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Preferred Online Learning Method during COVID-19 Pandemic: A Students' Perspective

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A B S T R A C T

COVID-19 pandemic has been causing a massive disruption towards human life including interactions within education. Traditional learning activity in classes must be transformed into online learning to support physical distancing. This urge leads to tension, not only experienced by educators in general, but also by students. This paper aims to evaluate online learning done during the second half of even semester 2019/2020 and to find out the preferred online learning method from the students' perspective. A number of Universitas Gadjah Mada students became the respondents answering closed and open questions related to the topic. The results show that students also experienced confusion during the process and preferred learning method which includes independent learning with prepared materials followed by virtual discussions and quizzes.

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1. Introduction

The appearance of COVID-19 in Wuhan, China in the early 2020 (Shi, et al., 2020) caused a huge shift for human beings. This phenomenon has been announced as pandemic by WHO (Sohrabi, et al., 2020). Reacting to this, various nations then implemented isolation and quarantine to minimize the spread of the virus (Smith & Freedman, 2020). The strategy was considered as one of the most effective to be implemented in this modern era (Goje, 2017). This brought a disruption in nearly all sectors involving human interactions, including education (Dwivedi, et al., 2020).

Following Daerah Istimewa Yogyakarta (DIY) Governor's Decree No. 65/KEP/2020 and Circular issued by Rector of Universitas Gadjah Mada No. 1606/UN.1P/HKL/TP/2020, traditional learning activity in classes must then be transformed into online learning to support physical distancing. The closure of educational institution was a positive move done by nearly all government to protect the academics from the risks of being exposed to the virus, considering school environments are places with high disease spreading rate (Sintema, 2020). The common teaching and learning activity where students and teachers meet face to face, doing lectures and having discussions were no longer possible. Everything had to be done through online, harnessing the information technology. This urged leads to tension, not only experienced by educators in general, but also by students (Sintema, 2020).

A number of studies had been done regarding the challenges and practices on online learning during this pandemic (Darmalaksana, Hambali, Masrur, & Muhlas, 2020) (Dwivedi, et al., 2020) (Sintema, 2020) (Yensy, 2020) (Hodges, Moore, Lockee, Trust, & Bond, 2020) (Jamaluddin, Ratnasih, Gunawan, & Paujiah, 2020). Those studies highlight the current shifting of conventional learning into digital or online ones, whether focusing on the media used (Yensy, 2020), students' performance during the learning process (Sintema, 2020), or the learning practice from both the educators' perspective (Darmalaksana, Hambali, Masrur, & Muhlas, 2020) and learners' perspective in general (Jamaluddin, Ratnasih, Gunawan, & Paujiah, 2020). However, there is still a lack of study on what learning method would meet students' preference during this learning shift. It is important to evaluate the learning process from students' perspective to improve the quality of the courses in order to maximizing

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students' learning experience in the future (Alqurashi, 2019). Studies also shown that students who are taught in a way they preferred would perform better than those who are not (Turville, 2013). Therefore, this study aims to fulfill the gap by investigating students' preference on online learning method during this pandemic.

Student Learning

Academic institutions offer what we called as structured learning activities to their students. Tomlison in defined learning as the way people learn best as individuals, including styles, intelligences and preferences, and other factors which influence their learning experiences (Turville, 2013). These institutions have thoroughly designed such learning activities for the students to meet various learning goals. Curriculums, syllabus, and course outlines are prepared to meet the targeted learning outcomes previously set by each institution.

Students' success of structured learning in educational institution are affected by a number of factors. There are at least internal factors, from the students themselves, and external factors, other matters related to the learning process and environment. Personal factors (of students, such as IQ, home background, personality characteristics) and situational factors (related to the situational context, such as subject content, teaching and evaluation methods, learning time) are presage factors which may directly or indirectly affect their learning performance (Biggs, 1987). Following those two presage factors, students' learning motives and students' learning strategies also contribute to the learning process (Biggs, 1987). Students who are highly motivated would mostly have numerous strategies to achieve the highest regardless the problems they encounter while learning.

Traditional vs Online Learning

Traditional classes allow direct interaction between teachers and students. Within that learning environment, teachers are able to deliver materials and give motivations as well as instructions towards their students under a specific time and place. Both students and teachers may also conduct a discussion, giving feedbacks one another at once. Beside the immediate and direct interaction, traditional learning is also considered more familiar to be implemented. However, it has its own drawbacks such as limited by time and space (Pangondian, Santosa, & Nugroho, 2019).

