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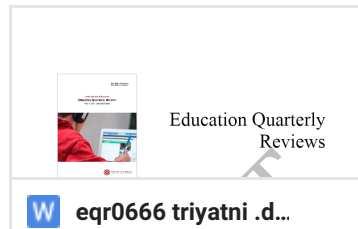


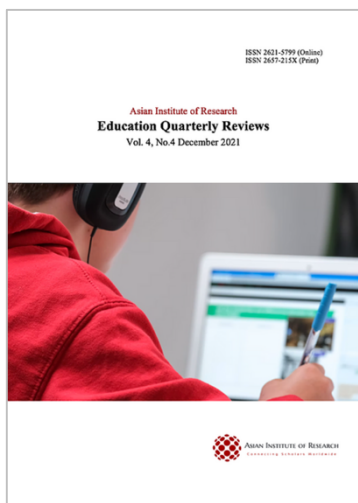
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Architecture Education During the Covid-19 Pandemic

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Abstract

Online learning, also known as e-learning, is the result of the evolution of distance learning that has developed following technological developments, especially information technology. Before the pandemic, online learning was only one alternative that enriched the learning process. Various courses are implemented by combining offline and online learning processes called blended learning. Through the Learning Management System (LMS), the Department of Architecture Unhas combines offline and online learning in studio-based design courses. Lecturers and students are trained to carry out the stages of the learning process guided by online procedures. The ongoing Covid-19 pandemic has made online learning the only way to keep the learning process going as planned. The sudden shift of studio-based courses from offline to totally online resulted in a change in the learning environment and experience. This study found that the online learning process is largely determined by the availability of learning materials and instruction in the LMS, the distance between learning space and time, the learning experience and the meaning of independent learning perceived by students. The study involved student participants at all semester levels, academic administration staff, lecturers, and student parents.

Keywords: Online Learning, Studio, Architecture, LMS, SIKOLA

1. Introduction

On December 31, 2020, the Wuhan Municipal Health Commission China reported that a novel coronavirus had been identified (World Health Organization, 2020). Until February 19, 2020, the corona virus which was later named SARS-CoV-2 had spread to 30 regions around the world. However, many people joked as if Indonesians were immune to the virus (Garnesia, 2020). On March 2, 2020, President Jokowi announced that two Indonesian citizens were infected due to contact with Japanese citizens who came to Indonesia (Ihsanuddin, 2020). On March 15, 2020, for the purpose of increasing awareness of the transmission of the virus, Jokowi instructed Work From Home (WFH) (Ratriani, 2020; Pratiwi, 2020). Jokowi's instructions were also followed up by educational institutions through the learning from home (LFH) program. The learning process is carried out online using various available applications such as Whats App, Zoom, Google Meet, and the Learning Management System (LMS).

1.1. Online Learning

In principle, online learning is a learning process that is carried out without face-to-face between lecturers and students. Online learning is often assumed as a learning process using internet facilities. Whereas online learning is actually a development of a long-standing distance learning system. In 1728, Caleb Phillips offered through the

Boston Gazette, the concept of learning the new method of short hand through letter correspondence. The same lesson materials and instructions as in Boston will be sent to students every week by post (Sleator, 2010:320).

The distance learning system utilizing the correspondence method was later developed using radio, television, and the internet (JSTOR Daily, 2020). Distance learning is defined as a learning method in which students and lecturers are physically separated. The learning method is carried out by utilizing a combination of technology, including correspondence, audio, video, computers, and the internet (Roffe, 2004). Distance learning programs as an alternative to education are generally aimed at students who have barriers to attending face-to-face learning, for example, do not have time or accessibility to educational facilities.

Initially, distance learning was only informal, such as courses in certain subjects and was not recognized as formal education because there was no two-way communication between lecturers and students (Verduin Jr. & Clark, 1991). In the 1960s, the University of Wisconsin opened Articulated Instructional Media (AIM), a special degree program for adults. The courses were offered through a combination of short sessions, off-campus seminars, and independent study, amplified by telelectures, radio-television, programmed material, mobile laboratories and libraries (Wedemeyer & Najem, 1969). AIM later became part of the University Extension which in 1969 inspired the British Open University and further in Spain and Canada. In the 1980s, open universities used satellite television as a means of communication between lecturers and students.

In 1984, Indonesia established the first higher education institution to officially use the distance learning system, namely the *Universitas Terbuka* (Opened University). The main goal is to provide broad opportunities for Indonesian citizens, regardless of where they live, to obtain higher education without restrictions on age, year of certificate, registration time, and frequency of taking exams (Universitas Terbuka, 2021). Before the internet developed rapidly in Indonesia, the face-to-face higher education system used printing materials for learning modules and radio and television media. In the 1990s, universities in various countries began to experiment with distance learning, web-based education. In 1993, Jones International University became the first university to implement fully online learning, and in 1999 it was the first accredited online educational institution. (Corbeil & Corbeil, 2015:55). In 1999, at the Disneyworld Tech Learn Conference, Elliot Masie introduced the term e-learning (Cross, 2004).

In the 2000s, tablet technology, smartphones and free services supported the development of web-based e-learning. The development of Wireless Fidelity (Wi-Fi) technology allows data communication access to all resources provided by the internet on computer devices - desktops, tablets, laptops, smartphones, video game units, digital audio players, e-book readers, and others - quickly without the need for a physical cable connection. These advances create the potential to expose learners to a greater diversity of experiences from people, as well as opportunities to develop problem-based learning opportunities. This is very much needed education and training of various professions in higher education (Corbeil & Corbeil, 2015:56-57; Stansfield, et al. 2008)

1.2. Independent Learning and Merdeka Belajar - Kampus Merdeka (MBKM)

Independent Learning is an alternative learning method in which students learn based on their own actions and direct, organize, and assess their own learning (Henderson, 1984:52-54; Springer, 2012). The concept of independent learning is related to the concept of student-centered learning (Meyer, et al. 2008). Although independent learning programs are also designed for the needs of students, the concept of independent learning described earlier is different from the Indonesian independent learning concept called *Merdeka Belajar – Kampus Merdeka* (MBKM) or Learning Independence - Independent Campus which became a program of the Indonesian Ministry of Education and Culture in 2020. The independent learning program in Indonesia is designed to prepare students to face social cultural changes, the world of work and rapid technological advances. For this reason, the culture on campus must be innovative, not restrictive, and in accordance with the needs of students (Direktorat Jenderal Pendidikan Tinggi - Kementerian Pendidikan dan Kebudayaan 2020:2). Students plan their learning programs with assistance from their respective lecturers.

MBKM gives autonomy to educational institutions and lecturers to be free from complicated bureaucratization, and students are free to choose the fields they like. Students are allowed to take one semester or the equivalent of

20 credits of courses of interest outside the study program, faculty or college. Activities can be carried out through 8 (eight) activities, namely (1) student exchanges, (2) internships/work practices, (3) teaching assistance in education units, (4) research/research, (5) humanitarian projects, (6) entrepreneurship activities, (7) independent studies/projects, or (8) building village/a thematic real work (Direktorat Jenderal Pendidikan Tinggi - Kementerian Pendidikan dan Kebudayaan 2020:4-29).

To support the MBKM program, the Directorate General of Higher Education has developed the SPADA Indonesia online learning system (SPADA Indonesia, 2021). This system is designed as a place to manage selected courses from all Indonesian universities that are included in the MBKM program. The goal is that students who want to take courses outside of their higher education can be served through this system and do not need to enroll in higher education destinations. Most of the universities involved in SPADA Indonesia are universities that do not yet have their own servers and LMS. Higher education that already has opted to offer their courses directly at their respective LMS.

In early 2020, through the Sasrabahu platform, 12 universities with legal status, including Hasanuddin University (Unhas) carried out a collaboration that supports the MBKM program for student exchange between universities. With the system built by the Sasrabahu platform, students are allowed to take courses at other universities with a full credit transfer scheme by the administrator of the home university. Unhas is involved in student exchanges through the Permata Sakti program and university collaborations. This program is here with the aim of adding student insight and experience. Students participating in the program can build networks with other students outside the university (Rahman, 2020a; 2020b). Through the Permata Sakti program, the Department of Architecture was appointed to submit an identity course for Tropical and Archipelago Architecture. MBKM participants from all over Indonesia can take these courses through LMS of SIKOLA.

The MBKM program did not run smoothly due to the protracted Covid-19 pandemic. All learning processes can only be done through the WFH system. As a result, the practical learning process that must be carried out in learning locations such as laboratories, studios, fields, offices or companies, has to be done online. Students do not have the learning experience as they expect, because generally learning methods are given in the form of theory. Some rich study programs can afford to buy and provide practical applications, so that students can do virtual practicums with simulations. Study programs that have limited funds have no choice but to wait for the pandemic period to pass and face-to-face learning return to normal.

Initially, in response to the Covid-19 pandemic, all educational institution leaders were waiting for developments to occur. They hope the pandemic will subside quickly. It turns out that until today there is no certainty when the pandemic will subside and the face-to-face learning process will normally run again. For more than three semesters, students are not allowed to enter campus and can only study from home. For architecture study programs whose learning process is studio-based, learning from home through online learning is also carried out. For three semesters they were not taught and guided by lecturers through physical meetings.

Although the online learning process has also been carried out at the Department of Architecture, Unhas through blended learning, studio-based design courses are only conducted face-to-face. In the studio, students are accompanied and guided by a lecturer team who are present together when they study. This research was conducted to find out whether the problems faced by architectural education institutions which were carried out with a voluntary blended learning process, then turned into a mandatory totally online due to pandemic conditions? How do lecturers and students react to this situation? How do they manage studio-based courses through online learning?

This research is different from studies on online learning which were mostly conducted during the pandemic period, which generally discussed educational institutions that carried out the learning process only with the face-to-face method and then because of the pandemic, they were forced to switch to online methods. What are the consequences of changing the learning process from offline to online during the pandemic?

For example, missing learning opportunities and introductions to digital learning, network quality and internet accessibility and uncertainty by Pokhrel and Chhetri (2021); weaknesses of the online learning system with various

digital applications used, by Abidah (2020); and the pandemic on the quality of graduates delaying assessment of learning outcomes to be fair for those attending school during the pandemic to enter the work, by Burgess and Sievertsen (2020).

2. Research Methods

This research was conducted with a qualitative approach. Primary data were collected through observation of phenomena, focused discussion groups (FGD), and in-depth interviews with a number of participants, namely 252 students in semester I-VI, 27 students in semesters VI-VIII, 4 academic administrative staff, 23 lecturers, and 9 students' parents. For ethical reasons, all participants' names are withheld. Secondary data were collected for the academic administration of the study program. Data analysis was carried out using the Spradley method. The research was conducted from June 1, 2020 – October 31, 2021. The research location is the Department of Architecture, Faculty of Engineering, Unhas, Gowa Regency, South Sulawesi.

3. Result

3.1. Learning Management System (LMS)

Before the 2019 pandemic, Unhas followed the direction of the Directorate General of Higher Education so that the learning system was carried out using the blended learning method, which is a combination of offline and online learning methods. Every university is required to implement at least 70% offline learning and 30% online learning. Initially, it was assumed that Unhas would be easier to run this blended learning program considering that since 2006 it has been managed learning programs using the Unhas Learning Management System (LMS) application which at the end of 2019 was called SIKOLA.

The problem is, the Unhas' LMS program as well as when it became SIKOLA was voluntary and only followed by interested lecturers. Through the Quality Assurance and Educational Development Unit, Unhas carries out training programs using LMS in the teaching and learning process. Lecturers are guided through training to prepare online learning materials and processes. Program participants who can complete the training are given a grant of 10 million rupiahs. On March 10, 2020, Unhas' Rector made SIKOLA the official application that must be used for online learning. When the WFH policy was implemented on March 16, 2020, SIKOLA collapsed. Simultaneously, all Unhas lecturers used the teleconference menu. As a result, Unhas' internet capacity and SIKOLA's servers were unable to serve the surge in users from 1,200 to 10,000 users.

In the face-to-face learning process, all learning materials and instructions can be given and carried out with direct interaction in the classroom. Although the learning process can also be done online through digital technology, this is only aimed at enriching learning methods. In contrast to web-based online learning, where there is no direct interaction. All materials, instructions, learning outcomes and evaluations are sent from lecturers to students and vice versa via the LMS platform. All digital communication processes take place only online. The problem that arises when online learning is no longer done voluntarily, but as an obligation during a pandemic.

Lecturers of higher education in Indonesia, including the Department of Architecture, Unhas, generally do not consider learning management important. Quite a lot of people assume that the learning process only includes lectures every week, tests and evaluations. Not many refer to learning quality management standards such as curriculum determination, implementation, evaluation, control, and improvement, or Plan, Doing, Check, and Action (Junaedi, et al., 2020:83; Firdaus, et al., 2021:60). Lecturers do not want to be preoccupied with matters that are considered administrative matters, including learning management. In online learning, all user interactions are carried out through machines. Learning materials and instructions are stored on the LMS server. The stages of learning instruction from the beginning to the end of the learning process for virtual classrooms are regulated by a system created by the lecturer.

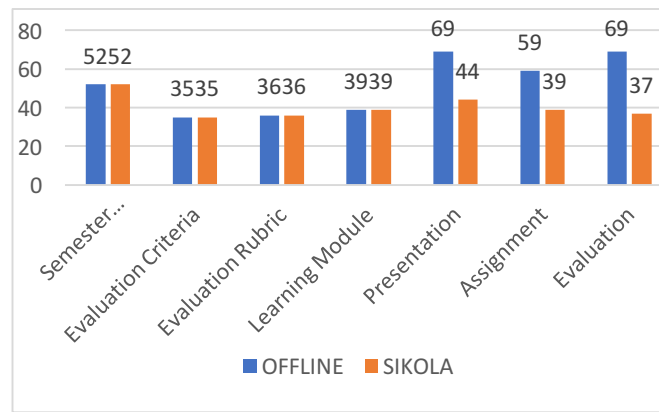


Figure 1: The difference in the number of learning materials and instructions available offline and at SIKOLA

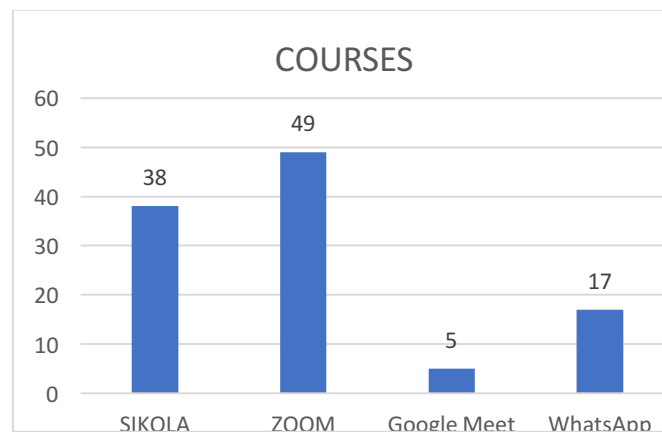


Figure 2: Use of communication media by courses

The stages of learning instructions cannot be made if the lecturer does not have learning materials according to the learning objectives. This situation makes many lecturers complain and are frustrated because they are not able to carry out the LMS model learning process. They choose to run lectures using non-LMS models such as ZOOM, Google Meet or WAG, which do not regulate the learning process in detail. Figure 1 shows the difference in the number of learning materials and instructions owned by the offline and online courses. Figure 2 shows the number of courses and learning communication media used. It can be seen that most of the courses use ZOOM communication media. How many courses use more than one communication medium.

3.2. Design Studio

All studio-based design courses use Problem Based Learning. This learning model involves students actively solving contextual problems, both collaboratively and independently to get relevant learning experiences according to their individual needs (Dolmans, 2005; Yew & Goh, 2016) Before the pandemic, design courses were managed using the blended learning method. The whole process of integrated design courses is carried out in the studios with a capacity of 40-50 people. Students learn to design accompanied by a team consisting of 3-4 lecturers from various interests who support their respective course outcomes. During lectures, group discussions were held in the studio and continued asynchronously at the SIKOLA discussion forum.

