Students' Perception towards Synchronous and Asynchronous Learning Modes at Faculty of Teacher Training and Education

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Abstract. *This study aimed to find out students' perceptions of synchronous and asynchronous learning modes. This research was conducted at the Faculty of Teacher Training and Education at Universitas Muhammadiyah Sumatra Utara. This study used a qualitative descriptive method and used random sampling. The subjects of this study were 50 students filling out the questionnaire and 8 students being interviewed. From the results of the study, it can be seen that as many as 72% of students are satisfied with the synchronous learning mode, and as many as 66% of students are satisfied with the asynchronous learning mode. It can be seen that more students like synchronous learning mode than asynchronous learning mode by online learning using whatssapp, google classroom, and zoom application.*

Keywords : *Online Learning, Synchronous Learning, Asynchronous*

Abstrak. *Penelitian ini bertujuan untuk mengetahui persepsi siswa tentang mode pembelajaran sinkron dan asinkron. Penelitian ini dilakukan di Fakultas Keguruan dan Ilmu Pendidikan Universitas Muhammadiyah Sumatera Utara. Penelitian ini menggunakan metode deskriptif kualitatif dan menggunakan random sampling. Subyek penelitian ini adalah 50 siswa yang mengisi angket dan 8 siswa yang diwawancarai. Dari hasil penelitian terlihat bahwa sebanyak 72% mahasiswa puas dengan mode pembelajaran sinkron, dan sebanyak 66% mahasiswa puas dengan mode pembelajaran asinkron. Terlihat bahwa siswa lebih menyukai mode pembelajaran sinkron daripada mode pembelajaran asinkron dengan pembelajaran online menggunakan whatssapp, google classroom, dan aplikasi zoom.*

Kata Kunci : *Pembelajaran Online, Pembelajaran Sinkron, Asinkron*

PRELIMINARY

Technology was also advancing and developing rapidly (Tatnall & Fluck, 2022).The development of technology is a solution for the world of education in the midst of the uproar about the spread of the covid19 virus. The covid19 virus was first discovered in Wuhan. Throughout the world the corona virus is spreading rapidly, this virus spread to other countries in 2019 and in March 2020 Indonesia began to announce the spread of the covid19 virus (Mar'ah et al., 2020) The rapid spread of the virus and the ever-increasing death toll have forced the government to change the learning system in schools. Finally, the government issued a new policy namely learning that is usually done face-to-face is turned into online learning (Mar'ah et al., 2020). Students use cellphones a lot during the Covid-19 pandemic, they use mobile devices as a medium in communicating in the teaching and learning process, The indirect way of learning in the classroom is called mobile learning (Siregar & Manurung, 2018) This change certainly raises a new problem, namely the difficulty of teachers and students in conducting online learning.

Online learning is a learning process that is carried out using electronic media (Syam & Achmad, 2022). Online learning is a learning process that is carried out using the internet to access material and interact with the aim of gaining knowledge and understanding. Some online learning applications are also very easy to access on mobile devices.

The synchronous learning process is carried out directly. In this case, educators and students interact directly online. The method of synchronous online learning is teleconferencing, live streaming, chatting or video conferencing (Riwayatiningsih & Sulistyani, 2020) Examples of learning media that are usually accessed in synchronous learning are zoom, Google meet etc. While, asynchronous learning process is not done directly. This means that educators and students can take different study times and students can access learning at any time (Prasasti, 2021) Examples of learning media that are usually used are e-mail, Google Classroom, etc. Synchronous and asynchronous learning processes can be used as a solution for the world of education so that the learning process continues even though it is in the midst of breaking the chain of Covid19.

Online learning model is very affordable and easy to access to remote areas (Nambiar, 2020) However, in reality there are still some students and teachers who still have difficulty using and accessing online learning which is caused by an unstable network and cannot be reached in remote areas. Although online learning can protect the health of students and faculty during a pandemic, conventional learning is still more effective. Online learning Underdeveloped countries like Pakistan are not getting the desired results. Because most of the students have technical and monetary problems so they can't access the internet (Adnan & Anwar, 2020).

