

Learning with limited resources under the COVID-19 pandemic: Focusing on the daily life of teacher training students in Madagascar

Fanantenana Rianaso Andriariniaina

(Osaka University)

Harinosy Ratompomalala

(University of Antananarivo – Ecole Normale Supérieure)

Nobuhide Sawamura

(Osaka University)

Abstract

The purpose of this study is to explore how students' learning was changing in higher education institutions with limited resources in Madagascar during the COVID-19 pandemic. Similar to many universities in the world, Malagasy Universities also responded to the pandemic with distance learning. This study investigates the case of a teacher training college in the capital city. Questionnaire surveys were administered to 38 undergraduate and graduate students who were enrolled prior to the beginning of the pandemic and interviews were conducted online with 24 students from the same participants using video conferencing. The findings showed that, despite its function as a tool to alleviate time and space constraints, distance learning ended up exacerbating the workload for students due to their limited resources. Moreover, attempts to mimic face-to-face environment led to further difficulties for the students to follow the online courses. While much of the change in higher education in the pandemic has been seen in terms of teaching and learning, this case suggests that it is also intrinsically linked to "life" and, to some extent, "work."

Keywords: Distance learning, teacher training college, COVID-19, Madagascar

Introduction

More than 91 per cent of the world's school population has been affected by school closures due to the spread of COVID-19 (UNESCO, 2021). Higher education institutions have responded in different ways depending on countries and regions. Most have closed campuses, and many, especially in developed countries, have rapidly redeveloped curricula and moved fully or partially to online education (Crawford *et al.*, 2020). Governments, institutions, and teachers sought ways around the disruption, and educators in developed countries are said to have learned more about distance education in the first two months of the pandemic than they have in the past decade (Dietrich *et al.*, 2020). Both providers and recipients of distance education have responded to this emergency by taking advantage of available resources. Some countries have been able to continue to provide education even in the face of the pandemic, while others have further increased disparities due to the digital divide (Oluwatimilehin *et al.*, 2021).

In Madagascar, university students have been introduced to student-centred learning with the implementation of the Bologna Process. Alongside the reform of the education system to introduce the

LMD system (Licence, Master, Doctorat), consisting of three-year undergraduate, two-year master's, and three-year doctoral course, higher education has begun to shift from a lecture-based education to a more active participation of the students, with up to 70% of learning based on individual student's research activities (MESupReS, n.d.). On the paper, the Education Sector Plan includes a direction to improve the quality and access to education through distance education in higher education (MEN *et al.*, 2017). On campus, support was provided to improve university facilities, such as computer rooms and free Internet access, in order to guarantee equitable access to students' studies outside the classroom.

In early 2020, as the pandemic expanded, access to campus was restricted and departments have developed various ways to avoid disruption of classes, with the introduction of online courses with the resources available. The introduction of the Internet to public campuses brought potential benefits to even students' inequalities. However, during the pandemic, when students were unable to physically attend universities due to various restrictions, this situation exacerbated the existing disparities and created an unprecedented impact, particularly for those facing challenging circumstances. The purpose of this study is to explore how students' learning was changing in higher education institutions with limited resources in Madagascar during the COVID-19 pandemic.

1. Response of educational institutions to the spread of COVID-19 infection

In Madagascar, interruptions to education due to natural disasters or infectious diseases are not uncommon and occur every year. Cyclones, outbreaks of plague, or strikes by students or teachers affect schools almost every year. For instance, a plague outbreak from August to November 2017 and a cyclone in January 2018 closed schools for several weeks and required adjustments to the 2017/18 school calendar to make up for the delay (MEN, 2018). The majority of these interruptions were felt the most at the primary and secondary education level, but most of them could be accommodated by shifting the school calendar by a few days. The impact was even minimal at higher education because they generally have more flexible schedules as semesters do not have rigorously fixed lengths. However, the COVID-19 pandemic lasted longer than the usual natural disaster or health crisis and had a significant impact on higher education institutions, which made it vital to implement distance education despite the limited resources at both institutional and students level.