The rapid development of technology in the last decades provides unlimited opportunities to almost every sector of human life. In education, this development brings the emergence of e-learning, the technology-based learning where students are able to learn remotely and learning materials are delivered electronically through computer network (Zhang, Zhao, Zhou, & Nunamaker, 2004). By harnessing the benefits provided by technology, specifically internet, e-learning or online learning allows boundless opportunities and resources to both students and teachers in improving students' learning experience (Jati, 2019).

In reality, study on entangling Information and Communications Technology (ICT) in teaching and learning process is not new. The use of technology for educational purpose has been ubiquitous, especially in university level (Ellis & Bliuc, 2019). This online learning is even considered a need in recent years (He, Xu, & Kruck, 2014). It offers numerous benefits, especially related to its personalized, flexible, and portable learning characteristics (Zhang, Zhao, Zhou, & Nunamaker, 2004). Among its advantages for students, online learning also gives students control to adjust their interest and learning styles to become a self-directed-learner (Jati, 2017) (Harjanto & Sumunar, 2018).

The actual application of online learning is not free from challenges. From the students' side, the ability of students using technologies and how students perceive online learning technologies really affect their leaning outcome (Ellis & Bliuc, 2019). Ginns and Ellis then pointed out that this condition causes some students to perform excellently while others, who have difficulties in understanding or utilizing technology for learning purpose, do not (Ellis & Bliuc, 2019). Other challenge specifically faced by teachers in conducting online learning is the necessity to adapt, understand, and learn utilizing the technology. This also leads to a more time-consuming preparation compared to traditional in-class teaching (Zhang, Zhao, Zhou, & Nunamaker, 2004). Beside the probable technical problems, inadequate preparation as well as monotonous delivery may also lead to boredom, decreased learning interest, and even frustration during the learning process (Zhang, Zhao, Zhou, & Nunamaker, 2004).

After understanding both opportunities and challenges brought by online learning, some key factors can be drawn to gain a successful online learning. These factors at least consist of the state of the technology itself, teachers' characteristics, and students' characteristics (Pangondian, Santosa, & Nugroho, 2019). Technology used must be available and accessible for students and teachers. Teachers must be able to maximize the use of technology in delivering materials, giving instructions, keeping up the interactions, and creating such supportive learning environment for their students. In the other hand, students must also possess great motivation and strong willingness as well as discipline to involve in online learning process.

Online Learning during Crisis

COVID-19 pandemic forces a huge shift in learning activities, specifically on formal education context. Work and school from home policy as a preventive move by the government to hold the spread of the virus compels a sudden transformation of the way learning activities has been commonly practiced. The urge to convert the whole systems from traditional into online pushes the academics to adjust themselves in this crisis by training themselves to maximize the use of technology for learning purpose. Teachers need to swift their previous teaching material to an online delivery format, learning new online teaching techniques, without proper training nor prior experience (Dwivedi, et al., 2020). Students, in the other hand, experience a decrease in their academic performance due to less contact hours and lack of e-learning facilities (Sintema, 2020).

Online learning is indeed a reasonable alternative to conduct during this crisis. Meanwhile, there is a significant difference between a proper online course and the ones initiated as a response to a crisis (Hodges, Moore, Lockee, Trust, & Bond, 2020). An ideal online learning requires the readiness of all aspects related to the learning process, from teachers, students, stakeholders, facilities, as well as environments. Teachers have to possess required skills and knowledges related to online teaching materials, media, techniques, methods, including the technology used to support the process. Students also need to be aware and ready to place themselves learning in online environment with its all affordances and constraints. Stakeholders need to provide such clear regulations to support the online learning process. The facilities and technology required for learning also need to be ready and accessible for all academics' every time they need one. The environment has to also be supportive for learning, with minimal or no interruption, so that the ideal learning could be achieved.

Online learning activities during the COVID-19 pandemic is clearly a less-ideal one. Since every aspect is not ready, a number of drawbacks, like unstable internet connection and limited internet data, brought negative contribution to learners' psychological condition (Jamaluddin, Ratnasih, Gunawan, & Paujiah, 2020). Teachers also find changing the whole teaching materials to be possible for online delivering without proper skills, training, nor time, stressful (Hodges, Moore, Lockee, Trust, & Bond, 2020). Nevertheless, the learning goals still have to be pursued. In the meantime, teachers need to work harder in preparing their materials using suitable methods to ensure their students obtain the maximum knowledge during this crisis.

