between students in one class, between groups, teachers and students, as well as with institutions / schools. The following is a preliminary look at schoology.com.

In addition, teachers can also take advantage of special features in Schoology to compile learning materials and activities (Figure 2). Teachers can share materials in the form of folders containing various *kinds* of files, files, links, videos, and media albums. Teachers can also design learning activities like classroom learning, such as assignments, tests/quizzes, and discussions. Teachers can update information and share it with learners just as much as *updating* status via *Facebook*. Students can also leave their comments on the upload. Teachers also get facilities in the form of *Gradebooks*, Badges, and checking student attendance. After creating a class, the teacher shares the *access code* of the class so that students can join the class.

Based on www.schoology.com (2018) about 7 key considerations in choosing a learning management system, among the various learning management systems that exist on the internet, Schoology has advantages among them (Schoology, (Schoology, n.d.): flexible and easy to use, can access a variety of learning material resources, simple communication, collaboration, and *sharing* media, can involve the role of parents

Another LMS that was used for teaching and learning process in Poltekkes Kemenkes Yogyakarta named Pepeling. Pepeling is a kind of Learning Management System (LMS) officially developed by Poltekkes Kemenkes Yogyakarta. This LMS was based on platform Moodle. At first, this LMS was used as media back up for the teaching and learning materials.

But, as the outbreak of Covid-19, this LMS was optimally used for keeping the learning continuity. The features were completed to support teaching and learning process such as; classroom management, attendance lists, online assessment books, tests and quizzes, and homework.

The Covid-19 pandemic that has spread since the beginning of 2020 has made the situation change in all sectors of human life, not only in Indonesia but in almost all countries in the world. The use of technology was rapidly increase since the outbreak of those pandemic. In previous studies, most respondents stated that this learning model can motivate them better at learning English than in traditional classes (Rochmawati et al., 2023). Lecturers are required to be more creative and innovative in teaching. On the other hand, Peery et al. (2015) as cited in (McCubbins et al., 2016) state that students must have the skills necessary for long-term success, such as communication skills, *teamwork*, *problem solving*, and *critical thinking skills*. *Flipped Learning*, therefore, was chosen as one of the innovative approaches to teaching and learning English in the virtual classroom by emphasizing the use of Learning Management System (LMS). LMS is important in digital learning as it can facilitate students related to their preparation, repetition, and flexibility (Steindal et al., 2021). This method is expected to encourage *student-centered* learning, an active and flexible learning environment in English as a foreign language classroom. Another research proved that the use of technology on virtual project-based learning instruction make benefits for increasing students' learning experiences such as active participation and motivations, critical thinking skills, collaborative skills, digital use skills, and peer/lecturer communication (Asfihana et al., 2022).

In the situation of pandemic covid-19, flipped learning could not be conducted as it used to be that a setting where 'what was traditionally done in the classroom is now done at home and what was traditionally done as homework is now completed in the classroom (Bergmann & Sams, 2012). The flipped classroom in this research was conducted in two ways; synchronously and asynchronously due the covid-19 pandemic. The synchronous method uses video conference platform such as Zoom meeting or google meet. Another method is asynchronous method by using a Learning Management System (LMS) officially designed by Poltekkes Yogyakarta named Pepeling. So, the implementation of flipped classroom called Virtual Flipped Classroom (VFC). Based on the previous explanation, there are no research discussing students' perception on the implementation of virtual flipped classroom (VFC) in EFL class during the pandemic situation. Therefore, this research focuses on investigating students' perception on the implementation of virtual flipped classroom (VFC) in EFL class during the pandemic situation.

Digital learning in the form of VFC is the strategy to maintain learning continuity in any kind of situations, not only in pandemic situation. In this study, flipped classroom was conducted totally virtual by using Zoom platform for synchronous mode and LMS for

asynchronous mode. This strategy might have not been done before as flipped classroom was conducted online and offline before the outbreaks of Covid-19. Based on those phenomena, this article is trying to investigate students' perception on the implementation of VFC (Virtual Flipped Classroom) approach in EFL classroom to inform others about the perception on virtual teaching and learning from students' perspectives. More specific objectives are as follows:

1. To what extent do college students use digital technology learning process in EFL Classroom?
2. What is the college student's perception on the implementation of virtual flipped classroom in EFL Classroom?