The first three cases of the new coronavirus were reported in Madagascar on March 20, 2020. The government responded with a 14-day state of emergency in accordance with the Constitution. What was referred to as the first lockdown was renewed every two weeks and lasted 198 days, until October 18, 2020. The second lockdown began on April 3, 2021, and ran for 167 days until it was lifted on September 3, 2021.

During these periods, the government has provided various support for primary, and to a certain extent, secondary education, including the distribution of traditional remedies presented as being effective in preventing and treating the new coronavirus infection, and radio and television broadcasts to help students learn at home when access to schools was restricted. From May 2020, students in the final grades of primary, lower secondary, and upper secondary school were allowed to attend school to prepare for the national examinations which were delayed by several months. Despite being under a state of emergency, schools reopened several months earlier than other African countries. Meanwhile, the university reopened only in

September 2020 to complete the 2018/19 academic year; the 2019/20 academic year began in November 2020 but was again interrupted for three months (April-June 2021) by the second wave of the new coronavirus. To avoid a university-wide invalid academic year, the university responded by shortening the university semester from six months to three months after the resumption, and departments were responsible for completing their programs within that time frame.

2. A review of the changes brought about by distance education

A number of previous studies have found that the change from face-to-face to distance education further widens existing disparities. For example, a study analyzing data from more than 5,000 courses at U.S. universities noted that high-performing students maintain good performance in online learning, while low-performing students perform worse (Cavanaugh and Jacquemin, 2015). Among those most affected are students from low-income families (Cacault *et al.*, 2021). They have been shown to have lower educational outcomes than their higher-income counterparts. Students from low-income households are more likely to suffer academic failure due to the lack of space at home for online learning and the responsibility of helping with the family business (Roman and Plopeanu, 2021).

In a study conducted in three urban high schools in the United States, the most common challenges faced by students were related to academics, physical and mental health, and socialization (Scott *et al.*, 2021). During the pandemic, among the factors that hinder learning are stress and isolation due to not being able to leave home. Isolation was known to lead to mental instability, especially among female students (Elmer *et al.*, 2020). In addition, psychological distress and anxiety due to the pandemic were likely to cause students to perceive online education as less effective and reduce their motivation to learn (Roman and Plopeanu, 2021). Furthermore, a study of higher education in Greece found that low human interaction in distance learning decreased student motivation, regardless of gender (Salta *et al.*, 2022).

On the other hand, some research findings prior to the pandemic showed that student performance was lower in face-to-face learning compared to online or blended learning (Ashby *et al.*, 2011). During the pandemic, positive changes related to online learning were also found in student performance. For example, Romania was one of the countries that went through a strict lockdown, but when they implemented distance learning, student performance improved in some cases, regardless of the type of equipment used by the instructors (Iglesias-Pradas *et al.*, 2021). They attribute this success mainly to the organizational capacity that enabled a rapid response to the crisis. Moreover, they observed that the use of two types of online learning, synchronous and asynchronous, in parallel increased contributed to its effectiveness. Social presence and interaction were guaranteed by the synchronous mode while the asynchronous mode allowed for a learner-paced approach. Also, they found that unlike other related literature, class size did not affect grades as online learning could easily accommodate a great number of students simultaneously. An experiment conducted in Spain found a significant positive effect on student performance regardless of the amount of workload they are given (Gonzalez *et al.*, 2020). It has also been found that students' study habits improved during COVID-19. On the other hand, according to Tricot (2021), while online learning appears to remove constraints such as time, and space with the form of delivery, it actually only transfers a heavier burden to teachers and learners. As a result, the success described earlier largely depends on the learner's

self-discipline and self-control (Guillemet, 2014; Tricot, 2021).

In the context of Africa, the challenges and benefits of the transition to distance education have also been highlighted. A study on the impact of the COVID-19 crisis on higher education reported that one-third of higher education institutions in the African region do not have the infrastructure to communicate with students, and the majority closed their campuses during the pandemic (Marinoni *et al.*, 2020). Moreover, many institutions used social media to maintain contact with their students. In Ethiopia, many students did not have access to computers or smartphones and students in rural areas must work with their parents to make ends meet while in urban areas, power outages were frequent and access to the Internet was often interrupted. These conditions hinder the provision of online learning content (Mengistie, 2021). There are also concerns about Internet reliability and cost, especially felt by those with intermediate digital skills in Ghana, Kenya, and South Africa (Pete and Soko, 2020).