At the end of each lecture, student exercises are uploaded to the in-text assignment menu linked to the Google Drive application. Lecturers evaluate and rate these assignments and present the results on the same menu before the next week's lecture period. Thus, lecturers and students can find out the development of learning quality in stages, from the beginning to the end of the course process. Table 1 shows the learning process for design studio courses before the pandemic. Table 2 shows the learning process of design studio courses during a pandemic.

During the pandemic, students from out of town returned to their respective hometowns. Not all student residence locations have adequate internet access, even though the studio learning process can only be done online. The

lecturer team tried not to use the synchronous method by video conference such as ZOOM or Google Meet, because of the assumption of difficulty and expensive internet access. Although quite a lot of students prefer the learning method using video conferencing applications, far more complaints about the internet costs are too expensive.

The studio activity begins with the synchronous presence of a lecturer team and students in the chat menu. The team of lecturers conveyed the results of the learning assessment last week and the Sub-Course outcome in the current week. Next, students design their projects at home. During the week group discussions asynchronously at the SIKOLA discussion forum. If the results of the assessment are deemed unsatisfactory, then a virtual face-to-face meeting is conducted using the ZOOM video meeting.

Table 1: Learning Process of Design Studio Courses Before the Covid-19 Pandemic

LECTURES	OFFLINE						SIKOLA					
	L	P	S	D	A	E	L	P	S	D	A	E
1 Architectural Composition	√	√		√	√		√					√
2 Technical Presentation & Graphical Communication	√	√		√	√	√						
3 Architecture Design Studio 01	√		√		√		√			√	√	√
4 Architecture Design Studio 02	√		√		√		√			√	√	√
5 Architecture Design Studio 03	√		√		√		√			√	√	√
6 Architecture Design Studio 04	√		√		√		√			√	√	√
7 Architecture Design Studio 05	√		√		√		√			√	√	√
8 Interior Design Studio	√		√	√	√	√	√			√	√	√
9 Advanced Interior Design Studio	√		√	√	√	√	√			√	√	√
10 Landscape Design Studio	√		√	√	√	√						
11 Furniture Design	√		√	√	√	√						
12 Color Composition	√	√			√	√	√			√		√
13 Final Project Workshop	√		√		√	√	√			√	√	√
14 Design Conceptual	√		√		√	√				√	√	√
15 Final Project Studio	√		√		√	√				√	√	√

L : Lecture, P :Practicum, S :Studio, D: Discussion, A: Assignment, E: Evaluation

Table 2: Learning Process of Design Studio Courses During the Covid-19 Pandemic

COURSES	OFFLINE						SIKOLA					
	L	P	S	D	A	E	L	P	S	D	A	E
1 Architectural Composition							√	√			√	√
2 Technical Presentation & Graphical Communication							√	√				
3 Architecture Design Studio 01							√		√	√	√	√
4 Architecture Design Studio 02							√		√	√	√	√
5 Architecture Design Studio 03							√		√	√	√	√
6 Architecture Design Studio 04							√		√	√	√	√
7 Architecture Design Studio 05							√		√	√	√	√
8 Interior Design Studio							√		√	√	√	√
9 Advanced Interior Design Studio							√		√	√	√	√
10 Landscape Design Studio							√		√		√	
11 Furniture Design							√		√		√	
12 Color Composition							√	√		√	√	√
13 Final Project Workshop				√	√	√	√		√	√	√	√
14 Design Conceptual				√	√	√	√		√	√	√	√
15 Final Project Studio				√	√	√	√		√	√	√	√

L : Lecture, P : Practicum, S :Studio, D : Discussion, A: Assignment, E : Evaluation

Ana, a fourth semester student who lives on one of the islands in Maluku Province, always has difficulty accessing the internet network when the meeting is held in the morning. As a result, he was unable to attend several courses synchronously, which had an impact on the achievement of the results of these courses. Her academic advisor contacted Ana's mother to get information about Ana's learning environment where she lives. The internet network in that location is indeed low capacity. Accessibility is increasingly difficult because during school hours, all students and students use the limited internet access. The burden of internet costs is not an easy thing for Ana's mother, who is a single parent with three children and a niece of school age. When participating in learning with the ZOOM application, each child must be provided with internet costs worth RP. 20,000/lecture. This means that if each child takes five courses/week, Ana's mother must provide a credit fee of RP. 400,000/week or RP. 1,600,000/month. This is not a cheap for Ana's mother who works as a government staff.

The obstacles in joining a design studio with online learning methods are not only experienced by students who live in small towns. Idei from Japan, a second semester student from an international class also experienced the same thing. Idei had no problem with the capacity of the internet network, but with the method of communication. He is familiar with oral communication through the audio-video application and is weak in written communication. Whereas both synchronous and asynchronous methods use written communication. Ahmad has obstacles when communicating non-physically. He begged to be given the opportunity to study offline, but the campus at that time was still in a lockdown state.

To overcome the obstacles faced by some students, the academic advisors coordinate with the lecturers who are in charge of the courses. Ana was given the opportunity to get special guidance using social media communication other than SIKOLA outside of the class schedule. This is has been done for several weeks until it is able to achieve the desired minimum learning outcomes. Idei, Ahmad and several other students who have problems were given special guidance for several days using the ZOOM application. They were also welcome to the archives of synchronous and asynchronous meetings stored in the chat and discussion forum menu at SIKOLA. This method is very helpful for these students to achieve the minimum competence in design courses.

It is a proud thing for the class of 2020 students who have never entered and studied on campus. Around 60% of them live around campus and Makassar. They make study groups with the guidance of senior students through face-to-face meetings. When the Unhas' Rector recommended that educational institutions carry out limited face-to-face lectures, they immediately registered as participants. Dewi, Nurul, and Tuti, 3 (three) students from North Luwu told how from the small town where they lived they went to Gowa and looked for a place to live around campus. Since the beginning of university, they have never studied face-to-face on campus. They entered the architecture student organization and met with seniors through the WhatsApp Group media. From here, they then set up study groups and are mentored by their seniors. Every time they have a problem while studying online, they immediately contact their seniors to clarify the problems they are facing.

What was experienced by Dewi, Nurul, and Tuti shows Linton's view (Linton, 2010:32), that knowledge is a culture that is owned by a certain member of society. This culture is applied and passed down from generation to generation. Dewi, Nurul, and Tuti inherited the learning culture from their seniors as the previous generation of students before them. Their seniors teach what they have experienced during their time as students to new students to follow. Thus, the new students get the convenience of going through the path that has been traversed by their seniors.

3.3. Final Project Studio

Final Project activities include Final Project Workshop (FPW), Design Conceptual (DC), and Final Project Studio (FPS), which are carried out for 3 (three) months each with a total time of 9 (nine) months. Before the pandemic, all of these activities were carried out every working day in the studio and recording activities on SIKOLA. Between these schedules, students collect data at the project location and meet with participants/informants related to their respective project topics. During the pandemic with the lockdown policy, all final project processes must also be done online. Consultations, progress evaluation stages, and student project final seminars by supervisors and/or examiners are carried out in group discussions at the SIKOLA forum. The Head of the Design Laboratory

prepares a thread for each stage, where students meet synchronously or asynchronously with supervisors, examiners, and/or seminar participants.

The final project has one stage that students must pass before the final exam, namely public exhibitions and seminars. This exhibition and public seminar are the core events of the final project. Students exhibit their final project designs openly for three days. The exhibition was closed with a public seminar. Because they are public in nature, these exhibitions and seminars are usually held in the Department of Architecture hall which can be accessed by anyone. For students, the final project exhibition and public seminar are sacred events that test their ability to publish their designs in front of the public. WFH makes them miss this moment. The exhibition event was transferred to a student blog which is also public. Students are required to invite as many observers as possible to visit and comment on their final project design. The SIKOLA website was not chosen as an exhibition medium for security reasons and can only be accessed by a limited number of people. Public seminars are held synchronously through the SIKOLA forum which cannot be attended by non-Unhas participants. Figure 3 shows an exhibition and a seminar conducted before the pandemic in the Department of Architecture Hall. Figure 4 shows an exhibition held during a pandemic on a student blog.



Figure 3: Final project exhibition and public seminar before the pandemic at the Department of Architecture Hall.

Source: Triyatni Martosenjoyo

Indoor Skatepark In Bandung

📍 Bisma Anggara 📅 July 25, 2020 🏷️ Uncategorized

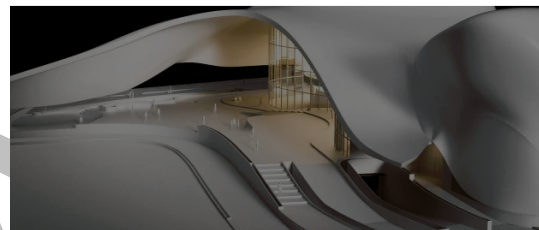


Figure 4: Final project exhibition during a pandemic on student blogs

Source: Rahman (2020)

Losing the opportunity to take part in sacred exhibitions and public seminars, makes students wait for the final exam to be held offline. They want to have the experience of defending their work to be tested through physical encounters. While they were taking their exams, their friends waited in the hall carrying flower arrangements, chocolates, and undergraduate sashes. All experiences that are perceived as beautiful are expected to be nostalgic when they become alumni. During the pandemic, this examination event is carried out under strict health protocols. Examining students and lecturers wear masks, keep their distance and do not make physical contact. .

Nostalgia not only helps increase self-esteem and is positively correlated with a sense of meaning in one's life, it also provides a sense of support or connect with someone (Routledge, 2015). Nostalgia is connected with memory. Memory is the brain's ability to encode, store, and retrieve data or information when needed. Storage of information over time for the purpose of influencing future actions (Sherwood, 2015). In the case of the final project exam, nostalgia is related to the memory of the final project exam, including the desire to remember things related to the preparation and exam process, the lecturer who tested, the questions that were assessed, graduation announcements, to congratulations from friends.

3.4. WFH is A Holiday

The shocking WFH started in March 2020, students were asked to return to their respective homes and study using the online learning method. Some lecturers lost track of their students because the location where the students lived did not have adequate internet access. Research related to online learning states that there are difficulties in managing the boundaries between working and not working (Christine, et al. 2019). Lecturers of the Department of Architecture realize that interaction and communication between lecturers and students are no longer bound by

working time limits, especially for asynchronous methods. Both lecturers and students must be on standby to connect with computers so they don't have trouble and miss the latest information (Palloff & Pratt, 2009:71-72). Discussions can drag on because the opportunities for students to give each other feedback are wide open. This is very positive for students to get a diverse learning experience.

Online learning involves several foreign students from several countries on the African continent which have a five hour time difference with Makassar. Naef, for example, still conducts consultations with lecturers until 24.00 Makassar Times, because in his country it is only 19.00 Yemen Times. This has been realized by lecturers who have to adapt to changes in learning culture not only without space limits, but also without time limits. They feel quite excited and happy to get an intensive learning communication experience compared to offline learning. Although working online reduces the boundary between work time and family time, WFH provides positive and life satisfaction and increases Work Life Balance (WLB) for families (Vyas & Butakhieo, 2021). There seems to be a very contrasting difference in the meaning of online learning among those who are willing to work beyond formal working time and those who make formal work time a vacation.

What is surprising is that quite a number of lecturers and students consider that period as a holiday period. They do not prepare the time and space for learning according to the specified schedule. It is common to find lecturers and students who only use smartphones when learning. They can even do it while driving a car or while in the garden in their respective hometowns. As it is known that lectures in the Architecture Study Program require writing equipment and drawings that are placed on a work desk with adequate dimensions. Not just attending lectures using a smartphone. Through activities on social media, it is also seen that quite a lot of lecturers do not focus on one lecture event. Simultaneously, they can attend various online events, such as various webinars.

Batara, a sixth semester student who lives in Toraja never been able to attend meetings and enter assignments as scheduled. He put forward various reasons related to the funeral ceremony of several members of his family in Toraja. This ceremony takes a long time which cannot be adjusted to the study schedule. For Batara, it was impossible for him to refuse to attend various ceremonies because his family thought that he was in his hometown. What happened to Batara was also experienced by some of his friends. Because they think that lectures are only conducted online, it means that they are allowed to attend family events such as weddings, circumcisions, *aqiqah*, and other traditional events. They can also help parents in the garden while studying by activating their smartphones.

Batara's case shows that online learning that is done voluntarily as independent learning seems to be different from online learning because it is situational which is forced to be done due to the pandemic. The freedom of student learning without face-to-face supervision is interpreted as an activity that is not noticed by their lecturers. Users of online systems perceive that they interact with hardware, software, processes, and each other. They can protect themselves from being detected with various protection systems provided by impenetrable applications (Palloff & Pratt, 2009:90-91).

3.5. Coordination

During the Covid-19 pandemic, several studio courses were in demand by students participating in the MBKM Program. Coordination between universities does not regulate in detail the limits and conditions of the course's participants causing chaos in implementing. For example, the Final Project Workshop course, which was aimed at sixth semester students, turned out to be of great interest to first semester students from partner universities. Program participants also arrange class schedules according to the schedule at their home universities, which are usually 3-4 weeks different from the schedule for their study destination universities.

Students participating in the MBKM Program also consider that they are not required to follow the entire learning process and only visit course sites, download available learning materials and instructions. This condition greatly disrupts the learning process of subjects that use group strategies and techniques. In addition, it creates a negative view for study program leaders who think that their learning materials and instructions are being targeted by predators through MBKM Program participants.

Things are different for Rima, who is also a participant in the MBKM Program. He took courses in Advanced Landscape Design Studio. Since the beginning of the course, Rima has been very active and has followed all the learning materials and instructions accessed through SIKOLA. She did not ask for a dispensation as a guest student. He joined other students participating in courses from Unhas. This condition shows that Wulan is aware of herself as an independent learner to manage the courses she takes outside of her university.

Humans are creatures who have rights, think, speak and act freely as they wish, without any form of threat (Issa, 2019). He knows, responsible, and a real connoisseur of competence and performance. Humans have freedom of will, make choices, and are responsible for their actions. Free will means regulated will. All intentional actions with knowledge, freedom, and responsibility will be beneficial and not detrimental, for the purpose of improving the quality of life (Bhatt, 2018). In the state of acting freely, it is always attached with responsibility. There is no free action without responsibility for the purpose of producing real performance.

Rima uses the MBKM Program as a conscious cross-college learning freedom through an online learning process. He is responsible for all actions that are a consequence of her choice to become an independent learner outside his campus. He manages her own learning needs by following all the learning processes so that he can get and enjoy the results of her performance. It is very different from students who take online learning because of the pandemic conditions that require it and consider it a vacation opportunity. It is also different from students who take part in the MBKM Program who do so simply because of the encouragement of the institution.

4. Discussion

Distance learning which has evolved due to the development of information technology has directly changed the learning culture from informal to formal accredited. With the online system, the student learning environment is wide and large open. Online learning opens up independent opportunities for students to manage their learning space and time flexibly according to their respective conditions. This condition requires students to be able to be responsible for managing their learning independently.

The pandemic situation makes it clear that future education is no longer tied to face-to-face physical encounters. LMS that regulates the stages of learning requires the readiness of learning materials and instructions that can be accessed at any time and not only during class meetings. The use of various communication media demands the skills of lecturers and students to communicate verbally, written, and visually. Unlimited learning space and time make communication between lecturers and students happen continuously outside of formal working.

Online learning requires the support of the latest information technology, which is still expensive and cannot be enjoyed by all people in locations/regions in developing countries such as Indonesia. The pandemic condition is quite surprising for students because of the additional burden that must be borne for internet fees. Availability and equitable access and quality of affordable internet and a prerequisite for successful online learning cannot be delayed.

