Enhancing Virtual Learning during the Crisis of COVID-19 Lockdown - A Case Study of a Higher Education Institution in Maldives

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Abstract. Regardless of whether educational institutions had experience of using online teaching, the COVID-19 pandemic forced a sudden switch to fully virtual delivery mode, which presented challenges at both institutional and instructional levels. At the time, not much information about these experiences was available to guide education during lockdown. This study, therefore, explored the virtual learning experiences of a Maldivian higher education institution that had practiced virtual learning before and during the pandemic. Data was collected from 52 participants – a senior management member, four lecturers, and 47 students - through conducting semistructured interviews, studying students' reflection journals, doing lesson observations, and reviewing documents. Thematic analysis of the data revealed several changes had occurred in the teaching process of the college. Significant modification of the instructional setup, structural arrangements, and the psychological readiness of students had both positive and negative impacts. This study endeavors to be of value to other higher education institutions who adopt virtual learning.

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1. Introduction

The discovery of the novel coronavirus SARS-Cov2 in January 2020 caused the world to experience a new reality. UNESCO describes the event as a major crisis for education, as the pandemic affected 1.2 billion students and youth all over the world (Giannini & Brandolino, 2020). Social distancing disrupted higher education; to continue teaching institutions had to switch to virtual learning (VL) within a short period of time, thereby adding to the challenges facing higher education institutions and students. The availability of technical infrastructure, instructor competencies, and the extent of disaster preparedness of higher education institutions determined the success of education during this 'new normal'. The effectiveness of teaching and learning by higher education institutions was challenged further by institutions' own ill-preparedness, and by students and lecturers having to adjust to VL while having limited internet access from home.

Regardless of the readiness of some institutions to institute a full-fledged digital teaching and learning approach, students worldwide were dramatically affected by the crisis, due to travel bans, isolation, and social distancing caused by physical distancing and quarantine regulations. This sudden change in their way of life instigated emotional distress and negative attitudes towards VL, caused them to procrastinate, and ultimately weakened their learning skills (Duraku & Hoxha, 2020). For many students, the rapid changes to their lifestyles were difficult to cope with, and affected their focus in online classes, reduced their attention span, diminished information retention capabilities and, hence, lead to a decline in motivation to engage in any type of learning activity. Furthermore, lecturers faced entirely different struggles relating to their readiness and aptitude for online teaching, the flexibility of assessment, providing timely feedback and, most importantly, keeping the momentum going for students while fighting their own battles. While some lecturers hid behind the curtains to work privately, others had to go on a 'full hunt' for a quiet spot in the home.

COVID-19 is playing out as a major experiment for higher education institutions worldwide, and has provided opportunities to explore distance learning using various methods, while paving the way for applying more flexible learning opportunities in the future. Educators were left with the 'do and learn' option – an unforeseen event that led to capacity building and the allocation of resources, while opening doors for research and innovation in the higher education sector. Higher education institutions are expected to invest in technical infrastructure, move from using learning management systems, to cloud services, and to digitalize all its business affairs (Marinoni et al., 2020).

Given the current emphasis on virtual learning environments, several research studies have been conducted on the topic of VL; evaluating the impact of VL (Means et al., 2009; Morrice & Demian, 2012); student attitudes towards VL (Liaw, 2008; Šumak et al., 2011) student perceptions of VL (Love & Fry, 2006), the potential of VL to enhance cognitive skills (Songkram & Puthaseranee, 2015), and

acceptance and use of a VL environment between countries (Kurt & Tingöy, 2017). Even though these studies have their merits and contribute to the knowledge base, there are deficiencies in the literature about understanding how VL was instituted by higher education institutions in extraordinary circumstances – in this case, a global pandemic. Notwithstanding the potential of VL in many situation, designing and implementing VL have been left largely to teachers and academics, resulting in inconsistencies in the virtual environment (Cassidy, 2016). Hence, there remains a need to broaden the knowledge base on educators' experiences of virtual learning in any situation.

It is noteworthy that, in recent years, some institutions in various countries have been preparing for an unexpected disaster, such as Covid-19 – perhaps they did this inadvertently. These institutions include the University of Tasmania and the University of Peking, which had incorporated a blended mode of teaching and learning (Bao, 2020; Crawford et al., 2020). With the outbreak of the pandemic, institutions optimized their teaching and learning by distributing gadgets, such as tablets, smartphones, dongles and other wireless-enabled devices.