Even if equal access to the Internet is guaranteed, there is concern that school closures will accelerate the rebirth of social inequality (Goudeau *et al.*, 2021). As learning does not take place in the fairer and more neutral environment of schools, disparities are passed on from generation to generation. For example, working-class parents rarely use technology in their work and have limited knowledge of the academic world. As a result, they are unable to support their children at home, where they spend the majority of their learning time. In addition, the amount of time parents can devote to their children's education varies greatly depending on their socioeconomic status, widening the gap between the rich and the poor. Furthermore, the poor tend to perform worse because they lack an appropriate learning environment such as a room where they can concentrate on their studies. Where resources are limited for most students in Madagascar, it is interesting to look at the changes in learning that occurred during the pandemic given how diverse the coping mechanism was in different countries.

3. A teacher training college in Madagascar

The target school for this study is a teacher training college that trains high school teachers in Antananarivo, Madagascar. They have departments that have actively introduced distance education, from which the survey participants were selected. To understand the changes brought by the pandemic, students who are enrolled before 2020 were selected, consisting of undergraduate, final two years (second and third year) and master's students in three departments (Mathematics, Physics and Chemistry, and English) that were willing to cooperate in this study.

The survey was conducted online from late July to early August 2021, using a questionnaire (through Google Forms) and interviews. This period was prior to the release of exam results, and students basically attended the university every day. A total number of 38 students (56% of the population considered) answered the questionnaires (Table 1). In addition to the student's affiliation and other information, the questions included internet access, device ownership, and living situation (income and expenses). Students' demographics are shown in Table 2.

Among the students who responded to the questionnaires, 24 agreed to be interviewed individually using Zoom. the language used in the interviews was Malagasy and each interview lasted 30 to 60 minutes per student. The cost of internet access for all students was covered by the researcher so as not to exclude

students who had difficulty accessing the Internet. The questions started with asking them about life during the pandemic, how they experienced distance education, what they gained and lost from such education and what change they noticed during the pandemic, in terms of learning and student life in general.

Table 1: Number of participants by course and department

Course	Department	Questionnaires			Interviews		
		Female	Male	Total	Female	Male	Total
Master's	Mathematics	4	4	8	3	4	7
	Physics and Chemistry	2	8	10	0	6	6
Undergraduate	English	3	2	5	3	0	3
	Mathematics	0	2	2	0	0	0
	Physics and Chemistry	3	10	13	3	5	8
Total		12	26	38	9	15	24

Source: Created by the authors based on the questionnaire

Table 2: Participants' details

	Course	Field	Name	Gender	Age	Origin	Normal residence	Lockdown residence	Part-time job
Questionnaire only	Master	Mathematics	Fitia	Female	27	Other regions	With spouse	With spouse	No
		Physics and Chemistry	Fara	Female	24	Analamanga	With parents	With parents	N/A
			Hanta	Female	25	Other regions	Alone	With parents	Yes
			Jao	Male	24	N/A	Alone	With parents	Yes
			Maro	Male	24	Other regions	Alone	With parents	N/A
	Undergraduate	English	Andy	Male	21	Analamanga	With parents	With parents	No
			Rabe	Male	19	Other regions	With parents	With parents	N/A
		Mathematics	Njaka	Male	25	Analamanga	With parents	With parents	N/A
			Tovo	Male	25	Other regions	With parents	With parents	Yes
		Physics and Chemistry	Fidy	Male	21	Analamanga	With parents	With parents	No
			Naina	Male	35	Other regions	With siblings	With siblings	Yes
			Rado	Male	22	Other regions	With siblings	With parents	Yes
			Rija	Male	22	Analamanga	With parents	With parents	No
			Tody	Male	22	Other regions	With siblings	With parents	Yes
Questionnaire and interview	Master	Mathematics	Dera	Male	23	Other regions	Alone	With parents	No
			Hery	Male	25	Other regions	With siblings	With siblings	Yes
			Kolo	Male	24	Other regions	N/A	With parents	Yes
			Manda	Male	22	Other regions	Alone	With parents	Yes
			Miora	Female	22	Analamanga	With siblings	With siblings	Yes
			Rova	Female	23	Analamanga	With parents	With parents	No
			Soary	Female	N/A	Analamanga	With parents	With parents	Yes
		Physics and Chemistry	Dafy	Male	25	Analamanga	Other	With parents	Yes
			Fetra	Male	25	Other regions	Other	With parents	No
			Kajy	Male	24	Other regions	With parents	With parents	Yes
			Laza	Male	25	Analamanga	Alone	With parents	Yes
			Mamy	Male	27	Other regions	With spouse	With spouse	Yes
			Mino	Male	25	Analamanga	N/A	N/A	No