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DRAFT



Author: [undisclosed]
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MANUSCRIPT REVIEW FORM

Education Quarterly Reviews
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SECTION I: General Assessment (Please rate the manuscript based on your critical assessment, with a tick 'X' in the appropriate box below)

View of the Reviewers	1	2	3	4	Does Not Apply
The Manuscript provides a contribution to the research area regarding a new finding, interpretation and/or point of view		X			
The title of the manuscript is appropriate, and the title reflects the content of the manuscript		X			
There is a balanced relationship between the objective, content, and the conclusion of the manuscript			X		
The research methods and the data collection techniques are relevant to the objective and adequately explained		X			
The manuscript is precise and well-written		X			
The figures, tables and graphs are relevant.		X			
The references are adequate, convenient and up-to-date.			X		
The manuscript complies with academic ethical rules		X			
The aim/argument/hypothesis is clear and well-discussed.			X		
The results of the analysis are correctly interpreted		X			
The manuscript is free of issues of grammar, punctuation and such.		X			

(1 = Poor) (2 =Fair) (3 = Good) (4 =Excellent)

SECTION II: Evaluation Criteria (Please give your critical comments for the deficiencies of the manuscript)

Evaluation Criteria	Comments
<p>1. Thematic Focus and Empirical Grounding</p> <p>When considering the Thematic Focus and Empirical Grounding, please use the following prompts to guide your overall response and evaluation:</p> <ul style="list-style-type: none"> • Is this a topic that needs addressing? • Is the area investigated by the article: significant? Timely? Important? In need of addressing because it has been neglected? Intrinsically interesting? Filling a gap of current knowledge? • Are data collection processes, textual analyses of exegeses of practice sufficient and adequate to answer the research questions? • Does the article adequately document, acknowledge, and reference the existing findings, research, practices, and literature in its field? • Does the article relate in a coherent and cogent way with issues of real-world significance? 	<p>On the basis of originality and contribution to the respective field of teaching and learning process (specified to the situations related to the pandemic), I recommend this article for publication. Despite identifying minor issues (grammatical), the research gap explored in this article is worthy of publication.</p> <p>Minor considerations to the acceptance of this article includes considerations of empirical grounding, conceptual analysis, and implications.</p> <p>No major revisions required before publication.</p>

<p>2. Conceptual Model</p> <p>When considering the Conceptual Model, please use the following prompts to guide your overall response and evaluation.</p> <ul style="list-style-type: none"> • Are the main concepts or categories appropriate to the investigation? • Should other concepts or categories have been considered? • Are key concepts adequately defined? Are they used consistently? • Does the article make necessary or appropriate connections with existing theory? • Does the article develop, apply, and test a coherent and cogent theoretical position or conceptual model? 	
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SECTION III: Recommendation (*Kindly mark with an 'X'*)

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Architecture Education During The Covid-19 Pandemic

Abstract

The condition of the Covid-19 pandemic, which cannot be predicted when it will end, has forced all learning communities to switch from face-to-face learning to online learning. Unlike face-to-face learning where learning materials and instructions can be given by lecturers to students when they are in class during the lecture schedule, online learning requires everything to be done automatically in the learning management system. Online learning, also known as e-learning, is the result of the evolution of distance learning that has developed following technological developments, especially information technology. Before the pandemic, online learning was only one alternative that enriched the learning process. Various courses are implemented by combining offline and online learning processes called blended learning. Through the Learning Management System (LMS), the Department of Architecture Unhas combines offline and online learning in studio-based design courses. Lecturers and students are trained to carry out the stages of the learning process guided by online procedures. The ongoing Covid-19 pandemic has made online learning the only way to keep the learning process going as planned. The sudden shift of studio-based courses from offline to totally online resulted in a change in the learning environment and experience. This study found that the online learning process is largely determined by the availability of learning materials and instruction in the LMS, the distance between learning space and time, the learning experience and the meaning of independent learning perceived by students. The study involved student participants at all semester levels, academic administration staff, lecturers, and student parents.

Keywords: online learning, studio, architecture, LMS, SIKOLA

1. Introduction

On December 31, 2020, the Wuhan Municipal Health Commission of China reported that a novel coronavirus had been identified (World Health Organization, 2020). Until February 19, 2020, the coronavirus which was later named SARS-CoV-2 had spread to 30 regions around the world. However, many people joked as if Indonesians were immune to the virus (Garnesia, 2020). On March 2, 2020, President Jokowi announced that two Indonesian citizens were infected due to contact with Japanese citizens who came to Indonesia (Ihsanuddin, 2020). On March 15, 2020, for the purpose of increasing awareness of the transmission of the virus, Jokowi instructed Work From Home (WFH) (Ratriani, 2020) (Pratiwi, 2020). Jokowi's instructions were also followed up by educational institutions through the learning from home (LFH) program. The learning process is carried out online using various available applications such as Whats App, Zoom, Google Meet, and the Learning Management System (LMS).

In principle, online learning is a learning process that is carried out without face to face between lecturers and students. Online learning is often assumed as a learning process using internet facilities. Whereas online learning is actually a development of a long-standing distance learning system. In 1728, Caleb Phillips offered through the Boston Gazette, the concept of learning the new method of short hand through letter correspondence. The same lesson materials and instructions as in Boston will be sent to students every week by post (Sleator, 2010).

The distance learning system using the correspondence method was later developed using radio, television, and the internet (JSTOR Daily, 2020). Distance education is defined as a teaching method in which students and teachers are physically separated. The learning method is carried out by utilizing a combination of technology, including correspondence, audio, video, computers, and the internet (Roffe, 2004). Distance education programs as an alternative to education are generally aimed at students who have barriers to attending face-to-face teaching, for example, do not have time or accessibility to educational facilities.

Initially, distance education was only informal, such as courses for certain subjects and was not recognized as formal education because there was no two-way communication between teachers and students. (Verduin Jr. & Clark, 1991). In the 1960s the University of Wisconsin opened Articulated Instructional Media (AIM), a special degree program for adults. The courses were offered through a combination of short sessions, off-campus seminars, and independent study, amplified by telelectures, radio-television, programed material, and mobile laboratories and libraries (Wedemeyer & Najem, 1969). AIM later became part of the

University Extension which in 1969 inspired the British Open University. Further in Spain and Canada. In the 1980s, open universities used satellite television as a means of communication between lecturers and students.

In 1984, Indonesia established the first higher education institution to officially use the distance education system, namely the Open University (Opened University). The main goal is to provide broad opportunities for Indonesian citizens, regardless of where they live, to obtain higher education without restrictions on age, year of certificate, registration time, and frequency of taking exams (Universitas Open, 2021). Before the internet developed rapidly in Indonesia, the face-to-face higher education system used print media for learning modules and radio and television media. In the 1990s, universities in various countries began to experiment with distance education, web-based education. In 1993, Jones International University became the first university to implement fully online education, and in 1999 it was the first accredited online educational institution. (Corbeil & Corbeil, 2015). H. 55. In 1999, at the Disneyworld Tech Learn Conference, Elliot Masie introduced the term e-learning (Cross, 2004).

In the 2000s tablet technology, smartphones and free services supported the development of web-based e-learning. The development of Wireless Fidelity (Wi-Fi) technology allows data communication access to all resources provided by the internet on computer devices - desktops, tablets, laptops, smartphones, videogame units, digital audio players, e-book readers, and others - quickly without the need for a physical cable connection. These advances create the potential to expose learners to a greater diversity of experiences from people, as well as opportunities to develop problem-based learning opportunities. This is very much needed education and training of various professions in higher education (Corbeil & Corbeil, 2015; Stansfield, Connolly, Cartelli, & Jimoyiannis, 2008).

1.1. Independent Learning and *Merdeka Belajar - Kampus Merdeka (MBKM)*

Independent Learning is an alternative learning method in which students learn based on their own actions and direct, organize, and assess their own learning (Henderson, 1984; Springer, 2012). The concept of independent learning is related to the concept of learner-centered learning (Meyer, Haywood, Sachdev, & Faraday, 2008). Although independent learning programs are also designed for the needs of students, the concept of independent learning described earlier is different from the Indonesian independent learning concept called Merdeka Learning- Independent Campus (MBKM) or Learning Independence - Independent Campus which became a program of the Indonesian Ministry of Education and Culture in 2020. The independent learning program in Indonesia is designed to prepare students to face social, cultural changes, the world of work and rapid technological advances. For this reason, the culture on campus must be innovative, not restrictive, and in accordance with the needs of students (Directorate General of Higher Education - Ministry of Education and Culture, 2020). Students plan their learning programs with assistance from their respective lecturers.

MBKM gives autonomy to educational institutions and lecturers to be free from complicated bureaucratization, and students are free to choose the fields they like. Students are allowed to take one semester or the equivalent of 20 credits of courses of interest outside the study program, faculty or college. Activities can be carried out through 8 (eight) activities, namely (1) student exchanges, (2) internships/work practices, (3) teaching assistance in education units, (4) research/research, (5) humanitarian projects, (6) activities entrepreneurship, (7) independent studies/projects, or (8) building a thematic real work village/college (Directorate General of Higher Education - Ministry of Education and Culture, 2020).

To support the MBKM program, the Directorate of Higher Education has developed the SPADA Indonesia online learning system (SPADA Indonesia, 2021). This system is designed as a place to manage selected courses from all Indonesian universities that are included in the MBKM program. The goal is that students who want to take courses outside of higher education can be served through this system and do not need to enroll in higher education destinations. Most of the universities involved in SPADA Indonesia are universities that do not yet have their own servers and LMS. Colleges that already have opted to offer their courses directly at their respective LMS.

In early 2020, through the Sasrabahu platform, 12 universities with legal status including Hasanuddin University (Unhas) carried out a collaboration that supports the MBKM program for student exchange

between universities. With the system built by the Sasrabahu platform, students are allowed to take courses at other universities with a full credit transfer scheme by the administrator of the original university. Unhas is involved in student exchanges through the Permata Sakti program and university collaborations. This program is here with the aim of adding insight and student experience. Students participating in the program can build networks with other students outside the university (Rahman, Hasanuddin University, 2020a) (Rahman, Hasanuddin University, 2020b). Through the Permata Sakti program, the Architecture Department was appointed to submit an identity course for Tropical and Archipelago Architecture. MBKM participants from all over Indonesia can take these courses through LMS SIKOLA.

The MBKM program did not run smoothly due to the protracted Covid-19 pandemic. All learning processes can only be done through the WFH system. As a result, the practical learning process that must be carried out in learning locations such as laboratories, studios, fields, offices or companies, has to be done online. Students do not have the learning experience as they expect, because generally learning methods are given in the form of theory. Some rich study programs can afford to buy and provide practical applications, so that students can do virtual practicums with simulations. Study programs that have limited funds have no choice but to wait for the pandemic period to pass and face-to-face learning to return to normal.

Initially, in response to the Covid-19 pandemic, all educational institution managers were waiting for developments to occur. They hope the pandemic will subside quickly. It turns out that until today there is no certainty when the pandemic will subside and the face-to-face learning process will run normally again. For more than three semesters, students are not allowed to enter campus and can only study from home. For architecture study programs whose learning process is studio-based, learning from home through online learning is also carried out. For three semesters they were not taught and guided by lecturers through physical meetings.

Although the online learning process has also been carried out at the Department of Architecture, Unhas through blended learning, studio-based design courses are only conducted face-to-face. In the studio, students are accompanied and guided by a team of lecturers who are present together when they study. This study seeks to find out whether the problems faced by architectural education institutions with blended learning learning processes that are carried out voluntarily then turn totally online due to pandemic conditions? How do lecturers and students react to this situation? How do they manage studio-based courses through online learning?

This research is different from studies on online learning which were mostly conducted during the pandemic period which generally discussed educational institutions that carried out the learning process only with the face-to-face method and then because of the pandemic, they were forced to switch to online methods. What are the consequences of changing the learning process from offline to online during the pandemic? For example, missing learning opportunities and introductions to digital learning, network quality and internet accessibility and uncertainty (Pokhrel & Chhetri, 2021); weaknesses of the online learning system with various digital applications used (Abidah, Hidaayatullaah, Simamora, Fehabutar, & Mutakinati, 2020); and the pandemic on the quality of graduates delaying [assessment of learning outcomes to be fair for those attending school during the pandemic to enter work (Burgess & Sievertsen, 2020).

2. Research Methods:

This research was conducted with a qualitative approach. Primary data were collected through observation of phenomena, focused discussion groups (FGD), and in-depth interviews with a number of participants, namely 252 students in semester I-VI, 27 students in semesters VI-VIII, 4 academic administrative staff, 23 lecturers, and 9 students' parents. For ethical reasons, all participants' names are withheld. Secondary data were collected for the academic administration of the study program. Data analysis was carried out using the Spradley method. The research was conducted from June 1, 2020 – October 31, 2021. The research location is the Department of Architecture, Faculty of Engineering, Unhas, Gowa Regency, South Sulawesi.

3. Result

3.1. Learning Management System (LMS)

Before the 2019 pandemic, Unhas followed the direction of the Directorate General of Higher Education so that the learning system was carried out using the blended learning method, which is a combination of offline and online learning methods. Every university is required to implement at least 70% offline learning and 30% online learning. Initially it was assumed that Unhas would be easy to run this blended learning program considering that since 2006 it has been managing learning programs using the Unhas Learning Management System (LMS) application which at the end of 2019 was called SIKOLA.

The problem is, the Unhas LMS program as well as when it became SIKOLA was voluntary and only followed by interested lecturers. Through the Quality Assurance and Educational Development Unit, Unhas carries out training programs using LMS in the teaching and learning process. Lecturers are guided through training to prepare online learning materials and processes. Program participants who can complete the training are given a grant of 10 million rupiah. On March 10, 2020, the Chancellor of Unhas made SIKOLA the official application that must be used for online learning. When the WFH policy was implemented on March 16, 2020, SIKOLA collapsed. Simultaneously, all Unhas lecturers used the teleconference menu. As a result, Unhas' internet capacity and SIKOLA's servers were unable to serve the surge in users from 1,200 to 10,000 users.

In the face-to-face learning process, all learning materials and instructions can be given and carried out with direct interaction in the classroom. Although the learning process can also be done online through digital technology, this is only aimed at enriching learning methods. In contrast to web-based online learning, where there is no direct interaction. All materials, instructions, learning outcomes and evaluations are sent from lecturers to students and vice versa via the LMS platform. All digital communication processes take place only online. The problem that arises when online learning is no longer done voluntarily but as an obligation during a pandemic.

Lecturers of higher education in Indonesia, including the Department of Architecture, Unhas, generally do not consider learning management important. Quite a lot of people assume that the learning process only includes lectures every week, tests and evaluations. Not many refer to learning quality management standards such as curriculum determination, implementation, evaluation, control, and improvement, or Planning, Doing, Checking, and Action (Junaedi, et al., 2020, Firdaus, et al., 2021). Lecturers do not want to be preoccupied with matters that are considered administrative matters, including learning management. In online learning, all user interactions are carried out through machines. Learning materials and instructions are stored on the LMS server. The stages of learning instruction from the beginning to the end of the learning process for virtual classrooms are regulated by a system created by the lecturer.

The stages of learning instructions cannot be made if the lecturer does not have learning materials according to the learning objectives. This situation makes many lecturers complain and are frustrated because they are not able to carry out the LMS model learning process. They choose to run lectures using non-LMS models such as ZOOM, Google Meet or WAG, which do not regulate the learning process in detail. Figure 1 shows the difference in the number of learning materials and instructions owned by the offline and online courses. Figure 2 shows the number of courses and learning communication media used. It can be seen that most of the courses use ZOOM communication media. how many courses use more than one communication medium.