This research was conducted one of university in Indonesia, was at the University of Muhammadiyah Sumatera Utara, especially for students from faculty of teacher training and education. I have researched it because in this faculty of students has been trained to become teacher. Therefore, our research related to synchronous and asynchronous learning modes. UMSU has conducted online learning during the pandemic (Sagala & Syahputra, 2022) and this semester will be learn using by bleanded learning. Of course with the changing learning process, there were some obstacles in the synchronous and asynchronous learning process. One of the obstacles they face is that they have little opportunity to discuss and communicate in class (Lin & Gao, 2020) One of the difficulties experienced by students in working on campus projects is the lack of socialization caused by distance learning (Adnan & Anwar, 2020) Meanwhile, other problems are mostly due to a lack of understanding about the use of online learning media and poor internet connections (Simamora, 2020). These problems resulted in decreased interest and motivation to learn in students.

Based on previous research, students have difficulty in using online learning media so it would be better if they use technology that is easy to operate to make it easier for students to carry out the learning process and students can be more enthusiastic and active in the learning process. The use of mixed learning media will be very good for students to improve cognitive abilities, students have difficulty in using online learning system. The use of mixed learning media will be very good for students to improve cognitive abilities (Anrasiyana; et al., 2022). Meanwhile, based on the expert, there are many problems in conducting the online learning process such as inadequate devices, student package quotas, difficulties in understanding the material (Wulandari et al., 2022), and difficulties in network coverage (Wulandari et al., 2022). Based on the experience of researchers when carrying out synchronous and asynchronous online learning, there are several difficulties, namely a lack of interest in learning because the learning process feels so boring (Sihombing & Fatra, 2021) , then it is difficult to do group work (Damşa et al., 2021) so that the learning process does not run optimally. Researcher discussed about students' perceptions of synchronous and asynchronous learning mode, because were several problems caused by changes in the learning model during Covid19. With the aim of the causes of student problems and knowing whether the synchronous asynchronous learning method used by lecturers can help students' understand learning materials, at one of faculty in Indonesia and found the solutions to increasing student interest in synchronous

and asynchronous online learning. Online learning is a technology-based learning that is carried out remotely and can be accessed anytime and anywhere (Wardhani et al., 2022), especially during the covid19 pandemic. Online learning is also a solution (Batubara, 2021) so that the world of education continues even though it is in a period of social distancing. Online learning is part of the education system (Selvaraj et al., 2021) in the world and makes education easy to access and convenient for everyone to use .

In times of emergency, we adopt online learning, and it is both a challenge and a necessity for policymakers, experts, teachers, citizens and students to find new solutions (Patricia Aguilera-Hermida, 2020). It has good and bad effects. Everything depends on the conditions experienced by students. Students who have good facilities and network connections will have a positive impact from online learning, but on the contrary if students who do not have internet access and the technology needed will have difficulty in online learning. And students who have skills in using the internet will feel the benefits and gain new knowledge in online learning, but for students who have a lack of knowledge in using technology will have difficulty doing assignments and carrying out other online learning processes because they are not used to it.

Synchronous learning using the internet network (Wannapiroon et al., 2022), namely the learner and educator are at the same time. Synchronous learning systems are almost the same as traditional learning systems because the learning system is carried out face-to-face and interacting even in cyberspace(Barnad, 2021). The media used in synchronous learning are Google Meet, video conference and zoom meeting (Sulistio, 2021). Synchronous learning is an online learning mode using online learning media(Puspitacandri & Sutoyo, 2022) directly, this learning is said to be effective because teachers and students can communicate directly, making it easier for students to ask questions and discuss in the online learning process.