	Course	Field	Name	Gender	Age	Origin	Normal residence	Lockdown residence	Part-time job
Undergraduate	English	Dany	Female	22	Other regions	With parents	With parents	No	
		Irina	Female	21	Analamanga	With parents	With parents	No	
		Tefy	Female	21	Analamanga	With parents	With parents	No	
	Physics and Chemistry	Diary	Female	22	Analamanga	Other	With parents	Yes	
		Joda	Female	24	Analamanga	With parents	With parents	Yes	
		Oly	Male	22	Other regions	Other	With parents	No	
		Rivo	Male	22	Analamanga	With parents	With parents	No	
		Seta	Male	25	Other regions	Alone	Alone	No	
		Tia	Female	20	Analamanga	Alone	With parents	No	
		Trimo	Male	24	Other regions	Alone	With parents	Yes	
		Zina	Male	26	Other regions	With siblings	With siblings	Yes	

Source: Created by the authors based on the questionnaire and interview data

4. Students' life and distance learning experience during the pandemic

4.1. Students' living environment

About half of the participants (20 students) were from rural areas outside of Analamanga, the capital city. Among them, 15 students did not live with their parents, and during the lockdowns, nine of them returned to their parents' homes (Table 2). Although most students personally own a smartphone, about 40 per cent of the students (15 out of 37) do not have a personal computer at their disposal (Table 3). Furthermore, nearly 90% of the students (32 out of 36) do not have a fixed Internet connection at home.

Kajy, a male student in the Department of Physics and Chemistry, describes his access to computers and the Internet as follows.

I buy connection packs on my phone only when I have to read my emails or send assignments. I borrow a computer from my cousin. When she is working, I do not have a computer to use. I have to wait for her to finish or go to a friend's place.

Although most students have smartphones, we found that cell phone coverage and electricity were a problem for some students when they returned to their parents' homes for lockdown (5 out of 9 students who returned to their parents' homes in rural areas).

Internet capacity varies widely, ranging from 50 MB to 20 GB (10 MB for some cell phone companies), with a minority using more than 75 GB. The largest number of students (27 out of 38) spend less than Ar10,000 (USD2.5) per month, a minority (9 out of 38) spend more than Ar10,000 (USD12.5), and two students spend more than Ar50,000 (USD12.5) (National university students receive scholarships ranging from Ar24,000-40,000 depending on their level). This expenditure increased for most students during the lockdowns and decreased again after the university reopened. Conversely, Internet spending decreased for students living in areas with low cell phone coverage and no Internet access during these periods.

For example, Fetra returned to the Bongolava region, which is adjacent to the capital city region. He needed to return to help his parents with their farm work. Whenever the university sends notifications, such

as an assignment, he received a phone call from a friend, moved to a place with good Internet access for a while, and checked his e-mail. Even then, he sometimes could not read the emails due to poor reception, and when this happened, he asked his friends to send him screenshots of the assignments using social media, which was easier to access than email. Seta, from the Alaotra Mangoro region, lives in a remote rural area and had no access to the Internet at all. He regularly had to go for a while to a place four kilometres away where he could access the Internet, completed his assignments there, and then returned to his parents' home. These students are not necessarily poor. Most of their parents were financially able to send them to college and provide rent and food. The problem is that there is no cell phone company network near their parents' homes.