Universitas Gadjah Mada (UGM) was one of the first universities in Indonesia which decided to shift its learning activities into online as a response to the pandemic. This was done through a circular issued by Rector of Universitas Gadjah Mada No. 1606/UN.1P/HKL/TP/2020 responding Daerah Istimewa Yogyakarta (DIY) Governor's Decree No. 65/KEP/2020. This online learning was started on 16 March 2020. It was during the 6th week from a total of 16 meetings in a semester.

As a matter of fact, UGM has prepared their academics for online learning before the pandemic occurred. To implement the online learning, this institution has already provided Learning Management System (LMS) since 2017 whilst also preparing its young lecturers with related training. This system allows lecturers and students share learning materials, have discussions, post and submit assignments, quizzes, and/or exams outside the classroom. There are at least four LMS which could be used by internal academics, namely eLisa, eLOK, simaster, and Simbel, as seen in Figure 1.

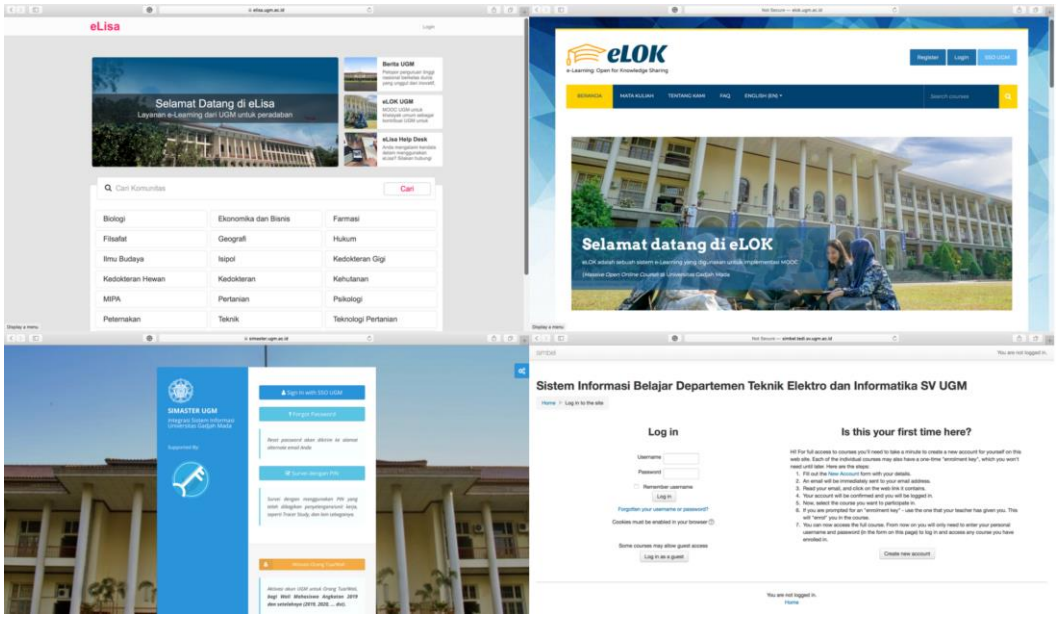

Figure 1. UGM LMS homepages

It is still a challenge to fully execute online learning despite the support system UGM has already prepared. Not every lecturer and student are ready to face this sudden change. Several key indicators to accomplish a successful online learning are very likely to be missed in emergency remote learning i.e., careful instructional design and planning as well as systematic model use for design and development (Hodges, Moore, Lockee, Trust, & Bond, 2020). This condition brought up such urgency to find out the best possible practice regarding online learning. Therefore, one way to help students achieve the learning goals is by finding the preferred learning method from the students' perspective.

2. Methods

This study aims to find out best online learning method as preferred by students. To meet the objective, a number of students from Universitas Gadjah Mada from four different faculties became the respondents answering a total of seven closed and open questions related to the topic. The study used online questionnaire through google form to get the data. The questionnaire link was distributed to students via WhatsApp group. Through four closed and three open questions in the questionnaire, students were queried about their experience, satisfaction, preferred learning platforms and methods, along with their expectation for the upcoming online learning in the following semester, in case the pandemic still forces the university to hold one. As many as 85 students from Faculty of Engineering, Faculty of Cultural Sciences, Faculty of Pharmacy, and Vocational College, gave their response to the questionnaire between July and August 2020.