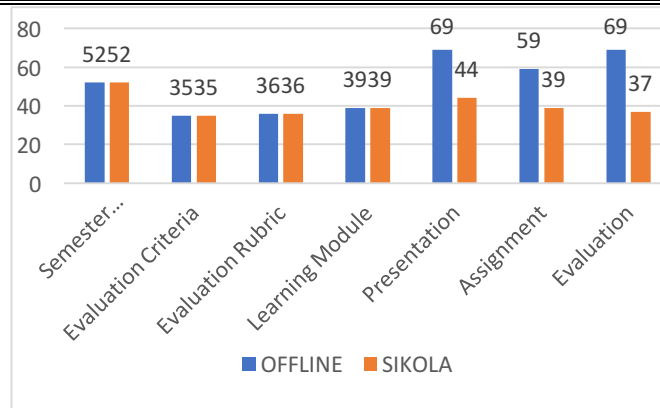


Figure 1. The difference in the number of learning materials and instructions available offline and at SIKOLA

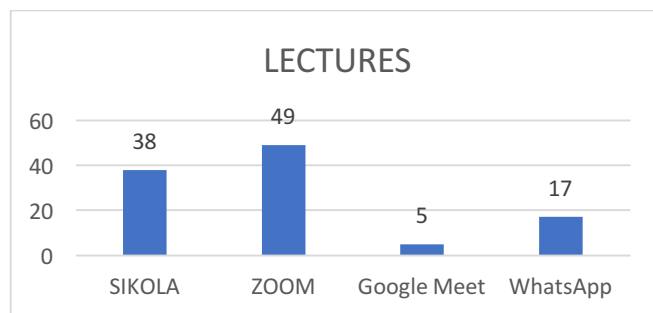


Figure 2. Use of communication media by courses

All studio-based design courses use Problem Based Learning. This learning model involves students actively solving contextual problems, both collaboratively and independently to get relevant learning experiences according to their individual needs (Dolmans, De Grave, Wolhagen, & Van der Vleuten, 2005) (Yew & Goh, 2005). 2016)

Before the pandemic, design courses were managed using the blended learning method. The whole process of integrated design lectures is carried out in studios with a capacity of 40-50 people. Students learn to design accompanied by a team consisting of 3-4 lecturers from various interests who support their respective course outcomes. During lectures, group discussions were held in the studio and continued asynchronously at the SIKOLA discussion forum. Student learning outcomes are uploaded every week to the course assignment menu on the SIKOLA server in the form of a data link that is stored by them on Google Drive when the class schedule is finished. Lecturers evaluate and rate these assignments and present the results on the same menu before the next week's lecture period. Thus, lecturers and students can find out the development of learning quality in stages, from the beginning to the end of the lecture process. Table 1 shows the learning process for studio courses before the pandemic. Table 2 shows the learning process during a pandemic.

During the pandemic, students from out of town returned to their respective hometowns. Not all student residence locations have adequate internet access, even though the studio learning process can only be done online. The lecturer team tried not to use the synchronous method by video conference such as ZOOM or Google Meet, because of the assumption of difficulty and expensive internet access. Although quite a lot of students prefer the learning method using video conferencing applications, far more complain about the relatively large burden of credit fees.

Table 1. Learning Materials and Instruction Before The Covid-19 Pandemic

	LECTURES	OFFLINE					SIKOLA							
		L	P	S	D	A	E	L	P	S	D	A	E	
1	Architectural Composition	√	√		√	√		√						√
2	Technical Presentation & Graphical Communication	√	√		√	√	√							
3	Architecture Design Studio 01	√		√		√		√			√	√		√
4	Architecture Design Studio 02	√		√		√		√			√	√		√
5	Architecture Design Studio 03	√		√		√		√			√	√		√
6	Architecture Design Studio 04	√		√		√		√			√	√		√
7	Architecture Design Studio 05	√		√		√		√			√	√		√
8	Interior Design Studio	√		√	√	√	√	√			√	√		√
9	Advanced Interior Design Studio	√		√	√	√	√	√			√	√		√
10	Landscape Design Studio	√		√	√	√	√							
11	Furniture Design	√		√	√	√	√							
12	Color Composition	√	√			√	√	√			√			√
13	Final Project Workshop	√		√		√	√	√			√	√		√
14	Design Conceptual	√		√		√	√				√	√		√
15	Final Project Studio	√		√		√	√				√	√		√

L : Lecture, P :Practicum, S :Studio, D: Discussion, A: Assignment, E: Evaluation

Table 2 Learning Materials and Instruction During The Covid-19 Pandemic

	COURSES	OFFLINE					SIKOLA							
		L	P	S	D	A	E	L	P	S	D	A	E	
1	Architectural Composition							√	√			√	√	
2	Technical Presentation & Graphical Communication							√	√					
3	Architecture Design Studio 01							√		√	√	√	√	√
4	Architecture Design Studio 02							√		√	√	√	√	√
5	Architecture Design Studio 03							√		√	√	√	√	√
6	Architecture Design Studio 04							√		√	√	√	√	√
7	Architecture Design Studio 05							√		√	√	√	√	√
8	Interior Design Studio							√		√	√	√	√	√
9	Advanced Interior Design Studio							√		√	√	√	√	√
10	Landscape Design Studio							√		√		√		
11	Furniture Design							√		√		√		
12	Color Composition							√	√		√	√	√	√
13	Final Project Workshop				√	√	√	√		√	√	√	√	√
14	Design Conceptual				√	√	√	√		√	√	√	√	√
15	Final Project Studio				√	√	√	√		√	√	√	√	√

L : Lecture, P : Practicum, S :Studio, D : Discussion, A: Assignment, E : Evaluation

The studio activity begins with the synchronous presence of a team of lecturers and students in the chat menu. The team of lecturers conveyed the results of the learning assessment last week and the Sub-Course outcome in the current week. Next, students design their projects at home. During the week group

discussions asynchronously at the SIKOLA discussion forum. If the results of the assessment are deemed unsatisfactory, then a virtual face-to-face meeting is conducted using the ZOOM video meeting.

Ana, a fourth semester student who lives on one of the islands in Maluku Province, always has difficulty accessing the internet network when the meeting is held in the morning. As a result, he was unable to attend several courses synchronously, which had an impact on the achievement of the results of these courses. The guardian lecturer contacted Ana's parents to get information about Ana's learning environment where she lives. The internet network in that location is indeed low capacity. Accessibility is increasingly difficult because during school hours, all students and students use the limited internet access. The burden of internet costs is not an easy thing for Ana's mother, who is a single parent with three dependent children and a niece of school age. When participating in learning with the ZOOM media, each child must be provided with internet credit worth Rp. 20,000 per course. This means that if each child takes five courses per week, Mrs. Ona must provide a credit fee of Rp. 400,000 or Rp. 1,600,000 per month. This is not a cheap fee for Mrs. Ona who works as a government staff.

The obstacles in joining a design studio with online learning methods are not only experienced by students who live in remote cities. Idei, a second semester student from an international class from Japan also experienced the same thing. Idei had no problem with the capacity of the internet network, but with the method of communication. He is familiar with oral communication methods through audio-video devices and is weak in written communication. Whereas both synchronous and asynchronous methods use written communication. Rayhan has obstacles when communicating non-physically. He begged to be given the opportunity to study offline, but the campus at that time was still in a state of lockdown.

To overcome the obstacles faced by some students, the guardian lecturer coordinates with the lecturers who are in charge of the courses. Ona was given the opportunity to get special guidance using social media communication other than SIKOLA outside of the class schedule. This is done for several weeks until it is able to achieve the desired minimum learning outcomes. Idei, Rayhan and several other troubled students were given special guidance for several days using the ZOOM communication media. They were also asked to read the archives of synchronous and asynchronous meetings stored in the chat menu and discussion forums at SIKOLA. This method is very helpful for these students to achieve the minimum competence in design courses.

It is a proud thing for 2020 students who have never entered and studied on campus. Around 60% of them live around campus and Makassar. They make study groups with the guidance of senior students through face-to-face meetings. When the Chancellor of Unhas recommended that educational institutions carry out limited face-to-face lectures. they immediately registered as participants. Dewi, Nurul, and Tuti, 3 (three) students from North Luwu told how from the city where they lived they went to Gowa and looked for a place to live around campus. Since the beginning of college, they have never studied face-to-face on campus. They entered the architecture student organization and met with seniors through the WhatsApp Group media. From here, they then form study groups and are mentored by their seniors. Every time they have a problem while studying online, they immediately contact their seniors to clarify the problems they are facing.

What was experienced by Dewi, Nurul, and Tuti shows the view (Linton, 2010) p.32, that science is a culture that is owned by a certain member of society. This culture is applied and passed down from generation to generation. Dewi, Nurul, and Lina inherited the learning culture from their seniors as the previous generation of students before them. Their seniors teach what they have experienced during their time as students to new students to follow. Thus, the new students get the convenience of going through the path that has been traversed by their seniors.

3.2. Final Project Studio

Final Project activities include Final Project Workshop (FPW), Design Conceptual (DC), and Final Project Studio (FPS), which are carried out for 3 (three) months each with a total time of 9 (nine) months. Before the pandemic, all of these activities were carried out every working day in the studio and recording activities on SIKOLA. Between these schedules, students collect data at the design location and meet with participants/informants related to their respective design topics.

During the pandemic with the lockdown policy, all final project processes must also be done online. Consultations, progress evaluation stages, and student project final seminars by supervisors and/or examiners are carried out in group discussions at the SIKOLA forum. The Head of the Design Laboratory prepares a thread for each stage, where students meet synchronously or asynchronously with supervisors, examiners, and/or seminar participants.

The final project program has one stage that students must pass before the final exam, namely public exhibitions and seminars. This exhibition and public seminar are the core events of the final project. Students exhibit their final project designs openly for 3 (three) days. The exhibition was closed with a public seminar. Because they are public in nature, these exhibitions and seminars are usually held in the Architecture Department hall which can be accessed by anyone.

For students, the final project exhibition and public seminar are sacred events that test their ability to publish their designs in front of the public. WFH makes them miss this sacred moment. The exhibition event was transferred to a student blog which is also public. Students are required to invite as many observers as possible to visit and comment on the final draft of their project. The SIKOLA website was not chosen as an exhibition medium for security reasons and can only be accessed by a limited number of people. Public seminars are held synchronously through the SIKOLA forum which cannot be attended by non-Unhas participants. Figure 3 shows exhibitions and seminars conducted before the pandemic in the Architecture Department hall. Figure 4 an exhibition held during a pandemic on a student blog.



Figure 3. Pameran dan public seminar final project sebelum pandemic di hall Architecture Department
Source: Triyatni Martosenjoyo

Indoor Skatepark In Bandung

📍 Bisma Anggara 🕒 July 25, 2020 📁 Uncategorized

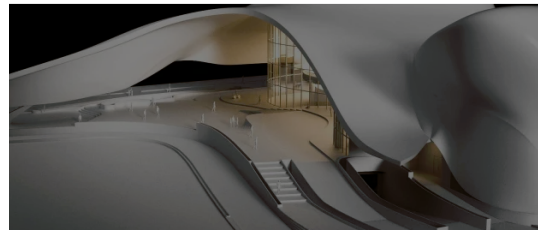


Figure 4: Pameran final project saat pandemic di blog mahasiswa
Source: (Rahman B. A., 2020)

Losing the opportunity to take part in sacred exhibitions and public seminars, makes students wait for the final exam to be held offline. They want to have the experience of defending their work to be tested through physical encounters. While they were taking their exams, their peers waited in the hall carrying flower arrangements, chocolates, and undergraduate sashes. All experiences that are perceived as beautiful are expected to be nostalgic when they become alumni. During the pandemic, this test event is carried out under strict health procedures. Examining students and lecturers wear masks, keep their distance and do not make physical contact.

Nostalgia not only helps increase self-esteem and is positively correlated with a sense of meaning in one's life, it also provides a sense of support or connectedness with someone (Routledge, 2015). Nostalgia is connected with memory as Memory is the brain's ability to encode, store, and retrieve data or information when needed. Storage of information over time for the purpose of influencing future actions (Sherwood, 2015). In the case of the final project exam, nostalgia is related to the memory of the final project exam including the desire to remember things related to the preparation and exam process, the lecturer who tested, the questions that were tested, graduation announcements during the graduation, to congratulations from colleagues. student.

3.3. WFH is A Holiday

The shocking start of WFH in March 2020, students were asked to return to their respective homes and study using the online learning method. Some lecturers lost track of their students because the location where the students lived did not have adequate internet access. Research (Christine Anne Grant, Wallace, Spurgeon, Tramontano, & Charalampous, 2019) related to online learning states that there are difficulties in managing the boundaries between working and not working. Lecturers of the Department of Architecture realize that interaction and communication between lecturers and students is no longer bound by working time limits, especially for asynchronous methods. Both lecturers and students must be on standby to connect with computers so they don't have trouble and miss the latest information (Palloff & Pratt, 2009). Discussions can drag on because the opportunities for students to give each other feedback are wide open. This is very positive for students to get a diverse learning experience.

Online learning involves several foreign students from several countries on the African continent which have a five hour time difference with Makassar. Naef, for example, still conducts consultations with lecturers until 24.00 Makassar Time, because in his country it is only 19.00 Yemen Time. This has been realized by lecturers who have to adapt to changes in learning culture not only without space limits, but also without time limits. They feel quite excited and happy to get an intensive learning communication experience compared to offline learning. Although working online reduces the boundary between work time and family time, WFH provides positive and life satisfaction and increases Work Life Balance (WLB) for families (Vyas & Butakhieo, 2021).

What is surprising is that quite a number of lecturers and students consider that period as a holiday period. They do not prepare the time and space for teaching and learning according to the specified schedule. It is common to find lecturers and students who only use smartphones when teaching and learning. They can even do it while driving a car or while in the garden in their respective hometowns. As it is known that courses in the Architecture Study Program require writing equipment and drawings that are placed on a work desk with adequate dimensions. Not just attending college using a smartphone. Through activities on social media, it is also seen that quite a lot of lecturers do not focus on one lecture event. Simultaneously they can attend various online events, such as various webinars.

Batara, a 06th semester student who lives in Toraja never fails to attend meetings and submits assignments according to schedule. He put forward various reasons related to the funeral ceremony of several members of his family in Toraja. This ceremony takes a long time which cannot be adjusted to the study schedule. For Batara, it was impossible for her to refuse to attend various ceremonies because her family thought that Batara was in her hometown. What happened to Batara was also experienced by some of her friends. Because they think that lectures are only conducted online, it means that they are allowed to attend family events such as weddings, circumcisions, aqiqah, and other traditional events. They can also help parents in the garden while studying by activating their smartphone.

This case shows that online learning that is done voluntarily as independent learning seems to be different from online learning because it is situational which is forced to be done due to the pandemic. The freedom of student learning without face-to-face supervision is interpreted as an activity that is not noticed by their lecturers. Users of online systems perceive that they interact with hardware, software, processes, and each other. They can protect themselves from being detected with various protection systems provided by impenetrable applications (Palloff & Pratt, 2009).

Coordination

During the Covid-19 pandemic, several studio courses were in demand by students participating in the MBKM Program. Coordination between universities does not regulate in detail the limits and conditions of course participants causing chaos in implementation. For example, the Final Project Workshop course, which was aimed at sixth semester students, turned out to be of great interest to first semester students from partner universities. Program participants also arrange class schedules according to the schedule at their home universities, which are usually 3-4 weeks different from the schedule for their study destination universities.

Students participating in the MBKM Program also consider that they are not required to follow the entire teaching-learning process and only visit course sites and download available learning materials and

instructions. This condition greatly disrupts the teaching and learning process of subjects that use study group strategies and techniques. In addition, it creates a negative view for study program managers who think that their teaching and learning materials and instructions are being targeted by predators through MBKM Program participants.

Things are different for Rima, who is also a participant in the MBKM Program. He took courses in Advanced Design Studio. Since the beginning of college, Rima has been very active and has followed all teaching and learning materials and instructions accessed through SIKOLA. Rima did not ask for a dispensation as a guest student. He joined other students participating in courses from Unhas. This condition shows that Rima is aware of herself as an independent learner to manage the courses she takes outside of her.