Synchronous learning typically uses video conferencing and chat(Hrastinski, 2007). Advantages of synchronous learning mode are; (a) Real collaboration and interaction by using synchronous technology, users can interact in real time and can be used as structured collaborative projects. (b) Sense of presence and closeness synchronous devices are useful for conveying up-to-date information. (c) Build a learning community, creation of a relationship between student groups makes the synchronous device very useful for its users. The long-term effects are organizational ability, increased teamwork, increased employee retention and the formation of a collective identity. (d) Can connect with people who have different learning styles. (e) Unique functionality learning in the classroom can be recorded so that it does not require a blackboard and funding tools, so users can collaborate quickly and easily. And disadvantages of synchronous learning mode are; (a) many variations will cause problems, because in using collaborative learning technology in order to synchronize several different locations will be very difficult. (b) Local time constraints synchronous learning requires users to do it at the same time, time zone differences will cause problems in communicating. (c) Requires careful planning schedule planning must be negotiated in advance because it can cause conflict. and must be careful in ensuring that participants are present in the synchronous learning process

Asynchronous learning, students and educators are in different times (Vidhiasi et al., 2021), namely accessing the information and material provided is not bound by time so that students and teachers can be more flexible in using time. The media used in this learning mode are e learning and WhatsApp groups. Asynchronous learning makes it easy for students to download lessons or send messages in the learning process and students have more time to complete their assignments, generally this learning mode is considered more effective than synchronous communication. The advantage is that good speaking quality can be achieved by structuring the discussion and giving enough time to focus on something to be uploaded. Students are given the freedom to choose the right time. Suitability of places that are not regulated so that it is easier for them to study whenever they can (Azzahra & Suryaman, 2021) The advantages of Asynchronous learning mode are; (a) Flexibility, by using asynchronous mode can access learning anytime and everywhere, no need certain room conditions who are working and busy state will make it easier to access. (b) The student

will not worry about competing with other students because he will learn at his own pace. And they can review the learning and can choose to study independently or structured. (c) The students can browse the web to find various topics and to get answers because there are many choices of content out there that they can browse and get more references.

Disadvantages of Asynchronous learning mode are; (a) Impersonal, creates a lack of interaction for students and most students are not able to do independent learning, this makes students less collaborative, and unable to receive feedback. (b) Requires discipline, Students need a high level of discipline because they have to do as much learning as they do in class. Students will easily give up in learning if there is no one to supervise and guide. And interactions that are difficult to do in asynchronous learning mode, students also tend to study different materials so that the potential for discussion is reduced. (c) Take a lot of time, Interactive tutorial materials such as Web, Moodle non-commercial, blackboard might be a good resource for students, but in the process of preparing the material it will take a lot of time, many faculty members spend extra hours creating interactive tutorials as well as shoulder full study hours.

Some of application used sycronous and asycronous learning modes, are; (a) WhatsApp application is a chat application that is used to send a chat application that is used to send messages (Siregar et al., 2022) or information in groups or privately that can be used by various groups of young and old. Some of the features that can be used are text, video, photos, telephone, video calls (Gómez-Arteta et al., 2022) and others so that they are suitable for use in online learning . One of the good and widely used communication tools is WhatsApp because it is easy to use and has a simple form. People communicate by sending messages, audio, pictures, and creating groups. The maximum member in the WhatsApp group is 256 members (Napratilora et al., 2020).