The collected data from the questionnaire were categorized to see the trends. Short answers were analyzed by simple percentages presented in charts. Responds in the form of long answers were then analyzed using a thematic analysis technique (Alhojailan, 2012) (Nowell, 2017). This technique is used to generate patterns of the collected data which were then used to seek for potential categories. The process involved were (1) being familiar with the data set by reading and understanding the responses; (2) creating initial codes by attaching labels to the text's different sections; and (3) generating patterns by grouping different codes together (Javadi, 2016). The result was then compiled in highlights to see the general online learning methods preferred by the students.

3. Results and Discussion

Due to the COVID-19 pandemic, as many as 10 meetings during the second half of even semester 2019/2020 in UGM were conducted online. These meetings consisted of 2 regular meetings before the mid-term, 1 mid-term, 7 regular meetings after the mid-term and 1 final examination. From those online

learning meetings, only 4.7% students felt satisfied, 42.4 % felt unsatisfied, while 52.9% others felt neutral towards the practice, which are shown on Figure 2 in detail.

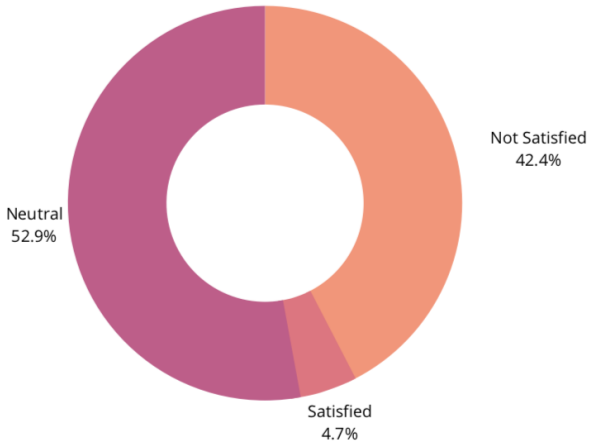

Figure 2. Students' perspective on previous semester's online learning

A big number on un-satisfaction felt by the students (42.4%) must be caused by a number of reasons. According to the students' perspective, based on the data derived from the questionnaire used in this study, these reasons came up from technical aspects, environments, learning practice, as well as students' characteristic and motivation. The technical aspects consist of bad signal reception and limited internet data. Environment includes distractions from the surroundings, especially during the online meeting. Learning practice incorporates too many assignments, lack of discussions, lack of explanations, and uninteresting learning media chosen by the lecturers to deliver the material. Students' characteristic and motivation involves bad time management, difficult to focus, and lack of motivation.

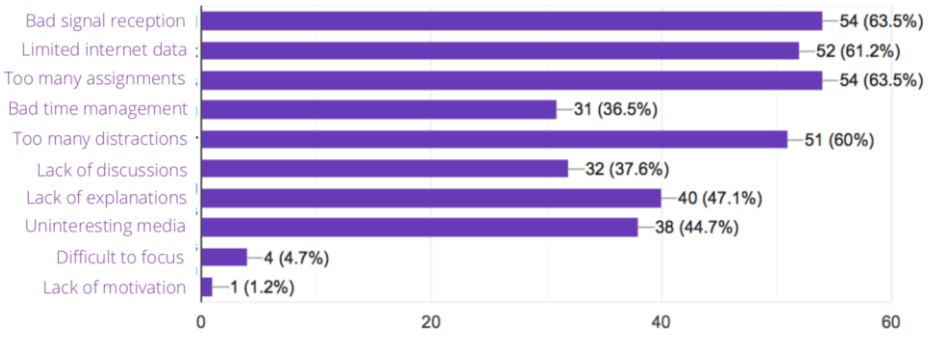

Figure 3. Factors of students' un-satisfaction towards the previous online learning

Figure 3 shows the detailed percentage of reasons why students felt unsatisfied towards the online learning from previous semester. The highest reasons were bad signal reception and too many assignments (63.5% each). Students mostly studied from their home during this pandemic. Only a small number of them decided to stay in Yogyakarta. This caused the diverse internet signal reception. Those who stays in relatively big towns would most likely receive better internet signal than those who live in remote area. This condition then made the learning quality not as good as learning in class since internet connection is crucial for the success of online learning.