Humans are creatures who have rights. think, speak and act freely as they wish, without any form of threat (Issa, 2019). He knows, is responsible, and a real connoisseur of competence and performance. Humans have freedom of will, make choices, and are responsible for their actions. his actions. Free will means regulated will. All intentional actions with knowledge, freedom, and responsibility will be beneficial and not detrimental, for the purpose of improving the quality of life (Bhatt, 2018). In the state of acting freely, it is always attached with responsibility. **There is no free action without responsibility for the purpose of producing real performance.**

Rima uses the MBKM Program as a conscious cross-college learning freedom through an online learning process. He is responsible for all actions that are a consequence of his choice to become an independent learner outside his campus. He manages his own learning needs by following all the learning processes so that he can get and enjoy the results of his performance. It is very different from students who take online learning because of the pandemic conditions that require it and consider it a vacation opportunity. It is also different from students who take part in the MBKM Program who do so simply because of the encouragement of the institution.

Discussion

Distance learning which has evolved due to the development of information technology has directly changed the learning culture from informal to formal accredited. With the online system, the student learning environment is wide and large open. Online learning opens up independent opportunities for students to manage their learning space and time flexibly according to their respective conditions. This condition requires students to be able to be responsible for managing their learning independently.

The pandemic situation makes it clear that future education is no longer tied to face-to-face physical encounters. LMS that regulates the stages of learning requires the readiness of learning materials and instructions that can be accessed at any time and not only during class meetings. The use of various communication media demands the skills of lecturers and students to communicate verbally, written, and visually. Unlimited learning space and time make communication between lecturers and students happen continuously outside of formal working.

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Architecture Education During The Covid-19 Pandemic

Abstract

Online learning, also known as e-learning, is the result of the evolution of distance learning that has developed following technological developments, especially information technology. Before the pandemic, online learning was only one alternative that enriched the learning process. Various courses are implemented by combining offline and online learning processes called blended learning. Through the Learning Management System (LMS), the Department of Architecture Unhas combines offline and online learning in studio-based design courses. Lecturers and students are trained to carry out the stages of the learning process guided by online procedures. The ongoing Covid-19 pandemic has made online learning the only way to keep the learning process going as planned. The sudden shift of studio-based courses from offline to totally online resulted in a change in the learning environment and experience. This study found that the online learning learning process is largely determined by the availability of learning materials and instruction in the LMS, the distance between learning space and time, the learning experience and the meaning of independent learning perceived by students. The study involved student participants at all semester levels, academic administration staff, lecturers, and student parents.

Keywords: online learning, studio, architecture, LMS, SIKOLA

1. Introduction

On December 31, 2020, the Wuhan Municipal Health Commission China reported that a novel coronavirus had been identified (World Health Organization, 2020). Until February 19, 2020, the corona virus which was later named SARS-CoV-2 had spread to 30 regions around the world. However, many people joked as if Indonesians were immune to the virus (Garnesia, 2020). On March 2, 2020, President Jokowi announced that two Indonesian citizens were infected due to contact with Japanese citizens who came to Indonesia (Ihsanuddin, 2020). On March 15, 2020, for the purpose of increasing awareness of the transmission of the virus, Jokowi instructed Work From Home (WFH) (Ratriani, 2020; Pratiwi, 2020). Jokowi's instructions were also followed up by educational institutions through the learning from home (LFH) program. The learning process is carried out online using various available applications such as Whats App, Zoom, Google Meet, and the Learning Management System (LMS).

1.1. Online Learning

In principle, online learning is a learning process that is carried out without face-to-face between lecturers and students. Online learning is often assumed as a learning process using internet facilities. Whereas online learning is actually a development of a long-standing distance learning system. In 1728, Caleb Phillips offered through the Boston Gazette, the concept of learning the new method of short hand through letter correspondence. The same lesson materials and instructions as in Boston will be sent to students every week by post (Sleator, 2010:320).

The distance learning system utilizing the correspondence method was later developed using radio, television, and the internet (JSTOR Daily, 2020). Distance learning is defined as a learning method in which students and lecturers are physically separated. The learning method is carried out by utilizing a combination of technology, including correspondence, audio, video, computers, and the internet (Roffe, 2004). Distance learning programs as an alternative to education are generally aimed at students who have barriers to attending face-to-face learning, for example, do not have time or accessibility to educational facilities.

Initially, distance learning was only informal, such as courses in certain subjects and was not recognized as formal education because there was no two-way communication between lecturers and students (Verduin Jr. & Clark, 1991). In the 1960s, the University of Wisconsin opened Articulated Instructional Media (AIM), a special degree program for adults. The courses were offered through a combination of short sessions, off-campus seminars, and independent study, amplified by telelectures, radio-television,

programed material, mobile laboratories and libraries (Wedemeyer & Najem, 1969). AIM later became part of the University Extension which in 1969 inspired the British Open University and further in Spain and Canada. In the 1980s, open universities used satellite television as a means of communication between lecturers and students.

In 1984, Indonesia established the first higher education institution to officially use the distance learning system, namely the *Universitas Terbuka* (Opened University). The main goal is to provide broad opportunities for Indonesian citizens, regardless of where they live, to obtain higher education without restrictions on age, year of certificate, registration time, and frequency of taking exams (Universitas Terbuka, 2021). Before the internet developed rapidly in Indonesia, the face-to-face higher education system used printing materials for learning modules and radio and television media. In the 1990s, universities in various countries began to experiment with distance learning, web-based education. In 1993, Jones International University became the first university to implement fully online learning, and in 1999 it was the first accredited online educational institution. (Corbeil & Corbeil, 2015:55). In 1999, at the Disneyworld Tech Learn Conference, Elliot Masie introduced the term e-learning (Cross, 2004).

In the 2000s, tablet technology, smartphones and free services supported the development of web-based e-learning. The development of Wireless Fidelity (Wi-Fi) technology allows data communication access to all resources provided by the internet on computer devices - desktops, tablets, laptops, smartphones, video game units, digital audio players, e-book readers, and others - quickly without the need for a physical cable connection. These advances create the potential to expose learners to a greater diversity of experiences from people, as well as opportunities to develop problem-based learning opportunities. This is very much needed education and training of various professions in higher education (Corbeil & Corbeil, 2015:56-57; Stansfield, et al. 2008)

1.2. Independent Learning and Merdeka Belajar - Kampus Merdeka (MBKM)

Independent Learning is an alternative learning method in which students learn based on their own actions and direct, organize, and assess their own learning (Henderson, 1984:52-54; Springer, 2012). The concept of independent learning is related to the concept of student-centered learning (Meyer, et al. 2008). Although independent learning programs are also designed for the needs of students, the concept of independent learning described earlier is different from the Indonesian independent learning concept called *Merdeka Belajar – Kampus Merdeka* (MBKM) or Learning Independence - Independent Campus which became a program of the Indonesian Ministry of Education and Culture in 2020. The independent learning program in Indonesia is designed to prepare students to face social cultural changes, the world of work and rapid technological advances. For this reason, the culture on campus must be innovative, not restrictive, and in accordance with the needs of students (Direktorat Jenderal Pendidikan Tinggi - Kementerian Pendidikan dan Kebudayaan 2020:2). Students plan their learning programs with assistance from their respective lecturers.

MBKM gives autonomy to educational institutions and lecturers to be free from complicated bureaucratization, and students are free to choose the fields they like. Students are allowed to take one semester or the equivalent of 20 credits of courses of interest outside the study program, faculty or college. Activities can be carried out through 8 (eight) activities, namely (1) student exchanges, (2) internships/work practices, (3) teaching assistance in education units, (4) research/research, (5) humanitarian projects, (6) entrepreneurship activities, (7) independent studies/projects, or (8) building village/a thematic real work (Direktorat Jenderal Pendidikan Tinggi - Kementerian Pendidikan dan Kebudayaan 2020:4-29).

To support the MBKM program, the Directorate General of Higher Education has developed the SPADA Indonesia online learning system (SPADA Indonesia, 2021). This system is designed as a place to manage selected courses from all Indonesian universities that are included in the MBKM program. The goal is that students who want to take courses outside of their higher education can be served through this system and do not need to enroll in higher education destinations. Most of the universities involved in SPADA Indonesia are universities that do not yet have their own servers and LMS. Higher education that already have opted to offer their courses directly at their respective LMS.

In early 2020, through the Sasrabahu platform, 12 universities with legal status, including Hasanuddin University (Unhas) carried out a collaboration that supports the MBKM program for student exchange

between universities. With the system built by the Sasrabahu platform, students are allowed to take courses at other universities with a full credit transfer scheme by the administrator of the home university. Unhas is involved in student exchanges through the Permata Sakti program and university collaborations. This program is here with the aim of adding student insight and experience. Students participating in the program can build networks with other students outside the university (Rahman, 2020a; 2020b). Through the Permata Sakti program, the Department of Architecture was appointed to submit an identity course for Tropical and Archipelago Architecture. MBKM participants from all over Indonesia can take these courses through LMS of SIKOLA.

The MBKM program did not run smoothly due to the protracted Covid-19 pandemic. All learning processes can only be done through the WFH system. As a result, the practical learning process that must be carried out in learning locations such as laboratories, studios, fields, offices or companies, has to be done online. Students do not have the learning experience as they expect, because generally learning methods are given in the form of theory. Some rich study programs can afford to buy and provide practical applications, so that students can do virtual practicums with simulations. Study programs that have limited funds have no choice but to wait for the pandemic period to pass and face-to-face learning return to normal.

Initially, in response to the Covid-19 pandemic, all educational institution leaders were waiting for developments to occur. They hope the pandemic will subside quickly. It turns out that until today there is no certainty when the pandemic will subside and the face-to-face learning process will run normally again. For more than three semesters, students are not allowed to enter campus and can only study from home. For architecture study programs whose learning process is studio-based, learning from home through online learning is also carried out. For three semesters they were not taught and guided by lecturers through physical meetings.

Although the online learning process has also been carried out at the Department of Architecture, Unhas through blended learning, studio-based design courses are only conducted face-to-face. In the studio, students are accompanied and guided by a lecturer team who are present together when they study. This research was conducted to find out whether the problems faced by architectural education institutions which were carried out with a voluntary blended learning process, then turned into a mandatory totally online due to pandemic conditions? How do lecturers and students react to this situation? How do they manage studio-based courses through online learning?

This research is different from studies on online learning which were mostly conducted during the pandemic period, which generally discussed educational institutions that carried out the learning process only with the face-to-face method and then because of the pandemic, they were forced to switch to online methods. What are the consequences of changing the learning process from offline to online during the pandemic? For example, missing learning opportunities and introductions to digital learning, network quality and internet accessibility and uncertainty by Pokhrel and Chhetri (2021); weaknesses of the online learning system with various digital applications used, by Abidah (2020); and the pandemic on the quality of graduates delaying assessment of learning outcomes to be fair for those attending school during the pandemic to enter the work, by Burgess and Sievertsen (2020).

2. Research Methods:

This research was conducted with a qualitative approach. Primary data were collected through observation of phenomena, focused discussion groups (FGD), and in-depth interviews with a number of participants, namely 252 students in semester I-VI, 27 students in semesters VI-VIII, 4 academic administrative staff, 23 lecturers, and 9 students' parents. For ethical reasons, all participants' names are withheld. Secondary data were collected for the academic administration of the study program. Data analysis was carried out using the Spradley method. The research was conducted from June 1, 2020 – October 31, 2021. The research location is the Department of Architecture, Faculty of Engineering, Unhas, Gowa Regency, South Sulawesi.

3. Result

3.1. Learning Management System (LMS)

Before the 2019 pandemic, Unhas followed the direction of the Directorate General of Higher Education so that the learning system was carried out using the blended learning method, which is a combination of offline and online learning methods. Every university is required to implement at least 70% offline learning and 30% online learning. Initially, it was assumed that Unhas would be easier to run this blended learning program considering that since 2006 it has been managed learning programs using the Unhas Learning Management System (LMS) application which at the end of 2019 was called SIKOLA.

The problem is, the Unhas' LMS program as well as when it became SIKOLA was voluntary and only followed by interested lecturers. Through the Quality Assurance and Educational Development Unit, Unhas carries out training programs using LMS in the teaching and learning process. Lecturers are guided through training to prepare online learning materials and processes. Program participants who can complete the training are given a grant of 10 million rupiah. On March 10, 2020, Unhas' Rector made SIKOLA the official application that must be used for online learning. When the WFH policy was implemented on March 16, 2020, SIKOLA collapsed. Simultaneously, all Unhas lecturers used the teleconference menu. As a result, Unhas' internet capacity and SIKOLA's servers were unable to serve the surge in users from 1,200 to 10,000 users.

In the face-to-face learning process, all learning materials and instructions can be given and carried out with direct interaction in the classroom. Although the learning process can also be done online through digital technology, this is only aimed at enriching learning methods. In contrast to web-based online learning, where there is no direct interaction. All materials, instructions, learning outcomes and evaluations are sent from lecturers to students and vice versa via the LMS platform. All digital communication processes take place only online. The problem that arises when online learning is no longer done voluntarily, but as an obligation during a pandemic.

Lecturers of higher education in Indonesia, including the Department of Architecture, Unhas, generally do not consider learning management important. Quite a lot of people assume that the learning process only includes lectures every week, tests and evaluations. Not many refer to learning quality management standards such as curriculum determination, implementation, evaluation, control, and improvement, or Plan, Doing, Check, and Action (Junaedi, et al., 2020:83; Firdaus, et al., 2021:60). Lecturers do not want to be preoccupied with matters that are considered administrative matters, including learning management. In online learning, all user interactions are carried out through machines. Learning materials and instructions are stored on the LMS server. The stages of learning instruction from the beginning to the end of the learning process for virtual classrooms are regulated by a system created by the lecturer.

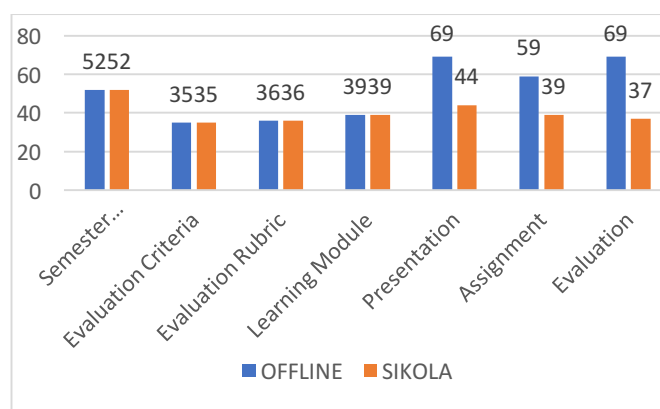


Figure 1. The difference in the number of learning materials and instructions available offline and at SIKOLA

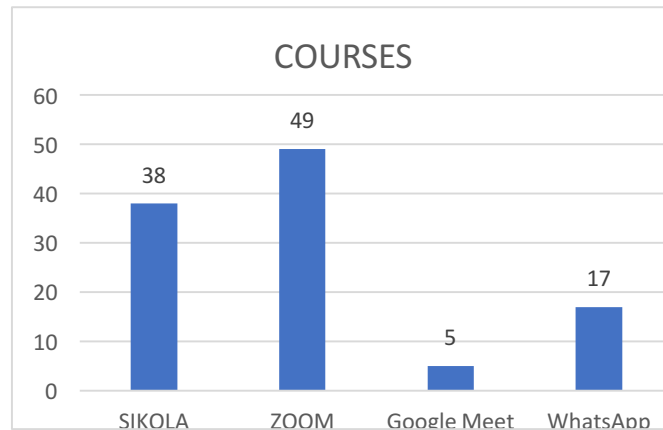


Figure 2. Use of communication media by courses

The stages of learning instructions cannot be made if the lecturer does not have learning materials according to the learning objectives. This situation makes many lecturers complain and are frustrated because they are not able to carry out the LMS model learning process. They choose to run lectures using non-LMS models such as ZOOM, Google Meet or WAG, which do not regulate the learning process in detail. Figure 1 shows the difference in the number of learning materials and instructions owned by the offline and online courses. Figure 2 shows the number of courses and learning communication media used. It can be seen that most of the courses use ZOOM communication media. How many courses use more than one communication medium.