(b) Google Classroom application is a new tool in 2014 which was introduced in Google Apps Education. This tool facilitates teachers to organize and create assignments quickly, communicate in class more easily and provide feedback (Shelvam et al., 2021) more efficiently. It is one of those tools that is free of cost and has gained popularity in a short time (Azhar & Iqbal, 2018). Google classroom application and related applications in teaching and learning data have a purpose as a pedagogical/cognitive tool (Hasan, 2021). Institutions currently signed in with Google, there are several ways that Google Classroom can benefit both students and faculty. Here are some ways to use Google classroom for faculty and students (Iftakhar, 2016), are (a) Google Classroom has access to discussion threads and assignments which have the potential to streamline student communication and workflow. (b) Google Classroom can keep student files more organized so that all student work can be stored in one program. (c) Google classroom can identify students who have difficulty in doing assignments because of the tracking of the related mechanisms so that it can make it easier for faculty to identify. (d) Due to the assessment features related to student submissions, the assessment process can be simplified more. (e) It can access to work group to chat friend and teacher

(c) Zoom application has become a popular choice for universities, government agencies, organizations and individuals during the COVID-19 period. Eric Yuan founded Zoom in 2011 and Zoom is a collaborative video conferencing tool that features audio, screen sharing, video so that it can conduct online lectures, virtual conferences, web dinar, online meeting. Zoom is available for staff, students or faculty at a university and Zoom can be used by instructors as a tool for interactive learning. There are advantages of zoom applications (Tsarapkina et al., 2020): (a) Zoom app has less internet traffic so connection is stable RAM On device only a little. (b) Various on-screen options available the ability to share whiteboards online; Can share whiteboard online (c) Students can be divided into separate mini-groups during class; Can create separate mini groups within the app (d) broadcasts during the learning process can be recorded. And disadvantages of the Zoom app include the following: (a) the free duration of the application is only 40 minutes In learning the features and ins and outs of the application takes extra time (b) Leaks of user's personal data may occur

RESEARCH METHODS

The data analyzed by using qualitative descriptive method, namely by giving questionnaires and interviewing about online learning modes during the pandemic. The data would be tabulated and arranged in the form of a table which is then calculated the percentage. In calculating this percentage the researchers used SPSS (Statistical product and service solution) version 21.0 for Windows.

Qualitative research is research that is carried out so that we have a deep understanding of social and human problems, not as qualitative research with positivism is carried out by describing the surface part of a reality, research is carried out in a natural setting, not the result of manipulation. The subjects of this research were 50 students at faculty of teacher training and education in University of Muhammadiyah Sumatera Utara was as one of Indonesia University. This reserch used random sampling, randomly and does not pay attention to the strata of the population.

RESULTS AND DISCUSSION

Analyzing the data, the researcher used google form "https://forms.gle/RUFh3ga6ZhJLb9UD8" as a medium to ask questions related to students' perceptions in the used of synchronous and asynchronous learning modes. Then interviews were conducted to support students' answers. The research used four scales in answering questions without any "Neutral" answers so that the answers obtained are clear.

I feel satisfied using the synchronous learning mode

		Frequency	Percent	Valid Percent	Cumulative Percent
	SD	2	4.0	4.0	4.0
	D	11	22.0	22.0	26.0
Valid	A	20	40.0	40.0	66.0
	SA	17	34.0	34.0	100.0
	Total	50	100.0	100.0	

There were 50 participants who had filled out the questionnaire. as much as 4% (2 participants answered strongly agree, 22% (11 participants) answered disagree, 40% (20 participants) answered agree, and 34% (17 participants) answered strongly agree. Based on the results of these data it can be concluded that students are satisfied with the used of the synchronous learning mode.

I feel satisfied using the Asynchronous learning mode

		Frequency	Percent	Valid Percent	Cumulative Percent
	SD	3	6.0	6.0	6.0
	D	11	22.0	22.0	28.0
Valid	A	22	44.0	44.0	72.0
	SA	14	28.0	28.0	100.0
	Total	50	100.0	100.0	

Based on the data that has been obtained, as many as 6% (3 participants) answered strongly disagree, 22% (11 participants) answered disagree, 44% (22 participants) answered agree and 28% (14 participants) answered strongly agree. Based on the results of data, it can be concluded that some students are still dissatisfied with the asynchronous learning mode, but most are satisfied with the use of asynchronous learning mode.