Table 3. Students' Internet access and device usage

Type of access	Device			Internet	
	Computer	Tablet	Smartphone	Home	Mobile
For personal use	22	1	36	0	25
Shared access	10	2	1	4	0
No access	5	32	0	32	12
N/A	1	3	1	2	1
total amount	38	38	38	38	38

Source: Calculated by authors based on survey data

4.2. Different forms of distance learning and challenges for students

The interviews revealed that distance education at the university took several forms, depending on the department and sometimes on the program. For the Physics and Chemistry Department and the Mathematics Department, synchronous classes were conducted using Zoom, with students coming to the university and the instructor working from home. For the English department, most classes were asynchronous, using Moodle, a learning management system. Not all courses were offered online, but surprisingly, the Physics and Chemistry Department and the Mathematics Department offered "Teaching Simulation", a practical course online. In all three departments, social media such as Facebook groups and Facebook Messenger were used for communication and coordination among students and between students and instructors. In the Physics/Chemistry and Mathematics departments, graduate students often used email to submit assignments and provide feedback, while undergraduate students indicated that they rarely used email.

4.2.1. Imitation of a face-to-face classroom environment

One of the biggest problems students faced was the instructor's efforts to mimic the classroom environment online. Some of the students who took the synchronous classes did not notice much of a change from face-to-face in the way the classes were conducted. They said the only difference was that the instructor was not in the classroom. Diary, a third-year student in the Physics and Chemistry Department, reported how he experienced distance education as follows.

I did not see much change between online and face-to-face. We [students] were all in class and the professor was at home providing the lecture through Zoom (...) Usually, we had a lecture, followed by a seminar in which an assignment was provided that is checked by the professor on the spot (...) it was a little hard because we had to show her the board and move the computer to the right position was difficult. (...) Also, just like in face-to-face, as with a blackboard, we copy what is written on the screen (...) we were not provided with handouts, we just copied.

This situation could be attributed to the fact that the subject in question is practical. However, efforts to replicate the face-to-face classroom environment were also seen in the departments that implemented asynchronous classes later. Students were initially required to meet with the instructor online at specific times for assignments, but eventually, it was difficult for each student to attend classes from home. While some students had access to the Internet on their cell phones, many others had limited data capacity and had to go to Internet cafes to take classes. In addition, technical problems on the part of the instructors also affected the synchronous classes. Tefy relates the incident as follows, “we agreed with the professor to start at ten, then I went to the Internet café but he/she showed up late, so I had to pay more than what I thought I would”.

4.2.2. Advantages of taking distance learning as a group

Students who took synchronous classes were able to adapt to their first distance learning experience in a group setting by learning from each other and did not feel significantly disadvantaged by the transition from face-to-face to online classes. In addition, undergraduate students indicated that they received more support from their instructors than did master’s students. Unlike the undergraduates, the master’s students had to set up their own computers for use in class. The Internet provided by the university was unstable, and students sometimes had to personally pay for a more stable Internet connection. They sometimes had difficulties when the person who always prepared for this was absent from class. Despite these problems, students generally seemed to rate the synchronous classes higher than those who took asynchronous classes. Diary, an undergraduate student in the Physics and Chemistry Department, describes her experience as follows.

Internet was a problem only in the beginning because we used the school’s Internet, which was unstable. Later, one professor brought an Internet modem that we used (...) I personally have never used Zoom before. The professor had an assistant who took care of the technical side. When she could not see what was on the board, the assistant checked and told her whether what was on the board was OK or not.

For students who were to take asynchronous classes, they would practice distance learning on an individual basis. Apart from basic computer skills learned at the beginning of college, some individual instruction was provided before the course began. Although they did not find any problems with the online learning tools, they expressed that the amount of content given by the instructors in the asynchronous format was excessive and often became a burden when they resumed face-to-face classes.