3.2. Design Studio

All studio-based design courses use Problem Based Learning. This learning model involves students actively solving contextual problems, both collaboratively and independently to get relevant learning experiences according to their individual needs (Dolmans, 2005; Yew & Goh, 2016) Before the pandemic, design courses were managed using the blended learning method. The whole process of integrated design courses is carried out in the studios with a capacity of 40-50 people. Students learn to design accompanied by a team consisting of 3-4 lecturers from various interests who support their respective course outcomes. During lectures, group discussions were held in the studio and continued asynchronously at the SIKOLA discussion forum.

At the end of each lecture, student exercises are uploaded to the in-text assignment menu linked to the Google Drive application. Lecturers evaluate and rate these assignments and present the results on the same menu before the next week's lecture period. Thus, lecturers and students can find out the development of learning quality in stages, from the beginning to the end of the course process. Table 1 shows the learning process for design studio courses before the pandemic. Table 2 shows the learning process of design studio courses during a pandemic.

During the pandemic, students from out of town returned to their respective hometowns. Not all student residence locations have adequate internet access, even though the studio learning process can only be done online. The lecturer team tried not to use the synchronous method by video conference such as ZOOM or Google Meet, because of the assumption of difficulty and expensive internet access. Although quite a lot of students prefer the learning method using video conferencing applications, far more complaints about the internet costs are too expensive.

The studio activity begins with the synchronous presence of a lecturer team and students in the chat menu. The team of lecturers conveyed the results of the learning assessment last week and the Sub-Course outcome in the current week. Next, students design their projects at home. During the week group discussions asynchronously at the SIKOLA discussion forum. If the results of the assessment are deemed unsatisfactory, then a virtual face-to-face meeting is conducted using the ZOOM video meeting.

Table 1. Learning Process of Design Studio Courses Before the Covid-19 Pandemic

	LECTURES	OFFLINE						SIKOLA						
		L	P	S	D	A	E	L	P	S	D	A	E	
1	Architectural Composition	√	√		√	√		√						√
2	Technical Presentation & Graphical Communication	√	√		√	√	√							
3	Architecture Design Studio 01	√		√		√		√			√	√		√
4	Architecture Design Studio 02	√		√		√		√			√	√		√
5	Architecture Design Studio 03	√		√		√		√			√	√		√
6	Architecture Design Studio 04	√		√		√		√			√	√		√
7	Architecture Design Studio 05	√		√		√		√			√	√		√
8	Interior Design Studio	√		√	√	√	√	√			√	√		√
9	Advanced Interior Design Studio	√		√	√	√	√	√			√	√		√
10	Landscape Design Studio	√		√	√	√	√							
11	Furniture Design	√		√	√	√	√							
12	Color Composition	√	√			√	√	√			√			√
13	Final Project Workshop	√		√		√	√	√			√	√		√
14	Design Conceptual	√		√		√	√				√	√		√
15	Final Project Studio	√		√		√	√				√	√		√

L : Lecture, P :Practicum, S :Studio, D: Discussion, A: Assignment, E: Evaluation

Table 2. Learning Process of Design Studio Courses During the Covid-19 Pandemic

	COURSES	OFFLINE						SIKOLA						
		L	P	S	D	A	E	L	P	S	D	A	E	
1	Architectural Composition							√	√				√	√
2	Technical Presentation & Graphical Communication							√	√					
3	Architecture Design Studio 01							√		√	√	√		√
4	Architecture Design Studio 02							√		√	√	√		√
5	Architecture Design Studio 03							√		√	√	√		√
6	Architecture Design Studio 04							√		√	√	√		√
7	Architecture Design Studio 05							√		√	√	√		√
8	Interior Design Studio							√		√	√	√		√
9	Advanced Interior Design Studio							√		√	√	√		√
10	Landscape Design Studio							√		√		√		
11	Furniture Design							√		√		√		
12	Color Composition							√	√		√	√		√
13	Final Project Workshop				√	√	√	√		√	√	√		√
14	Design Conceptual				√	√	√	√		√	√	√		√
15	Final Project Studio				√	√	√	√		√	√	√		√

L : Lecture, P : Practicum, S :Studio, D : Discussion, A: Assignment, E : Evaluation

Ana, a fourth semester student who lives on one of the islands in Maluku Province, always has difficulty accessing the internet network when the meeting is held in the morning. As a result, he was unable to attend several courses synchronously, which had an impact on the achievement of the results of these courses. Her academic advisor contacted Ana's mother to get information about Ana's learning environment where she lives. The internet network in that location is indeed low capacity. Accessibility is increasingly difficult because during school hours, all students and students use the limited internet access. The burden of internet costs is not an easy thing for Ana's mother, who is a single parent with three children and a niece of school age. When participating in learning with the ZOOM application, each child must be provided with internet costs worth RP. 20,000/lecture. This means that if each child takes five courses/week, Ana's mother must

provide a credit fee of RP. 400,000/week or RP. 1,600,000/month. This is not a cheap for Ana's mother who works as a government staff.

The obstacles in joining a design studio with online learning methods are not only experienced by students who live in small town. Idei from Japan, a second semester student from an international class also experienced the same thing. Idei had no problem with the capacity of the internet network, but with the method of communication. He is familiar with oral communication through the audio-video application and is weak in written communication. Whereas both synchronous and asynchronous methods use written communication. Ahmad has obstacles when communicating non-physically. He begged to be given the opportunity to study offline, but the campus at that time was still in a lockdown state.

To overcome the obstacles faced by some students, the academic advisors coordinate with the lecturers who are in charge of the courses. Ana was given the opportunity to get special guidance using social media communication other than SIKOLA outside of the class schedule. This is has been done for several weeks until it is able to achieve the desired minimum learning outcomes. Idei, Ahmad and several other students who have problems were given special guidance for several days using the ZOOM application. They were also welcome to the archives of synchronous and asynchronous meetings stored in the chat and discussion forum menu at SIKOLA. This method is very helpful for these students to achieve the minimum competence in design courses.

It is a proud thing for the class of 2020 students who have never entered and studied on campus. Around 60% of them live around campus and Makassar. They make study groups with the guidance of senior students through face-to-face meetings. When the Unhas' Rector recommended that educational institutions carry out limited face-to-face lectures, they immediately registered as participants. Dewi, Nurul, and Tuti, 3 (three) students from North Luwu told how from the small town where they lived they went to Gowa and looked for a place to live around campus. Since the beginning of university, they have never studied face-to-face on campus. They entered the architecture student organization and met with seniors through the WhatsApp Group media. From here, they then set up study groups and are mentored by their seniors. Every time they have a problem while studying online, they immediately contact their seniors to clarify the problems they are facing.



What was experienced by Dewi, Nurul, and Tuti shows Linton's view (Linton, 2010:32), that knowledge is a culture that is owned by a certain member of society. This culture is applied and passed down from generation to generation. Dewi, Nurul, and Tuti inherited the learning culture from their seniors as the previous generation of students before them. Their seniors teach what they have experienced during their time as students to new students to follow. Thus, the new students get the convenience of going through the path that has been traversed by their seniors.

3.3. Final Project Studio

Final Project activities include Final Project Workshop (FPW), Design Conceptual (DC), and Final Project Studio (FPS), which are carried out for 3 (three) months each with a total time of 9 (nine) months. Before the pandemic, all of these activities were carried out every working day in the studio and recording activities on SIKOLA. Between these schedules, students collect data at the project location and meet with participants/informants related to their respective project topics. During the pandemic with the lockdown policy, all final project processes must also be done online. Consultations, progress evaluation stages, and student project final seminars by supervisors and/or examiners are carried out in group discussions at the SIKOLA forum. The Head of the Design Laboratory prepares a thread for each stage, where students meet synchronously or asynchronously with supervisors, examiners, and/or seminar participants.

The final project has one stage that students must pass before the final exam, namely public exhibitions and seminars. This exhibition and public seminar are the core events of the final project. Students exhibit their final project designs openly for three days. The exhibition was closed with a public seminar. Because they are public in nature, these exhibitions and seminars are usually held in the Department of Architecture hall which can be accessed by anyone. For students, the final project exhibition and public seminar are sacred events that test their ability to publish their designs in front of the public. WFH makes them miss this moment. The exhibition event was transferred to a student blog which is also public. Students are required to invite as many observers as possible to visit and comment on their final project design. The SIKOLA

website was not chosen as an exhibition medium for security reasons and can only be accessed by a limited number of people. Public seminars are held synchronously through the SIKOLA forum which cannot be attended by non-Unhas participants. Figure 3 shows an exhibition and a seminar conducted before the pandemic in the Department of Architecture Hall. Figure 4 shows an exhibition held during a pandemic on a student blog.

 <p>Figure 3. Final project exhibition and public seminar before the pandemic at the Department of Architecture Hall. Source: Triyatni Martosenjoyo</p>	 <p>Figure 4. Final project exhibition during a pandemic on student blogs Source: Rahman (2020)</p>
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Losing the opportunity to take part in sacred exhibitions and public seminars, makes students wait for the final exam to be held offline. They want to have the experience of defending their work to be tested through physical encounters. While they were taking their exams, their friends waited in the hall carrying flower arrangements, chocolates, and undergraduate sashes. All experiences that are perceived as beautiful are expected to be nostalgic when they become alumni. During the pandemic, this examination event is carried out under strict health protocols. Examining students and lecturers wear masks, keep their distance and do not make physical contact. .

Nostalgia not only helps increase self-esteem and is positively correlated with a sense of meaning in one's life, it also provides a sense of support or connect with someone (Routledge, 2015). Nostalgia is connected with memory. Memory is the brain's ability to encode, store, and retrieve data or information when needed. Storage of information over time for the purpose of influencing future actions (Sherwood, 2015). In the case of the final project exam, nostalgia is related to the memory of the final project exam, including the desire to remember things related to the preparation and exam process, the lecturer who tested, the questions that were assess, graduation announcements, to congratulations from friends.

3.4. WFH is A Holiday

The shocking WFH starts in March 2020, students were asked to return to their respective homes and study using the online learning method. Some lecturers lost track of their students because the location where the students lived did not have adequate internet access. Research related to online learning states that there are difficulties in managing the boundaries between working and not working (Christine, et al. 2019). Lecturers of the Department of Architecture realize that interaction and communication between lecturers and students is no longer bound by working time limits, especially for asynchronous methods. Both lecturers and students must be on standby to connect with computers so they don't have trouble and miss the latest information (Palloff & Pratt, 2009:71-72). Discussions can drag on because the opportunities for students to give each other feedback are wide open. This is very positive for students to get a diverse learning experience.

Online learning involves several foreign students from several countries on the African continent which have a five hour time difference with Makassar. Naef, for example, still conducts consultations with lecturers until 24.00 Makassar Times, because in his country it is only 19.00 Yemen Times. This has been realized by lecturers who have to adapt to changes in learning culture not only without space limits, but also without time limits. They feel quite excited and happy to get an intensive learning communication

experience compared to offline learning. Although working online reduces the boundary between work time and family time, WFH provides positive and life satisfaction and increases Work Life Balance (WLB) for families (Vyas & Butakhieo, 2021). There seems to be a very contrasting difference in the meaning of online learning among those who are willing to work beyond formal working time and those who make formal work time a vacation.

What is surprising is that quite a number of lecturers and students consider that period as a holiday period. They do not prepare the time and space for learning according to the specified schedule. It is common to find lecturers and students who only use smartphones when learning. They can even do it while driving a car or while in the garden in their respective hometowns. As it is known that lectures in the Architecture Study Program require writing equipment and drawings that are placed on a work desk with adequate dimensions. Not just attending lecture using a smartphone. Through activities on social media, it is also seen that quite a lot of lecturers do not focus on one lecture event. Simultaneously, they can attend various online events, such as various webinars.

Batara, a sixth semester student who lives in Toraja never been able to attend meetings and enter assignments as scheduled. He put forward various reasons related to the funeral ceremony of several members of his family in Toraja. This ceremony takes a long time which cannot be adjusted to the study schedule. For Batara, it was impossible for him to refuse to attend various ceremonies because his family thought that he was in his hometown. What happened to Batara was also experienced by some of his friends. Because they think that lectures are only conducted online, it means that they are allowed to attend family events such as weddings, circumcisions, *aqiqah*, and other traditional events. They can also help parents in the garden while studying by activating their smartphone.

Batara's case shows that online learning that is done voluntarily as independent learning seems to be different from online learning because it is situational which is forced to be done due to the pandemic. The freedom of student learning without face-to-face supervision is interpreted as an activity that is not noticed by their lecturers. Users of online systems perceive that they interact with hardware, software, processes, and each other. They can protect themselves from being detected with various protection systems provided by impenetrable applications (Palloff & Pratt, 2009:90-91).

3.5. Coordination

During the Covid-19 pandemic, several studio courses were in demand by students participating in the MBKM Program. Coordination between universities does not regulate in detail the limits and conditions of the course's participants causing chaos in implementing. For example, the Final Project Workshop course, which was aimed at sixth semester students, turned out to be of great interest to first semester students from partner universities. Program participants also arrange class schedules according to the schedule at their home universities, which are usually 3-4 weeks different from the schedule for their study destination universities.

Students participating in the MBKM Program also consider that they are not required to follow the entire learning process and only visit course sites, download available learning materials and instructions. This condition greatly disrupts the learning process of subjects that use group strategies and techniques. In addition, it creates a negative view for study program leaders who think that their learning materials and instructions are being targeted by predators through MBKM Program participants.

Things are different for Rima, who is also a participant in the MBKM Program. He took courses in Advanced Landscape Design Studio. Since the beginning of the course, Rima has been very active and has followed all the learning materials and instructions accessed through SIKOLA. She did not ask for a dispensation as a guest student. He joined other students participating in courses from Unhas. This condition shows that Wulan is aware of herself as an independent learner to manage the courses she takes outside of her university.

Humans are creatures who have rights, think, speak and act freely as they wish, without any form of threat (Issa, 2019). He knows, responsible, and a real connoisseur of competence and performance. Humans have freedom of will, make choices, and are responsible for their actions. Free will means regulated will. All intentional actions with knowledge, freedom, and responsibility will be beneficial and not detrimental, for

the purpose of improving the quality of life (Bhatt, 2018). In the state of acting freely, it is always attached with responsibility. There is no free action without responsibility for the purpose of producing real performance.

Rima uses the MBKM Program as a conscious cross-college learning freedom through an online learning process. He is responsible for all actions that are a consequence of her choice to become an independent learner outside his campus. He manages her own learning needs by following all the learning processes so that he can get and enjoy the results of her performance. It is very different from students who take online learning because of the pandemic conditions that require it and consider it a vacation opportunity. It is also different from students who take part in the MBKM Program who do so simply because of the encouragement of the institution.

Discussion

Distance learning which has evolved due to the development of information technology has directly changed the learning culture from informal to formal accredited. With the online system, the student learning environment is wide and large open. Online learning opens up independent opportunities for students to manage their learning space and time flexibly according to their respective conditions. This condition requires students to be able to be responsible for managing their learning independently.

The pandemic situation makes it clear that future education is no longer tied to face-to-face physical encounters. LMS that regulates the stages of learning requires the readiness of learning materials and instructions that can be accessed at any time and not only during class meetings. The use of various communication media demands the skills of lecturers and students to communicate verbally, written, and visually. Unlimited learning space and time make communication between lecturers and students happen continuously outside of formal working.