The following are the results all questions about students' perceptions of synchronous and asynchronous learning models and the use of mobile devices during synchronous and asynchronous mode.

No	Question	SD	D	A	SA
1.	satisfying synchronous mode	2	11	20	17
2.	satisfying asynchronous mode	3	11	22	14
3.	synchronous mode is helpful	8	20	15	7
4.	asynchronous mode is helpful	8	15	17	10
5.	The Poor internet connection	7	3	7	33
6.	synchronous easy to use	4	6	22	18
7.	Asynchronous easy to use	5	10	17	18
8.	Difficulty using asynchronous	3	11	14	22
9.	The material presented is clear when using synchronous	9	0	26	15
10.	The material presented is clear when using synchronous mode	5	14	19	12
11.	My grades improved	3	11	18	18
12.	I am active during the synchronous	2	7	26	15
13.	I am active during the asynchronous mode	4	12	18	16
14.	I understand how to collect assignments using asynchronous.	2	10	19	19
15.	practical mobile device	3	3	19	25

Noted: Strongly agree 4, Agree 3, Disagree 2, and Strongly Disagree 1

Based on the results of the data that has been analyzed students understand well the use of synchronous and asynchronous modes. as many as 74% of students are more satisfied with the synchronous learning mode and as many as 72% of students are satisfied with the asynchronous learning mode. However, students also experience difficulties if they only use asynchronous learning modes. This is supported by the opinion of students from the results of interviews.

M B   : I prefer the synchronous learning mode because when we learn it must also be accompanied by practice, so it is difficult to only use the asynchronous learning mode.

R A   : if the asynchronous learning mode makes us less in control, we are a little lazy to study. (There are several students agree).

However, there were several advantages of the asynchronous learning mode. This is supported by the opinion of students

NAD & REN   :The material provided is complete and easy to access.
MB   : I have more time to study and the materials can be accessed anytime and anywhere.

Some students are not used to the current changes in learning modes. Especially if the online learning mode is very network dependent. As many as 80% of students have experienced network problems so that students found it difficult to do online learning. This is also supported by several student opinions

NH   : if we use the synchronous learning mode the difficulty is when the network is unstable, we definitely can't follow the lesson because we can't connect.

Then during the used of online learning students usually use mobile devices because they are considered very practical and can be used anytime and anywhere. As many as 88% of students agree that the use of mobile devices is very practical and helps in synchronous and asynchronous online learning processes This is supported by student arguments.

E V   : If there is an urgent thing, it can be brought while studying

R E N   : It's easier to carry and all learning media can also be accessed using a cellphone

CONCLUSION

Advances in technology have become a solution for the world of education so that learning continues even in a pandemic situation. Based on observations, there were several similarities and differences between the results obtained with previous studies. According to Zuhriyah (2020) that in the asynchronous learning process, students have a lot of time to learn and understand the material provided. While these results are different from the results that researchers have done, it was found that 72% agreed that when doing asynchronous mode they had difficulty interacting, based on the results of interviews students also explained that they did not understand the material well during the use of the asynchronous online learning mode.

However, Zuhriyah also argues that students feel that synchronous and asynchronous learning modes are very practical so they can be accessed anywhere, this is very relevant to the research conducted that students think that synchronous and asynchronous learning modes are very practical and can be accessed on mobile devices. The researcher also found similarities between the results of the study and the History of Riwayatiningsih (2020), namely learning will be more active when synchronous and asynchronous learning modes are mixed or used both when learning, students think that both learning modes have weaknesses and strengths, but will be better and help if two modes of synchronous learning and asynchronous learning are used simultaneously, some students prefer the asynchronous learning model because it is easier when practicing direct learning so that students can understand the learning material well. Students of faculty of teacher training and education are not very easy to practice through sychrounous mode for teaching or micro teaching courses in class with a lecturer. Because teaching practice must train teaching in stages such as getting to know the method, improving the quality of strategies as faculty of teacher training and education students.

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