4.2.3. Changes in human relationships

The move to distance learning has also brought changes in the way students and instructors interact. While it is generally easier for students to communicate with instructors in person, this has become much more difficult in distance learning. Although the instructor's email address is publicly available and discussion groups are set up on social media, students first consult with their classmates, and only on very rare occasions do they contact the instructor. Some students explained that asking the instructor would take too long to get an answer, but others simply wondered if it was even appropriate to ask questions in the first place. Miora, a master's student in the mathematics department, described her experience as follows.

We use Facebook with the teachers to arrange the timetables or send files (...) I never asked questions in emails. I used to ask questions face to face. It is easier, I think. I don't ask questions because I think that the teacher may already think that we understand the materials. They may have put much effort into making them easy to get (...) The materials provided by the teachers are done in such a way that it is easy to understand. They know how to make the materials easy and the lessons are clear.

Especially in asynchronous distance learning, friends are valuable allies. During the initial lockdown, students were not allowed to go to the university and most returned to their hometowns. Master's students in the Physics and Chemistry department and the Mathematics Department were given assignments via e-mail. Not all students felt alone, but some relied heavily on friends to deliver homework assignments. Students who had someone to rely on were at an advantage, and some who were married tended to be content with their situation. There is also the freedom of being with family; for example, Fitia, a female student in the mathematics department, stated, "My husband helped me a lot to understand the content of the assignments."

On the other hand, for students who are single and do not live alone, home is not necessarily the best place to study. Regardless of where they live, some students felt obligated to do housework and work in the fields. Some also stated that if they did not work in the fields together, their parents would not understand, which left them with little time to study.

4.2.4. Learning environment richer than usual

Students who took asynchronous classes found it difficult to study online because there were more assignments to read and understand, and fewer explanations than usual. This difficulty was greater when they returned to the university and engaged in blended learning, where they met with the instructor during the day and completed assignments online at home. Tefy stressed that before implementing this style of learning, instructors should ask students what they might be able to handle. One of her friends, who is unable to study late at night for health reasons, said she fears that the instructor will ask her why she cannot do it when other students can.

On the other hand, students who took synchronous classes were well-resourced because they were able to take snapshots of the presentations for review. They also noted that it was difficult to obtain materials from the instructor and that many lectures are still instructor-centred. It was also pointed out that the instructors are never late for online classes, so they can use their time effectively. "The two-hour class is really over in two hours. The content is also very rich", Joda noted. On the other hand, some students feel

that the information is compressed and the explanations are rushed. It is worth bearing in mind that such students feel that they have to do more research on their own than usual to supplement the content provided, which in turn they find beneficial.

Some students consider distance learning to have been very effective. For example, Laza was in his eighth year of college in 2021, but he has never officially repeated a class. This was mainly due to the university's annual schedule being shifted due to various issues, including faculty and student strikes. Compared to the lack of learning due to such issues, classes continued to be held remotely during the pandemic, and the situation does not seem to be as serious on the part of the students.

4.3. The ability to balance education and work, a vital necessity

Even in different regions, students living with their parents felt the need to work to help make ends meet. Students like Tia, who lives in the capital, had to incorporate household chores into their daily schedules. Dera, who had to return to his parents' home in the Itasy region, describes his life as follows.

I went back to Itasy during the lockdown. My parents called me and said, "since there is no course, come back, we have work to do here". I helped my parents to work the land. It is not really about the coronavirus but about the work that needs to be done. I worked more in the field than for university assignments during the lockdown. There were times I was tired from the field and could not study so I went to sleep.

Kajy, from Alaotra Mangoro Region, spoke in the same tone about having to return to his parents' home when the novel coronavirus broke out. He affirmed, "We do not have time to do research at home. If you are in the village, you have to work. On the positive side, it was an occasion to get back home. My siblings also went back there so it was an opportunity to spend time together because it has been a while since we left our home to study."

The teacher training college is known among Madagascar's universities for its tight timetable and strict attendance management. As a result, students are always very busy, and it is basically impossible for them to work part-time while studying during the week. By moving to online education, even partially, some students have been able to flexibly work part-time jobs that are only available on weekdays. Hery described how he made a living from the pandemic as follows.