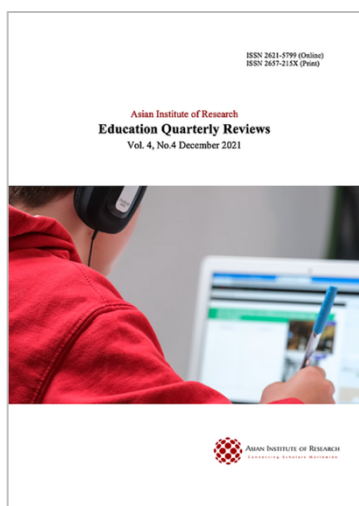
Online learning requires the support of the latest information technology, which is still expensive and cannot be enjoyed by all people in locations/regions in developing countries such as Indonesia. The pandemic condition is quite surprising for students because of the additional burden that must be borne for internet fees. Availability and equitable access and quality of affordable internet and a prerequisite for successful online learning cannot be delayed.

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Architecture Education During the Covid-19 Pandemic

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Abstract

Online learning, also known as e-learning, is the result of the evolution of distance learning that has developed following technological developments, especially information technology. Before the pandemic, online learning was only one alternative that enriched the learning process. Various courses are implemented by combining offline and online learning processes called blended learning. Through the Learning Management System (LMS), the Department of Architecture Unhas combines offline and online learning in studio-based design courses. Lecturers and students are trained to carry out the stages of the learning process guided by online procedures. The ongoing Covid-19 pandemic has made online learning the only way to keep the learning process going as planned. The sudden shift of studio-based courses from offline to totally online resulted in a change in the learning environment and experience. This study found that the online learning process is largely determined by the availability of learning materials and instruction in the LMS, the distance between learning space and time, the learning experience and the meaning of independent learning perceived by students. The study involved student participants at all semester levels, academic administration staff, lecturers, and student parents.

Keywords: Online Learning, Studio, Architecture, LMS, SIKOLA

1. Introduction

On December 31, 2020, the Wuhan Municipal Health Commission China reported that a novel coronavirus had been identified (World Health Organization, 2020). Until February 19, 2020, the corona virus which was later named SARS-CoV-2 had spread to 30 regions around the world. However, many people joked as if Indonesians were immune to the virus (Garnesia, 2020). On March 2, 2020, President Jokowi announced that two Indonesian citizens were infected due to contact with Japanese citizens who came to Indonesia (Ihsanuddin, 2020). On March 15, 2020, for the purpose of increasing awareness of the transmission of the virus, Jokowi instructed Work From Home (WFH) (Ratriani, 2020; Pratiwi, 2020). Jokowi's instructions were also followed up by educational institutions through the learning from home (LFH) program. The learning process is carried out online using various available applications such as Whats App, Zoom, Google Meet, and the Learning Management System (LMS).

1.1. Online Learning

In principle, online learning is a learning process that is carried out without face-to-face between lecturers and students. Online learning is often assumed as a learning process using internet facilities. Whereas online learning is actually a development of a long-standing distance learning system. In 1728, Caleb Phillips offered through the

Boston Gazette, the concept of learning the new method of short hand through letter correspondence. The same lesson materials and instructions as in Boston will be sent to students every week by post (Sleator, 2010:320).

The distance learning system utilizing the correspondence method was later developed using radio, television, and the internet (JSTOR Daily, 2020). Distance learning is defined as a learning method in which students and lecturers are physically separated. The learning method is carried out by utilizing a combination of technology, including correspondence, audio, video, computers, and the internet (Roffe, 2004). Distance learning programs as an alternative to education are generally aimed at students who have barriers to attending face-to-face learning, for example, do not have time or accessibility to educational facilities.

Initially, distance learning was only informal, such as courses in certain subjects and was not recognized as formal education because there was no two-way communication between lecturers and students (Verduin Jr. & Clark, 1991). In the 1960s, the University of Wisconsin opened Articulated Instructional Media (AIM), a special degree program for adults. The courses were offered through a combination of short sessions, off-campus seminars, and independent study, amplified by telelectures, radio-television, programmed material, mobile laboratories and libraries (Wedemeyer & Najem, 1969). AIM later became part of the University Extension which in 1969 inspired the British Open University and further in Spain and Canada. In the 1980s, open universities used satellite television as a means of communication between lecturers and students.

In 1984, Indonesia established the first higher education institution to officially use the distance learning system, namely the *Universitas Terbuka* (Opened University). The main goal is to provide broad opportunities for Indonesian citizens, regardless of where they live, to obtain higher education without restrictions on age, year of certificate, registration time, and frequency of taking exams (Universitas Terbuka, 2021). Before the internet developed rapidly in Indonesia, the face-to-face higher education system used printing materials for learning modules and radio and television media. In the 1990s, universities in various countries began to experiment with distance learning, web-based education. In 1993, Jones International University became the first university to implement fully online learning, and in 1999 it was the first accredited online educational institution. (Corbeil & Corbeil, 2015:55). In 1999, at the Disneyworld Tech Learn Conference, Elliot Masie introduced the term e-learning (Cross, 2004).

In the 2000s, tablet technology, smartphones and free services supported the development of web-based e-learning. The development of Wireless Fidelity (Wi-Fi) technology allows data communication access to all resources provided by the internet on computer devices - desktops, tablets, laptops, smartphones, video game units, digital audio players, e-book readers, and others - quickly without the need for a physical cable connection. These advances create the potential to expose learners to a greater diversity of experiences from people, as well as opportunities to develop problem-based learning opportunities. This is very much needed education and training of various professions in higher education (Corbeil & Corbeil, 2015:56-57; Stansfield, et al. 2008)

1.2. Independent Learning and Merdeka Belajar - Kampus Merdeka (MBKM)

Independent Learning is an alternative learning method in which students learn based on their own actions and direct, organize, and assess their own learning (Henderson, 1984:52-54; Springer, 2012). The concept of independent learning is related to the concept of student-centered learning (Meyer, et al. 2008). Although independent learning programs are also designed for the needs of students, the concept of independent learning described earlier is different from the Indonesian independent learning concept called *Merdeka Belajar – Kampus Merdeka* (MBKM) or Learning Independence - Independent Campus which became a program of the Indonesian Ministry of Education and Culture in 2020. The independent learning program in Indonesia is designed to prepare students to face social cultural changes, the world of work and rapid technological advances. For this reason, the culture on campus must be innovative, not restrictive, and in accordance with the needs of students (Direktorat Jenderal Pendidikan Tinggi - Kementerian Pendidikan dan Kebudayaan, 2020:2). Students plan their learning programs with assistance from their respective lecturers.

MBKM gives autonomy to educational institutions and lecturers to be free from complicated bureaucratization, and students are free to choose the fields they like. Students are allowed to take one semester or the equivalent of

20 credits of courses of interest outside the study program, faculty or college. Activities can be carried out through 8 (eight) activities, namely (1) student exchanges, (2) internships/work practices, (3) teaching assistance in education units, (4) research/research, (5) humanitarian projects, (6) entrepreneurship activities, (7) independent studies/projects, or (8) building village/a thematic real work (Direktorat Jenderal Pendidikan Tinggi - Kementerian Pendidikan dan Kebudayaan, 2020:4-29).

To support the MBKM program, the Directorate General of Higher Education has developed the SPADA Indonesia online learning system (SPADA Indonesia, 2021). This system is designed as a place to manage selected courses from all Indonesian universities that are included in the MBKM program. The goal is that students who want to take courses outside of their higher education can be served through this system and do not need to enroll in higher education destinations. Most of the universities involved in SPADA Indonesia are universities that do not yet have their own servers and LMS. Higher education that already has opted to offer their courses directly at their respective LMS.

In early 2020, through the Sasrabahu platform, 12 universities with legal status, including Hasanuddin University (Unhas) carried out a collaboration that supports the MBKM program for student exchange between universities. With the system built by the Sasrabahu platform, students are allowed to take courses at other universities with a full credit transfer scheme by the administrator of the home university. Unhas is involved in student exchanges through the Permata Sakti program and university collaborations. This program is here with the aim of adding student insight and experience. Students participating in the program can build networks with other students outside the university (Rahman, 2020a; 2020b). Through the Permata Sakti program, the Department of Architecture was appointed to submit an identity course for Tropical and Archipelago Architecture. MBKM participants from all over Indonesia can take these courses through LMS of SIKOLA.

The MBKM program did not run smoothly due to the protracted Covid-19 pandemic. All learning processes can only be done through the WFH system. As a result, the practical learning process that must be carried out in learning locations such as laboratories, studios, fields, offices or companies, has to be done online. Students do not have the learning experience as they expect, because generally learning methods are given in the form of theory. Some rich study programs can afford to buy and provide practical applications, so that students can do virtual practicums with simulations. Study programs that have limited funds have no choice but to wait for the pandemic period to pass and face-to-face learning return to normal.

Initially, in response to the Covid-19 pandemic, all educational institution leaders were waiting for developments to occur. They hope the pandemic will subside quickly. It turns out that until today there is no certainty when the pandemic will subside and the face-to-face learning process will normally run again. For more than three semesters, students are not allowed to enter campus and can only study from home. For architecture study programs whose learning process is studio-based, learning from home through online learning is also carried out. For three semesters they were not taught and guided by lecturers through physical meetings.

Although the online learning process has also been carried out at the Department of Architecture, Unhas through blended learning, studio-based design courses are only conducted face-to-face. In the studio, students are accompanied and guided by a lecturer team who are present together when they study. This research was conducted to find out whether the problems faced by architectural education institutions which were carried out with a voluntary blended learning process, then turned into a mandatory totally online due to pandemic conditions? How do lecturers and students react to this situation? How do they manage studio-based courses through online learning?

This research is different from studies on online learning which were mostly conducted during the pandemic period, which generally discussed educational institutions that carried out the learning process only with the face-to-face method and then because of the pandemic, they were forced to switch to online methods. What are the consequences of changing the learning process from offline to online during the pandemic?

For example, missing learning opportunities and introductions to digital learning, network quality and internet accessibility and uncertainty by Pokhrel and Chhetri (2021); weaknesses of the online learning system with various digital applications used, by Abidah (2020); and the pandemic on the quality of graduates delaying assessment of learning outcomes to be fair for those attending school during the pandemic to enter the work, by Burgess and Sievertsen (2020).

2. Research Methods

This research was conducted with a qualitative approach. Primary data were collected through observation of phenomena, focused discussion groups (FGD), and in-depth interviews with a number of participants, namely 252 students in semester I-VI, 27 students in semesters VI-VIII, 4 academic administrative staff, 23 lecturers, and 9 students' parents. For ethical reasons, all participants' names are withheld. Secondary data were collected for the academic administration of the study program. Data analysis was carried out using the Spradley method. The research was conducted from June 1, 2020 – October 31, 2021. The research location is the Department of Architecture, Faculty of Engineering, Unhas, Gowa Regency, South Sulawesi.

3. Result

3.1. Learning Management System (LMS)

Before the 2019 pandemic, Unhas followed the direction of the Directorate General of Higher Education so that the learning system was carried out using the blended learning method, which is a combination of offline and online learning methods. Every university is required to implement at least 70% offline learning and 30% online learning. Initially, it was assumed that Unhas would be easier to run this blended learning program considering that since 2006 it has been managed learning programs using the Unhas Learning Management System (LMS) application which at the end of 2019 was called SIKOLA.

The problem is, the Unhas' LMS program as well as when it became SIKOLA was voluntary and only followed by interested lecturers. Through the Quality Assurance and Educational Development Unit, Unhas carries out training programs using LMS in the teaching and learning process. Lecturers are guided through training to prepare online learning materials and processes. Program participants who can complete the training are given a grant of 10 million rupiahs. On March 10, 2020, Unhas' Rector made SIKOLA the official application that must be used for online learning. When the WFH policy was implemented on March 16, 2020, SIKOLA collapsed. Simultaneously, all Unhas lecturers used the teleconference menu. As a result, Unhas' internet capacity and SIKOLA's servers were unable to serve the surge in users from 1,200 to 10,000 users.

In the face-to-face learning process, all learning materials and instructions can be given and carried out with direct interaction in the classroom. Although the learning process can also be done online through digital technology, this is only aimed at enriching learning methods. In contrast to web-based online learning, where there is no direct interaction. All materials, instructions, learning outcomes and evaluations are sent from lecturers to students and vice versa via the LMS platform. All digital communication processes take place only online. The problem that arises when online learning is no longer done voluntarily, but as an obligation during a pandemic.

Lecturers of higher education in Indonesia, including the Department of Architecture, Unhas, generally do not consider learning management important. Quite a lot of people assume that the learning process only includes lectures every week, tests and evaluations. Not many refer to learning quality management standards such as curriculum determination, implementation, evaluation, control, and improvement, or Plan, Doing, Check, and Action (Junaedi, et al., 2020:83; Firdaus, et al., 2021:60). Lecturers do not want to be preoccupied with matters that are considered administrative matters, including learning management. In online learning, all user interactions are carried out through machines. Learning materials and instructions are stored on the LMS server. The stages of learning instruction from the beginning to the end of the learning process for virtual classrooms are regulated by a system created by the lecturer.

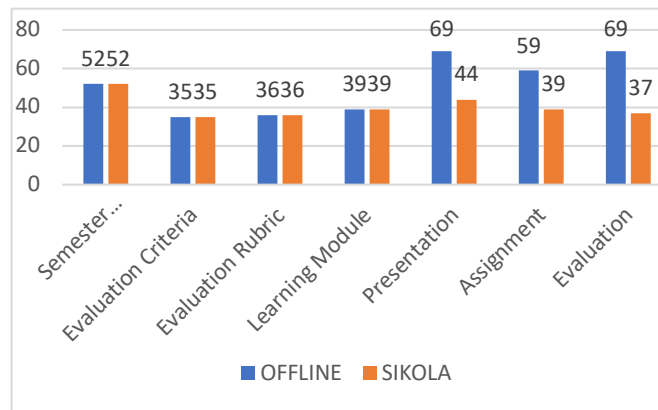


Figure 1: The difference in the number of learning materials and instructions available offline and at SIKOLA

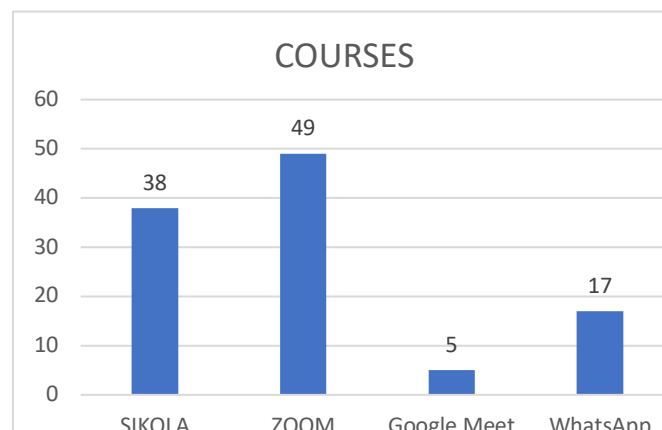


Figure 2: Use of communication media by courses

The stages of learning instructions cannot be made if the lecturer does not have learning materials according to the learning objectives. This situation makes many lecturers complain and are frustrated because they are not able to carry out the LMS model learning process. They choose to run lectures using non-LMS models such as ZOOM, Google Meet or WAG, which do not regulate the learning process in detail. Figure 1 shows the difference in the number of learning materials and instructions owned by the offline and online courses. Figure 2 shows the number of courses and learning communication media used. It can be seen that most of the courses use ZOOM communication media. How many courses use more than one communication medium.

3.2. Design Studio

All studio-based design courses use Problem Based Learning. This learning model involves students actively solving contextual problems, both collaboratively and independently to get relevant learning experiences according to their individual needs (Dolmans, 2005; Yew & Goh, 2016) Before the pandemic, design courses were managed using the blended learning method. The whole process of integrated design courses is carried out in the studios with a capacity of 40-50 people. Students learn to design accompanied by a team consisting of 3-4 lecturers from various interests who support their respective course outcomes. During lectures, group discussions were held in the studio and continued asynchronously at the SIKOLA discussion forum.