2. Method

2.1. Research Design

This research was designed as a *mixed-methods research design*. Creswell as cited in Creswell & Clark (2011) mentions that *mixed-methods* research design is a procedure for collecting, analyzing, and "mixing" both quantitative and qualitative methods in a single study or series of studies to understand a research problem (Creswell, 2012). There are several types of mixed-methods research designs, but this mixed-method research design chooses an explanatory sequential design. The design of a sequential mixed method consists of collecting quantitative data first and then qualitative collection to help explain and describe quantitative results. The quantitative data and analysis which were obtain from the questionnaire were followed up by using qualitative data and analysis from the interviews activities to get more understanding about the implementation of VFC in EFL. Final step was interpretation of the quantitative and qualitative data as being exposed in the following table.

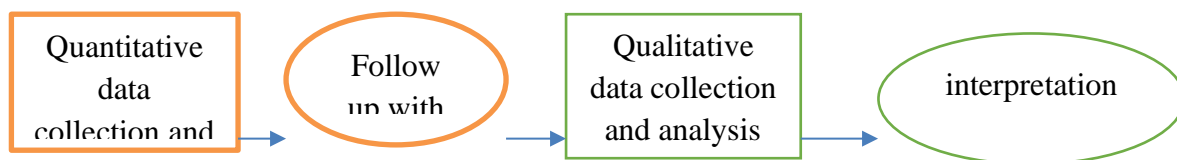


Figure1. *Explanatory Sequential* Research Design by Creswell (2012).

2.2. Data Collection and Analysis

This study employed an online questionnaire to survey students' perceptions of their experiences in conducting digital learning with flipped classroom approach by using LMS in EFL class for students of Poltekkes Yogyakarta. The questionnaire consists of 39 items including both closed and open-ended questions. The questionnaire was developed based on

several concepts in digital learning; accessibility, active learning, flexibility, collaborative learning, LMS (Rennie & Mason, 2020). Creswell (2012) discusses that in a questionnaire, researchers can ask several questions that are closed and open. Closed responses to questionnaires can be useful information to support theories and concepts in literature, whereas open responses allow researchers to explore the reasons for closed responses (Creswell, 2012). Seliger & Shohamy (1989) in (Maharani, 2013) adds that questionnaires can be very useful for collecting attitudes, motivations, and self-concepts from the participants. The link of online questionnaire was distributed to students of Poltekkes Yogyakarta.

Non-Probability sampling technique was employed for gathering initial data and defining samples for the semi-structured interview. The semi-structured interview was aimed at deepening more understanding of students' perception on digital learning. Two students were interviewed via video conference to gain further information got from the online questionnaire. The two students were selected in reasons that they met the inclusion criteria i.e. he/she is an active students, he/she have joined English class, digital literate, represents all participants, and are willing to be interviewed. The interview was conducted to obtain more detailed information applied in the questionnaire. Borg (2003) states that interviews allow researchers to follow up on clues and thus obtain more data and greater clarity. In interviews, the data obtained will be deeper compared to other research data collection methods (Gall, 2003). Interviews are conducted to gather deeper information by actually talking to the subject as suggested by Seliger & Shohamy (1986).