The lockdown was actually good for me (...) people like me who are doing business, wanted it to last a little longer. I buy staple products and send them to rural areas. People could not move but products could. That is why my business flourished during those times. People did not have money during the lockdown but I did. Even later when we had class, I could leave the university for a while to do my business and get back as if I were always there (...) I come from the northeastern part of Madagascar. I got some money from my parents when I was in my first year but after that, I had to work to sustain my education at the university. I live on what I earn, my education, and everything. I was teaching at a private school before but it is impossible with our schedule. The headteacher needs you to stay at school longer while you face pressure to come every day to the university. Plus, you do not earn much from teaching, so I quit. This selling job is easier when we have to study at the same time.

Ironically, although being a student in a teacher-training college, he found the job of a teacher hardly

appealing. However, he had to work in order to continue his studies. Before the pandemic, he had missed so many classes that he received a warning from the university. From the outside, it appears that he is not serious about his studies, but if he does not work, he will be in financial trouble. Scholarships provided by the government are not enough, and they are often several months late. There are four such students from outside of the capital city who reported that they do not receive any financial help from their parents, three of whom (including Hery) actually worked to make ends meet.

5. The changes brought by the shift to distance education during the pandemic

5.1. Increased burden on both students and faculty due to time and space constraints

In distance learning, time and space constraints lead to an increase in the amount of work done by students and faculty (Tricot, 2021). While easier access to learning materials helped some students (mainly those who took classes synchronously), for others, the lack of on-the-spot explanations for the increased content was sometimes a burden. In addition, limited access to computers and stable Internet access remained a time burden, especially for students who had to travel to the university for synchronous online classes.

On the one hand, the instructor's time spent commuting and explaining the material in a face-to-face class can be used to better prepare for the online class. Students will also devote the same amount of time to understanding course content that is not explained in person. Normally, this transition from face-to-face to distance learning should neither increase the burden nor lighten the content. However, this college is a teacher training institution for secondary education, and the nature of the subjects taught there did not allow for such a balance.

5.2. Difficulties in teaching face-to-face methods in online classes

In synchronous online classes, students may attempt to mimic face-to-face learning. However, students perceived the content to be the same, except that the instructor was not present. They copied the content on the screen into their notebooks, just as they did during the face-to-face classes. Students compared the online class to a movie, with the only difference being that they asked questions at the end of class. They also said that the presentation of assignments was done in the classroom using a blackboard and chalk but with the instructor's online guidance. Thus, while distance education comes at a price in terms of distance and time, the cost is higher when the goal is to create a face-to-face-like environment in an online class. In other words, it is advisable not to think of imitating face-to-face classes, but to create classes that take advantage of the strengths of online classes.

However, it is difficult for an educational institution that aims at training high school teachers to completely transition to distance education, assuming that the students it trains are responsible for face-to-face classes at high schools (*lycées*). As long as distance education is not offered in high schools, many of the subjects taught at the college (e.g., learning and teaching methods) remain face-to-face in content but online in form. This conflicting setting divides students into those who can adapt to the situation and those who cannot, revealing a gap that is usually difficult to see.

5.3. Lack of attention to students in particular need

Some departments made an effort to listen to their students before starting distance education, while others did not and simply expected that students would do their best to try to follow along. Even if the students' voice is heard, the majority usually sets the tone. Despite personal constraints, voices that differ from the majority are not easily heard. If there is a risk of being left behind due to health issues, no special consideration is given (Tefy's friend). In Madagascar, where selection begins in elementary school with a national exam, few are able to go on to high school, and even fewer are able to continue to higher education. Those who are strong enough to score high on tests have always benefited from this system.

It is assumed that if everyone is subjected to the same constraints, the strongest will be even stronger, and previous studies have shown this (Cacault *et al.*, 2021; Cavanaugh and Jacquemin, 2015). The problem, however, is not academic achievement per se, but rather the students' life circumstances and socioeconomic background. Students who do not have to work or do household chores usually have enough time to study, and the rest depends on their discipline, autonomy, and self-control (Cacault *et al.*, 2021; Guillemet, 2014). Other students, however, must perform a variety of chores, ranging from housework to fieldwork. These limitations arise from the students' perception of duty, which is regarded as a sign of maturity within the Malagasy cultural context. Indeed, some students work so much that returning to their parents' homes interferes with their studies, but others must work for a living. Universities often consider such students to be unskilled, but their ability to receive an education depends largely on their financial ability to earn their own education.