Too many assignments also became the main reason why students felt previous semester's online learning unsatisfying (63.5%). The first online learning meetings were the hardest for all. Lecturers had to change the material they had prepared for regular face-to-face class delivery into online. Converting the prepared material for online teaching in such a short time without proper knowledges and skills was a real challenge and not every one of them ready for that. This condition made many of the lecturers

decide to give students self-learning assignments instead. They asked their students to read articles, book chapters, and other sources followed by various assignments to check students' understanding towards the topic. Having these similar assignments for more than one subject every week overwhelmed students. Those who admitted having bad time management (36.5%) must put more effort to keep up with the new condition.

Limited internet data was one of the most mentioned reasons why previous semester's online learning did not meet students' expectation (61.2%). Since students were not allowed to come to campus, they were unable to utilize campus facilities, including the internet access. Thus, they needed to provide their own internet data to be able to participate in online learning. This was a burden for most of the students considering not every of them came from a privilege family who can provide unlimited internet access. UGM actually did an effort to overcome this condition by providing its students a kind of internet subsidy, yet the distribution took quite some time.

Another factor causing students' un-satisfaction towards previous semester's online learning was too many distractions around (60%). This then caused the difficulty to focus on the learning activity (4.7%). During this pandemic, students were forced to learn outside classroom. This condition is regarded as less ideal. The distractions they encountered were quite vary, from disturbing noises around during the online meeting, the domestic responsibilities at home, until some unexpected interruption from relatives. These are not possible to happen on the traditional in-class learning where the environment is more ideal for conducting learning activities.

Next factors were related to online learning practice during the previous semester. Some reasons mentioned causing unsatisfied online learning were lack of discussions (37.6%), lack of explanations (47.1%), and uninteresting media used by lecturers to deliver the material (44.7%). Online learning was new for everyone and it was a real challenge. Nearly all lecturers were not ready to really integrate technology to their teaching practice. Using the virtual meeting platforms, like Zoom, Google Meet, or WebEx was unusual. This condition made most of them decide to use asynchronous learning instead, by giving more self-learning assignments. These assignments sometimes were not followed by any explanations nor discussions. One example, lecturers sent Power Point or other reading materials to their students followed by assignments related to the topic. Some might 'upgrade' the Power Point in a form of video with an explanation. Without real interaction, these methods were considered uninteresting. If almost all lecturers from every subject used this method, then it would be very overwhelming for students and might degrade their learning motivation (1.2%).

Conducting online learning requires the use of online platforms. The platforms used were quite vary. Google meet, WebEx, Zoom, YouTube, WhatsApp, and Podcast were the platforms used during last semester's online learning in UGM.

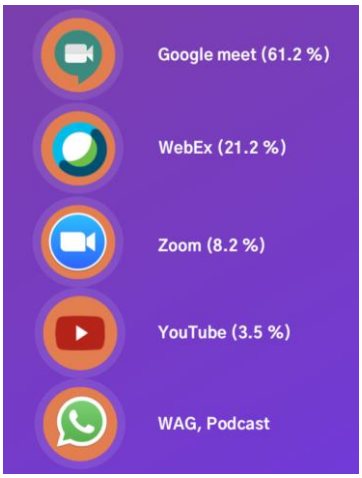

Figure 4. Students' preferred online learning platforms

Figure 4 shows the platforms used for the online learning, starting from the one most student thought ease them to the ones less common or less preferred. Most students (61.2%) thought Google meet helped them. It is mostly because Google meet was quite effective and easy to use due to its simple

user interface. The application was relatively light which made it more stable. Students also felt that this platform was more data 'friendly' compared to others. Furthermore, some students mentioned this platform was quite convenient since it is integrated to their email. Other reasons mentioned related to Google meet preference were its was free and without time limit. Next platforms preferred by students were WebEx (21.2%) and Zoom (8.2%). A number of students thought that these two platforms were quite easy to use. They also mentioned that both WebEx and Zoom were quite convenient since they could be use in either computer or their smart phone. However, WebEx and Zoom required more data and stable connection compared to Google meet. This explains why both of which were not as popular as Google meet among students. Beside the aforementioned platforms, there were YouTube (3.5%), WhatsApp and Podcast (3.5%). YouTube and Podcast were used during the asynchronous meeting. The two were used by the lecturers to deliver the materials. WhatsApp group were actually quite popular during the first weeks of online learning for discussion purposes after the materials were given.