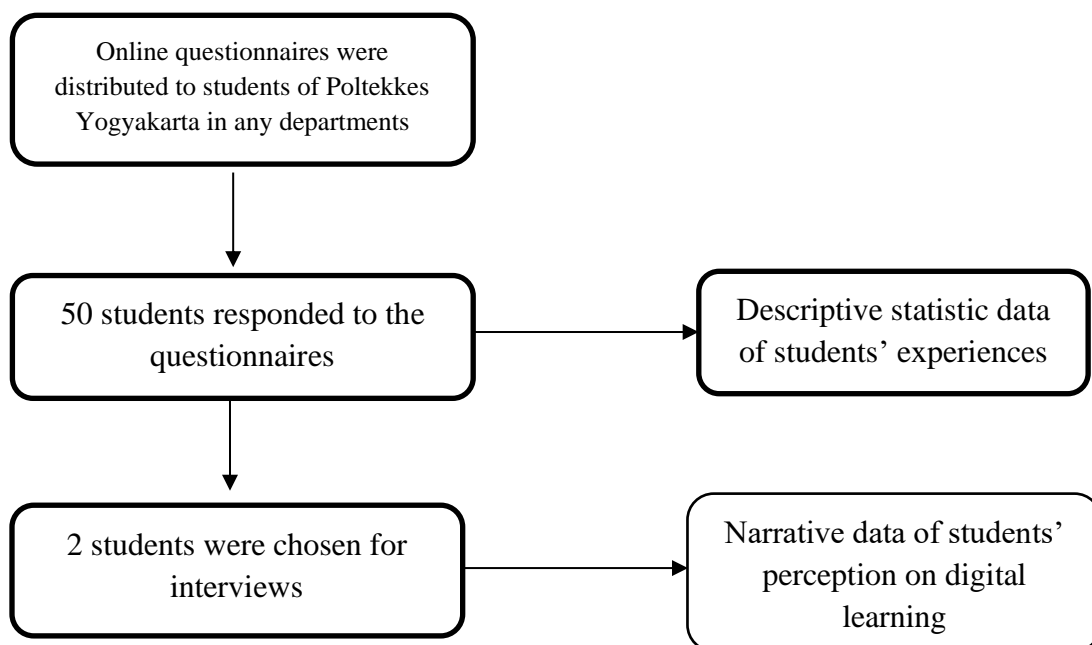


Figure 2. Research Procedures

The participants were 50 students of Poltekkes Yogyakarta who have got digital learning experiences. The fifty students have met the inclusion criteria i.e., students of Poltekkes Yogyakarta, have experiences in virtual flipped classroom, and are willing to participate in this research. All of the 50 students responded to the online questionnaire and two of the students were interviewed. The online questionnaire was distributed to students of Poltekkes Yogyakarta. There were 50 students from different study program gave responses to the questions. Two students met the inclusion criteria i.e., he/she is an active student, he/she have joined English class, digital literate, represents all participants, and are willing to be interviewed, were interviewed via video conference platform (Zoom) to share their perceptions towards the implementation of VFC.

3. Finding and Discussion

3.1. Students Experience on Digital Learning

In general, learning activities with the digital learning model have been successfully carried out well. This activity attracts the attention of students so that they can concentrate on the material being taught. In addition, this learning model triggers students to do independent learning. This can be shown from the results of the questionnaire related to students' perception on digital learning.

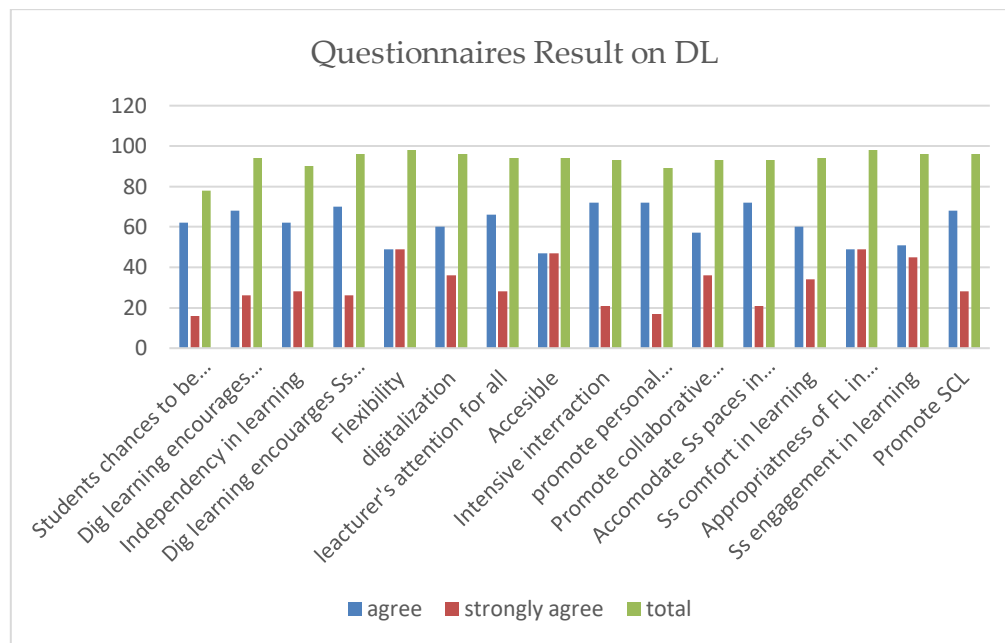


Figure 3. Students' Perception on Online Learning

Figure 3 shows that 78% of the students are able to be more focused on learning materials. By conducting digital learning with LMS, the learning materials can be accessed at home or

any other places which support the students' learning style that promotes fully concentration of the students. Most of the students (94%) consider that they get deeper understanding of the learning materials since the materials posted in LMS can be repeatedly accessed until students get fully understanding of the materials. Independency in learning get positive response from the students (90%).