At the end of each lecture, student exercises are uploaded to the in-text assignment menu linked to the Google Drive application. Lecturers evaluate and rate these assignments and present the results on the same menu before the next week's lecture period. Thus, lecturers and students can find out the development of learning quality in stages, from the beginning to the end of the course process. Table 1 shows the learning process for design studio courses before the pandemic. Table 2 shows the learning process of design studio courses during a pandemic.

During the pandemic, students from out of town returned to their respective hometowns. Not all student residence locations have adequate internet access, even though the studio learning process can only be done online. The lecturer team tried not to use the synchronous method by video conference such as ZOOM or Google Meet, because of the assumption of difficulty and expensive internet access. Although quite a lot of students prefer the learning method using video conferencing applications, far more complaints about the internet costs are too expensive.

The studio activity begins with the synchronous presence of a lecturer team and students in the chat menu. The team of lecturers conveyed the results of the learning assessment last week and the Sub-Course outcome in the current week. Next, students design their projects at home. During the week group discussions asynchronously at the SIKOLA discussion forum. If the results of the assessment are deemed unsatisfactory, then a virtual face-to-face meeting is conducted using the ZOOM video meeting.

Table 1: Learning Process of Design Studio Courses Before the Covid-19 Pandemic

	LECTURES	OFFLINE					SIKOLA							
		L	P	S	D	A	E	L	P	S	D	A	E	
1	Architectural Composition	√	√		√	√		√						√
2	Technical Presentation & Graphical Communication	√	√		√	√	√							
3	Architecture Design Studio 01	√		√		√		√			√	√	√	
4	Architecture Design Studio 02	√		√		√		√			√	√	√	
5	Architecture Design Studio 03	√		√		√		√			√	√	√	
6	Architecture Design Studio 04	√		√		√		√			√	√	√	
7	Architecture Design Studio 05	√		√		√		√			√	√	√	
8	Interior Design Studio	√		√	√	√	√	√			√	√	√	
9	Advanced Interior Design Studio	√		√	√	√	√	√			√	√	√	
10	Landscape Design Studio	√		√	√	√	√							
11	Furniture Design	√		√	√	√	√							
12	Color Composition	√	√			√	√	√			√			√
13	Final Project Workshop	√		√		√	√	√			√	√	√	
14	Design Conceptual	√		√		√	√				√	√	√	
15	Final Project Studio	√		√		√	√				√	√	√	

L : Lecture, P :Practicum, S :Studio, D: Discussion, A: Assignment, E: Evaluation

Table 2: Learning Process of Design Studio Courses During the Covid-19 Pandemic

	COURSES	OFFLINE					SIKOLA							
		L	P	S	D	A	E	L	P	S	D	A	E	
1	Architectural Composition							√	√			√	√	
2	Technical Presentation & Graphical Communication							√	√					
3	Architecture Design Studio 01							√		√	√	√	√	
4	Architecture Design Studio 02							√		√	√	√	√	
5	Architecture Design Studio 03							√		√	√	√	√	
6	Architecture Design Studio 04							√		√	√	√	√	
7	Architecture Design Studio 05							√		√	√	√	√	
8	Interior Design Studio							√		√	√	√	√	
9	Advanced Interior Design Studio							√		√	√	√	√	
10	Landscape Design Studio							√		√		√		
11	Furniture Design							√		√		√		
12	Color Composition							√	√		√	√	√	
13	Final Project Workshop					√	√	√	√		√	√	√	√
14	Design Conceptual					√	√	√	√		√	√	√	√

15 Final Project Studio

√ √ √ √ √ √ √ √

L : Lecture, P : Practicum, S :Studio, D : Discussion, A: Assignment, E : Evaluation

Ana, a fourth semester student who lives on one of the islands in Maluku Province, always has difficulty accessing the internet network when the meeting is held in the morning. As a result, he was unable to attend several courses synchronously, which had an impact on the achievement of the results of these courses. Her academic advisor contacted Ana's mother to get information about Ana's learning environment where she lives. The internet network in that location is indeed low capacity. Accessibility is increasingly difficult because during school hours, all students and students use the limited internet access. The burden of internet costs is not an easy thing for Ana's mother, who is a single parent with three children and a niece of school age. When participating in learning with the ZOOM application, each child must be provided with internet costs worth RP. 20,000/lecture. This means that if each child takes five courses/week, Ana's mother must provide a credit fee of RP. 400,000/week or RP. 1,600,000/month. This is not a cheap for Ana's mother who works as a government staff.

The obstacles in joining a design studio with online learning methods are not only experienced by students who live in small towns. Idei from Japan, a second semester student from an international class also experienced the same thing. Idei had no problem with the capacity of the internet network, but with the method of communication. He is familiar with oral communication through the audio-video application and is weak in written communication. Whereas both synchronous and asynchronous methods use written communication. Ahmad has obstacles when communicating non-physically. He begged to be given the opportunity to study offline, but the campus at that time was still in a lockdown state.

To overcome the obstacles faced by some students, the academic advisors coordinate with the lecturers who are in charge of the courses. Ana was given the opportunity to get special guidance using social media communication other than SIKOLA outside of the class schedule. This is has been done for several weeks until it is able to achieve the desired minimum learning outcomes. Idei, Ahmad and several other students who have problems were given special guidance for several days using the ZOOM application. They were also welcome to the archives of synchronous and asynchronous meetings stored in the chat and discussion forum menu at SIKOLA. This method is very helpful for these students to achieve the minimum competence in design courses.

It is a proud thing for the class of 2020 students who have never entered and studied on campus. Around 60% of them live around campus and Makassar. They make study groups with the guidance of senior students through face-to-face meetings. When the Unhas' Rector recommended that educational institutions carry out limited face-to-face lectures, they immediately registered as participants. Dewi, Nurul, and Tuti, 3 (three) students from North Luwu told how from the small town where they lived they went to Gowa and looked for a place to live around campus. Since the beginning of university, they have never studied face-to-face on campus. They entered the architecture student organization and met with seniors through the WhatsApp Group media. From here, they then set up study groups and are mentored by their seniors. Every time they have a problem while studying online, they immediately contact their seniors to clarify the problems they are facing.

What was experienced by Dewi, Nurul, and Tuti shows Linton's view (Linton, 2010:32), that knowledge is a culture that is owned by a certain member of society. This culture is applied and passed down from generation to generation. Dewi, Nurul, and Tuti inherited the learning culture from their seniors as the previous generation of students before them. Their seniors teach what they have experienced during their time as students to new students to follow. Thus, the new students get the convenience of going through the path that has been traversed by their seniors.

3.3. Final Project Studio

Final Project activities include Final Project Workshop (FPW), Design Conceptual (DC), and Final Project Studio (FPS), which are carried out for 3 (three) months each with a total time of 9 (nine) months. Before the pandemic, all of these activities were carried out every working day in the studio and recording activities on SIKOLA. Between these schedules, students collect data at the project location and meet with participants/informants related to their respective project topics. During the pandemic with the lockdown policy, all final project processes must

also be done online. Consultations, progress evaluation stages, and student project final seminars by supervisors and/or examiners are carried out in group discussions at the SIKOLA forum. The Head of the Design Laboratory prepares a thread for each stage, where students meet synchronously or asynchronously with supervisors, examiners, and/or seminar participants.

The final project has one stage that students must pass before the final exam, namely public exhibitions and seminars. This exhibition and public seminar are the core events of the final project. Students exhibit their final project designs openly for three days. The exhibition was closed with a public seminar. Because they are public in nature, these exhibitions and seminars are usually held in the Department of Architecture hall which can be accessed by anyone. For students, the final project exhibition and public seminar are sacred events that test their ability to publish their designs in front of the public. WFH makes them miss this moment. The exhibition event was transferred to a student blog which is also public. Students are required to invite as many observers as possible to visit and comment on their final project design. The SIKOLA website was not chosen as an exhibition medium for security reasons and can only be accessed by a limited number of people. Public seminars are held synchronously through the SIKOLA forum which cannot be attended by non-Unhas participants. Figure 3 shows an exhibition and a seminar conducted before the pandemic in the Department of Architecture Hall. Figure 4 shows an exhibition held during a pandemic on a student blog.



Figure 3: Final project exhibition and public seminar before the pandemic at the Department of Architecture Hall.

Source: Triyatni Martosenjoyo

Indoor Skatepark In Bandung

👤 Bisma Anggara 📅 July 25, 2020 📁 Uncategorized

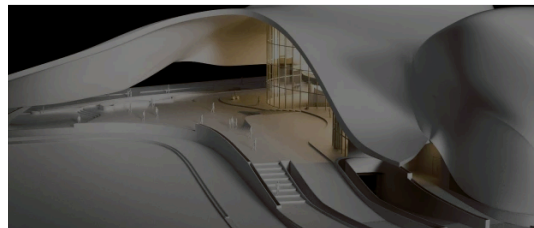


Figure 4: Final project exhibition during a pandemic on student blogs

Source: Rahman (2020)

Losing the opportunity to take part in sacred exhibitions and public seminars, makes students wait for the final exam to be held offline. They want to have the experience of defending their work to be tested through physical encounters. While they were taking their exams, their friends waited in the hall carrying flower arrangements, chocolates, and undergraduate sashes. All experiences that are perceived as beautiful are expected to be nostalgic when they become alumni. During the pandemic, this examination event is carried out under strict health protocols. Examining students and lecturers wear masks, keep their distance and do not make physical contact.

Nostalgia not only helps increase self-esteem and is positively correlated with a sense of meaning in one's life, it also provides a sense of support or connect with someone (Routledge, 2015). Nostalgia is connected with memory. Memory is the brain's ability to encode, store, and retrieve data or information when needed. Storage of information over time for the purpose of influencing future actions (Sherwood, 2015). In the case of the final project exam, nostalgia is related to the memory of the final project exam, including the desire to remember things related to the preparation and exam process, the lecturer who tested, the questions that were assessed, graduation announcements, to congratulations from friends.

3.4. WFH is A Holiday

The shocking WFH started in March 2020, students were asked to return to their respective homes and study using the online learning method. Some lecturers lost track of their students because the location where the students lived did not have adequate internet access. Research related to online learning states that there are difficulties in

managing the boundaries between working and not working (Christine, et al. 2019). Lecturers of the Department of Architecture realize that interaction and communication between lecturers and students are no longer bound by working time limits, especially for asynchronous methods. Both lecturers and students must be on standby to connect with computers so they don't have trouble and miss the latest information (Palloff & Pratt, 2009:71-72). Discussions can drag on because the opportunities for students to give each other feedback are wide open. This is very positive for students to get a diverse learning experience.

Online learning involves several foreign students from several countries on the African continent which have a five hour time difference with Makassar. Naef, for example, still conducts consultations with lecturers until 24.00 Makassar Times, because in his country it is only 19.00 Yemen Times. This has been realized by lecturers who have to adapt to changes in learning culture not only without space limits, but also without time limits. They feel quite excited and happy to get an intensive learning communication experience compared to offline learning. Although working online reduces the boundary between work time and family time, WFH provides positive and life satisfaction and increases Work Life Balance (WLB) for families (Vyas & Butakhieo, 2021). There seems to be a very contrasting difference in the meaning of online learning among those who are willing to work beyond formal working time and those who make formal work time a vacation.

What is surprising is that quite a number of lecturers and students consider that period as a holiday period. They do not prepare the time and space for learning according to the specified schedule. It is common to find lecturers and students who only use smartphones when learning. They can even do it while driving a car or while in the garden in their respective hometowns. As it is known that lectures in the Architecture Study Program require writing equipment and drawings that are placed on a work desk with adequate dimensions. Not just attending lectures using a smartphone. Through activities on social media, it is also seen that quite a lot of lecturers do not focus on one lecture event. Simultaneously, they can attend various online events, such as various webinars.

Batara, a sixth semester student who lives in Toraja never been able to attend meetings and enter assignments as scheduled. He put forward various reasons related to the funeral ceremony of several members of his family in Toraja. This ceremony takes a long time which cannot be adjusted to the study schedule. For Batara, it was impossible for him to refuse to attend various ceremonies because his family thought that he was in his hometown. What happened to Batara was also experienced by some of his friends. Because they think that lectures are only conducted online, it means that they are allowed to attend family events such as weddings, circumcisions, *aqiqah*, and other traditional events. They can also help parents in the garden while studying by activating their smartphones.

Batara's case shows that online learning that is done voluntarily as independent learning seems to be different from online learning because it is situational which is forced to be done due to the pandemic. The freedom of student learning without face-to-face supervision is interpreted as an activity that is not noticed by their lecturers. Users of online systems perceive that they interact with hardware, software, processes, and each other. They can protect themselves from being detected with various protection systems provided by impenetrable applications (Palloff & Pratt, 2009:90-91).

3.5. Coordination

During the Covid-19 pandemic, several studio courses were in demand by students participating in the MBKM Program. Coordination between universities does not regulate in detail the limits and conditions of the course's participants causing chaos in implementing. For example, the Final Project Workshop course, which was aimed at sixth semester students, turned out to be of great interest to first semester students from partner universities. Program participants also arrange class schedules according to the schedule at their home universities, which are usually 3-4 weeks different from the schedule for their study destination universities.

Students participating in the MBKM Program also consider that they are not required to follow the entire learning process and only visit course sites, download available learning materials and instructions. This condition greatly disrupts the learning process of subjects that use group strategies and techniques. In addition, it creates a negative

view for study program leaders who think that their learning materials and instructions are being targeted by predators through MBKM Program participants.

Things are different for Rima, who is also a participant in the MBKM Program. He took courses in Advanced Landscape Design Studio. Since the beginning of the course, Rima has been very active and has followed all the learning materials and instructions accessed through SIKOLA. She did not ask for a dispensation as a guest student. He joined other students participating in courses from Unhas. This condition shows that Wulan is aware of herself as an independent learner to manage the courses she takes outside of her university.

Humans are creatures who have rights, think, speak and act freely as they wish, without any form of threat (Issa, 2019). He knows, responsible, and a real connoisseur of competence and performance. Humans have freedom of will, make choices, and are responsible for their actions. Free will means regulated will. All intentional actions with knowledge, freedom, and responsibility will be beneficial and not detrimental, for the purpose of improving the quality of life (Bhatt, 2018). In the state of acting freely, it is always attached with responsibility. There is no free action without responsibility for the purpose of producing real performance.

Rima uses the MBKM Program as a conscious cross-college learning freedom through an online learning process. He is responsible for all actions that are a consequence of her choice to become an independent learner outside his campus. He manages her own learning needs by following all the learning processes so that he can get and enjoy the results of her performance. It is very different from students who take online learning because of the pandemic conditions that require it and consider it a vacation opportunity. It is also different from students who take part in the MBKM Program who do so simply because of the encouragement of the institution.

4. Discussion

Distance learning which has evolved due to the development of information technology has directly changed the learning culture from informal to formal accredited. With the online system, the student learning environment is wide and large open. Online learning opens up independent opportunities for students to manage their learning space and time flexibly according to their respective conditions. This condition requires students to be able to be responsible for managing their learning independently.

The pandemic situation makes it clear that future education is no longer tied to face-to-face physical encounters. LMS that regulates the stages of learning requires the readiness of learning materials and instructions that can be accessed at any time and not only during class meetings. The use of various communication media demands the skills of lecturers and students to communicate verbally, written, and visually. Unlimited learning space and time make communication between lecturers and students happen continuously outside of formal working.

Online learning requires the support of the latest information technology, which is still expensive and cannot be enjoyed by all people in locations/regions in developing countries such as Indonesia. The pandemic condition is quite surprising for students because of the additional burden that must be borne for internet fees. Availability and equitable access and quality of affordable internet and a prerequisite for successful online learning cannot be delayed.

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