Finding the best online learning method in such an undesired condition where students, lecturers, educational institution and system were not ready was indeed challenging since everyone was used to a face-to-face learning. This condition was also applied to higher education context. Lack of direct interaction in online learning, between both students and students also students and lecturers, caused learning activity was relatively hard for everyone. Nevertheless, this COVID-19 pandemic forces every sector of human life to adjust themselves to the extra-ordinary circumstances.

Formal learning requires at least two participants, student and teacher. A learning process will be considered successful when students are able to achieve the learning goals. Since previous studies found that students would perform better when they are taught in a way they preferred (Turville, 2013), it is a need to investigate how students want to be taught specifically during this pandemic where traditional face-to-face learning is not possible.

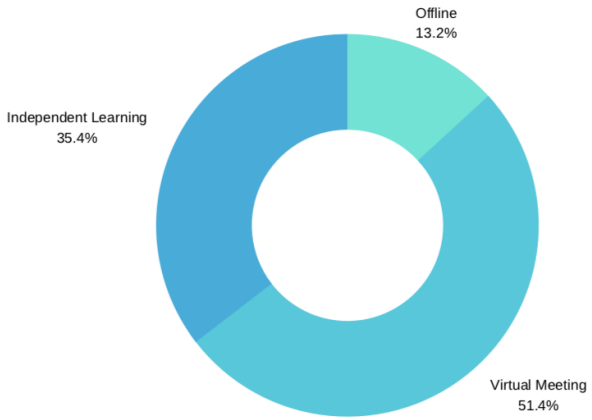

Figure 5. Students' preferred online learning methods

Figure 5 shows what online learning method chosen by students during the pandemic. After conducting online learning for several weeks, most students (51.4%) preferred the synchronous method by conducting virtual meeting using platforms like Google meet, WebEx, or Zoom. This preference was because virtual meeting was considered as the one most similar to the traditional class meeting, where students could get explanations from the lecturers about any related topic. This method also became the most selected since it allowed direct discussion among them, which were not doable in asynchronous method. However, virtual meeting alone was not enough since internet data and signal still became a burden for a number of students. During the virtual meeting, some students might have difficulties in following the whole class session. This condition made students feel that they need independent learning (35.4%) as a complement of the virtual meeting. They preferred to have a material to study first before the virtual meeting which then followed by a kind of evaluation, like mini quiz, to check their understanding towards the topic. By having the material first, they could maximize the virtual meeting for discussion with the lecturers and also their classmates. Hence, they would not need

to spend the whole 100 minutes of the total 2credits of the subject on virtual meeting every week. This method would cut the internet data whilst also make the discussion still possible during the learning process. As for the students having signal trouble during the virtual meeting, they still could access the material and check their understanding after the independent learning. However, a number of students (13.2%) still preferred having the usual offline learning which was unfortunately not possible during the pandemic.

Due to the present condition, the online learning might still continue on the following semester. Related to this, students had a number of expectations. One of the expectations were more preparation from the lecturers, especially related to the materials, and delivery methods. By having more preparation, students expected to get more interactive learning media. Students also wished for less platforms used so they do not need to use different platforms for different subjects and lecturers. Less assignments, more discussion and/or explanation before assignments, and lower standard were also desired since they considered the previous semester was very overwhelming. Students also expected the lecturers to be more responsive, especially when they ask about assignments or explanation on the matter related to the subject. As for the assignments and quizzes, students expected more time to finish. Last but not least, a number of students wished to have face-to-face offline learning whilst following the health protocol for the next semester.

4. Conclusions

Work and school from home policy as a strategy to fight COVID-19 pandemic leads a great shift towards human interactions. Such interaction within education was one of them. Tension, discomfort, and confusion were experienced in higher education context since the parties involved were not ready to conduct a thorough online learning. Almost half of UGM students felt unsatisfied towards the previous semester's online learning, when the pandemic had just started. They admitted feeling overwhelmed with the learning process. This un-satisfaction caused by a number of reasons, including the ones related to technology, the learning practice in general, and from within themselves.

After participating in the previous semester's online learning and experiencing various online learning methods from different subjects, students preferred online learning method which combined independent learning, virtual meeting, followed by evaluation. Independent learning is needed for students to get the idea of the topic discussed. It also helped students who have to struggle with internet signals. Virtual meeting is needed for them to have further discussions and explanations from lecturers. This meeting is also needed to make sure that students possess the correct understanding towards the topic. Last but not least, evaluation, for example in a form of mini quiz, is needed to measure students' understanding towards the related topic.

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