Flexibility in learning is closely related ability of learners to decide what, where, when, and how they learn (Rennie & Mason, 2020). Most of the students (98%) agree that digital learning promotes flexibility in learning in term of delivering learning resources via LMS and providing communication activities (Rennie & Mason, 2020). Further, most of the students (96%) stated that the LMS used in digital learning model is in accordance with students' character as the project or assignments took place in digital form (Asfihana et al., 2022).

In terms of interaction between lecturers and students, the chart above shows that the implementation of digital learning increases the intensity and quality of interaction between lecturers and students. Most students (94%) stated that in digital learning, lecturers' attention to students is divided equally, not just on specific students, 89% of the students reported that digital learning was able to promote personal relationship between lecturers and students as well as the interaction among students (93%).

Digital learning accommodates different levels of students' abilities in EFL classroom (93%). This means that implementation of digital learning promotes students' paces in learning. In terms of collaborative learning, it was reported that several projects or assignments given in the LMS were in form of project-based learning which encourage student to collaboratively doing the assignments or projects (93%). Collaborative learning is defined as work jointly carried out an activity or project to gain knowledge or skills (Rennie & Mason, 2020).

The implementation of digital learning allows learning continuity either in synchronous (video conference) or asynchronous (LMS) modes, specifically in the last pandemic era. The LMS for Asynchronous mode provides various types of English learning materials in the form of audio / video clips for listening and speaking classes, articles for reading classes, podcast, online quiz handouts and materials in Microsoft power points for writing and grammar classes. These materials can be accessed anytime and anywhere in the LMS. LMS is also known as Course Management System (CMS) or Virtual Learning Environment (VLE) (Perveen, 2016). Synchronous mode is a learning model when students and lecturers meet each other face to face or in virtual setting (Amiti, 2020).

3.2. Students' Perception on the Implementation of Digital Learning

Based on the results of interviews with students, the implementation of digital learning has several benefits, including; provides a lot of ease of access (flexibility) for students, learning

continuity in certain situation such as Covid-19 pandemic. Digital learning allows students to continue their learning process via LMS to get English language learning through LMS (student A). Students can access the material uploaded in LMS according to their schedule without being timed and precise. Digital learning also allows students to repeat the material according to the level of understanding and their learning style. In addition, students can access the material anywhere and anytime according to their respective schedules as the student response below;

Yes, because with the flipped classroom learning model, we students can repeat the material given by the lecturer in their spare time, so it is not only limited to face-to-face hours with lecturers in class (student B).

Digital learning also encourages students to think critically and do independent learning. When the material is uploaded in LMS students can access the material and the learn it before class time. If there are questions, students can write in the comments column to get feedback from lecturers or from other students so there will be discussion among students. Students can also post assignments that have been done in the LMS then wait for the feedback. This encourages students to think critically about the material being studied or about the work of peers as the following student responses;

Yes, because with learning using flipped classrooms, students will be encouraged to be more creative and it will be easier to express ideas, ideas and opinions in public (student A).

Digital learning encourages students to be more responsible for their individual achievement. Students are required to study independently for finishing assignments and exams. By using LMS in digital learning, the learning process becomes more structured. The virtual classroom in LMS already provide learning activities set by lecturers to encourage self-studying. The setting provides materials presentations, learning resources, discussion forum, activities, tasks, and assignments.

Another benefit of applying digital learning is that this learning model encourages creativity and increases student confidence. There are some students who lack confidence when they have to speak directly in front of peers and lecturers. However, with the use of LMS in digital learning, it enables students to improve their creativities, for example when they have to record themselves in speaking activities, students can show their maximum performance as the following student responses;

I fell so embarrassed to perform directly to the classmates, but if I record my performance without directly talking to my classmates or lecturer, I feel more confident (student B).

Creativity and collaborative learning skill can be seen in the project given to students to create a kind of video blog in groups setting which consisted of 3 or 4 students in a group. The vlog was about promoting oral and dental hygiene promotions in a video then it should be uploaded in social media like Youtube. Students said that the project promoted creativity and collaborative learning.