5.4. Socio-economic solidarity over mental support

Distance education during the pandemic differed from previous ones because it was a necessary measure due to the emergency. Difficulties with mental health and stress have been discussed in previous studies (Salta *et al.*, 2022; Scott *et al.*, 2021). Isolation and loneliness were not an issue for some students and parents in this study. Their concern was not so much fear of the infection itself, but rather their ability to survive financially (Mengistie, 2021). Conversely, some students were happy to be together with their families, despite the learning obstacles.

Distance learning was long present in Madagascar through what is known as the National Distance Learning Centre, a government institution. It can be inferred that students have a higher level of familiarity with distance learning during normal circumstances. However, in this particular instance, where distance learning was implemented as an emergency measure, there were only a small number of students who expressed discomfort or unease with its introduction, unlike in previous studies. Furthermore, the early implementation of the Bologna Process before the pandemic would have familiarized students with the expectation that they should take responsibility for 70 per cent of the learning process. This familiarity could have been one of the reasons why the transition to distance learning was relatively smooth.

Conclusion

The pandemic of the novel coronavirus infection was an emergency situation, forcing the university and its

various faculties and departments to find ways to continue education, taking into account the resources they had and the situation of their students. Distance education became the obvious solution and was implemented by the universities immediately after the first lockdown. Numerous constraints led to new ways of adapting content normally taught in a face-to-face setting to an online environment. In such an environment, the hidden disparities between students come to the surface. The view that all students are equal (all students have the same scholarship, classes are paced to the majority of students, etc.) might not be the right understanding. It is often assumed that everyone has the same amount of study time available at home, but some students must devote time to household chores, farm work, etc. For financial reasons, some are forced to work while they are still students. The underlying cause of this is not primarily a lack of maturity, but rather the outcome of individual and familial restrictions.

As the emphasis in education moves away from factors like location and schedule towards the workload, it becomes necessary to adapt methods accordingly to maintain an equivalent level of effort to that required in traditional face-to-face teaching. However, it is difficult to teach course content online that is designed for face-to-face education. The same is true for practical subjects. How to overcome these complexities is key to advancing distance education at teacher training institutions. On the other hand, the lingering effects of the COVID-19 pandemic remain prominent. As a result of the educational disruptions, two cohorts of new students are now entering universities concurrently in the 2022/23 school year. As such, the imperative for distance learning has become increasingly pressing due to the constrained capacity of higher education institutions which cannot accommodate all these students.

Admission to national universities, especially teacher training colleges, is highly competitive because of the limited number of places available. It is natural to view the students admitted to such universities as elites. Nevertheless, universities often fail to acknowledge the significant disparities among the considered top-tier students. The pandemic has brought such issues to the forefront. In Madagascar, issues of disability and student ability are rarely discussed, and such students are usually locked out at an early stage. No student would obviously assert himself or herself if he or she could no longer keep up with the class. Unless efforts are made on the part of the faculty to locate students in such difficult circumstances and provide them with the necessary support, the gap will widen, not narrow. The COVID-19 crisis is a reminder of the need to rethink the relationship between students and faculty in the context of Malagasy universities, and potentially in other countries.

In this paper, we have identified how new disparities have been created in distance education for emergency responses to the COVID-19 pandemic and how students managed to learn with limited resources during such a period. While much of the change in higher education in the pandemic has been seen in terms of teaching and learning, this case suggests that it is also intrinsically linked to “life” and, to some extent, “work.” Future research focusing on the “life” and “work” of university students will provide a deeper understanding of diverse forms of learning in which university students engage during times of crisis.

Notes

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Changes Brought by Emergency Distance Education in Malagasy Universities: Disparities Under COVID-19 at a Teacher Training Institution”, *Africa Educational Research Journal*, No. 12, pp. 85–98, with substantial additions, corrections and further discussions. This research was supported by JSPS KAKENHI JP19H00620.

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