I really highlighted that the video task mam. In determining the content, we have to think critically. Because we have to the material that I will convey later in the video and then how about the concept, the editing step, then the way to perform in front of camera (student B).

3.3. Benefits and Challenges of Digital Learning

The benefits of applying digital learning to EFL is that this model promotes *student-centered learning*. Students are supposed to do independent learning when students access material via LMS. Students have the flexibility to increase knowledge about the given topic by reading a lot of various reference sources. Ahmed (2012) exemplifies in the material that English grammar usually tends to be teacher-centered ((Löfnertz, 2016). The lecturer explains the *pattern* of English tenses or language structure on Microsoft Powerpoint slides or other media and students can only listen to the lecturer's explanation without doing more practices. In digital learning settings, however, students are given the opportunity to learn on their own by accessing materials posted in LMS. This shows that the digital learning is more supportive for student independent learning when compared to the traditional *classroom* model (Santikarn & Wichadee, 2018).

The use of technology such as LMS in digital learning, according to students, is very helpful to continue to intensive interaction between lecturers and students. By using LMS, students are able take part in learning even though all learning processes are carried out remotely. All materials with varying formats for example; mp4, mp3, pdf, jpeg, Microsoft office, and others can be disseminated to students by accessing LMS. This makes it easier for students to get learning materials. The results of this study are in accordance with the results of Aljaraidah's research (2019) which concluded that students prefer to learn using multimedia and new innovations such as the use of LMS. Learning media that uses multimedia elements such as videos, images, animations are able to attract the attention of students in the learning process (Aljaraideh, 2019)

The use of LMS in digital learning which plays a role in asynchronous mode also plays a role in increasing student confidence in various English skills which include speaking, reading, listening, and speaking (H.Douglas Brown, 2000). For example, students feel more confident if they practice speaking skills by recording themselves when presenting a *mind map*. Self-confidence arises because they do not go head-to-head with classmates or lecturers so there is no embarrassment in such speaking practices. When doing writing assignments,

students post the results of their work through LMS. The feedback given from the lecturer regarding things that must be improved is conveyed personally to the student without being seen by any student. These features are easily set up in the LMS. Research by Ghazal, et al (2018) also states that the use of digital media in this case LMS according to students contributes to the level of student confidence because it offers technology to improve knowledge and skills relevant to their learning (Ghazal et al.(Ghazal et al., 2018)

In addition to the various benefits of digital learning, there are still some challenges in implementing digital learning. Based on information obtained from respondents, the main obstacle learning process integrated with technology is internet connection. Student residences are spread across various parts of Indonesia with varying signal strengths depends on the location. The results of this study are also the same as the results of Yu's research (2019) which states that most respondents prefer face-to-face learning because digital learning cannot be fully online, some students still need to have traditional classroom with conventional learning media such as books. Digital learning model requires special attention for students because they need adjustments after a long time of success with traditional learning model that has been successfully applied (Yu, 2019) . Some students are also initially less familiar with LMS, but as time goes by, they can adjust and understand the features in LMS.

4. Conclusion

The digital learning model that combines asynchronous mode (LMS) and synchronous mode (virtual conference platforms) was implemented in learning process for learning continuity. The study found that students gave positive responses to the implementation of digital learning in the form of Virtual Flipped Classroom (VFC). It was interpreted from the students' perception on digital learning that was able to increase students' focus on learning materials. The use of LMS in digital learning encouraged students to get deeper understanding of the materials given and accommodated students' paces in learning as the materials could easily accessed in LMS. Further, the use of digital devices or platform in learning process promotes flexibility in learning, collaborative learning situation, independent learning, and student-centered learning.

Considering all the benefits and positive responses form the students, there were challenges in implementing digital learning which was related to unstable internet connection in several places, especially for students who live in remote areas. The cost of purchasing internet quota is also burdensome for students. Another thing that was viewed as a challenge was also related to students' knowledge of the LMS. Some of them were not familiar with any kinds of digital platforms and the devices for accessing the learning materials.

The findings of this study were not fully perfect. There are several limitations in this study. Firstly, related to few numbers of participants as the study was conducted in narrow

population. Secondly, as this study viewed investigated issue form one viewpoint and in the form of self-reported perceptions, the result could be biased. Therefore, other alternating perspectives such as parents, teachers, or school managers are suggestive in further research to gain holistic views of the implementation of digital learning.

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