The author believed it would be interesting to discover how institutions that had been optimizing the virtual teaching and learning long before the current pandemic, experienced VL in the pandemic. Therefore, this study examined the experiences of VL of a higher education institution in the Maldives during the pandemic, and investigated the various changes that took place in the existing VL setup of the institution. Consequently, the study was guided by the following two research questions.
1. What changes occurred in relation to the virtual learning environment during the pandemic?
2. How can the institution improve delivery of its VL programs?

2. Literature
The World Health Organization declared COVID–19 as a pandemic on 11 March 2020 (WHO, 2020). As a result of the global pandemic, institutions of higher education worldwide were faced with the dire need to move their activities online (Knysh & Dudziak, 2020), thereby creating significant challenges for higher education institutions everywhere (Crawford et al., 2020). It became imperative that teaching and learning switched from traditional face-to-face to online interaction. This increased the stress and workload of lecturers and other staff of education institutions, who were already facing their fair share of struggles to balance teaching and service obligations, on top of their work-life balance (Houston et al., 2006; Houlden & Veletsianos, 2020).

Teaching staff in all disciplines have had to prepare and deliver their classes from home, with all the practical and technical challenges this entails (Anderson, 2018). Higher education institutions met the new challenges while facing substantial gaps regarding online education expertise (Knysh & Dudziak, 2020). Some lecturers recorded and uploaded lectures to give students access, others were far more innovative (Fox, 2004) and used websites, such as WebQuest and Google Classrooms. In some countries, the majority of academics were ill-prepared for online education (Sarma, 2020; Toquero, 2020), though some universities had

already established some blended, or even fully online, delivery of some of their programs.

COVID-19 forced the unexpected requirement of offering all the teaching programs of universities by online delivery in a matter of days. This massive undertaking resulted in some academics experiencing difficulties regarding early preparation, and due to a lack of online teaching experience, or inadequate support from technical teams (Bao, 2020). The migration from conventional teaching to a fully online or virtual delivery strategy was wracked with challenges, such as a lack of infrastructure for the home-office environment (e.g. difficulty obtaining the required bandwidth and appropriate recording equipment), the infrastructure of students (e.g. issues regarding access to virtual or online content by students in remote locations), and academics not possessing the skills required to design and deliver virtual or online education professionally (Crawford et al., 2020).

Gonzalez et al. (2020) claim that a substantial positive effect of the pandemic lockdown was improved performance of students in modules that increased their number of assessments, and those that did not alter the workload for students. The researchers explain that, before lockdown, the learning strategies of students involved them not being engaged in their studies continuously; however, home confinement due to COVID-19 altered the learning habits of students. Their engagement was more continuous, which improved their effectiveness, and students were expected to score better grades, due to the improvement in their learning strategies (Gonzalez et al., 2020).

Research has examined e-learning during the COVID-19 pandemic in China (Bao, 2020), Philippines (Toquero, 2020), Australia (Ebner et al., 2020), the United States (Houlden & Veletsianos, 2020), Ukraine (Knysh & Dudziak, 2020), and other countries (Crawford et al., 2020). Some of these studies investigated the overall experience of online teaching, to identify its challenges and opportunities, while others explored readiness for e-learning or the impact of the pandemic on education in general. However, an extensive review of the publicly available literature revealed a lack of exploration of the experiences of higher education institutions that has used VL before the COVID-19 pandemic. Hence, this study addressed this critical gap in the literature and explored the experiences of VL at an institution where VL was being practiced before the global epidemic.

3. Methodology
3.1 Research Design
To bridge the gap in the literature, this investigation used a case study approach that focused on the experiences of a higher education institution in the Maldives. The aim of the research was to examine the changes that occurred in the delivery of the institution's programs during the COVID-19 pandemic. The case study approach enabled the researchers to gather rich data from a variety of sources, thereby they elicited the different perspectives held by staff and students of the institution.

3.2 Context of the Study

The institution under study was established in 1998 and was the second higher education institution registered in the Maldives when it was inaugurated as a college in December 2009. The vision of the college was to provide opportunities for secondary-school leavers who lacked access to further education due to financial reasons, the lack of places at government-sponsored institutions, or due to their poor performance in secondary school examinations. Now well into its 22nd year, the college offers programs ranging from foundation for degree studies, to Bachelor degrees, up to Master's degrees, which are approved by the Maldives Qualification Authority. The institution developed and launched a VL platform for higher education – its very own virtual campus – in 2013. This virtual campus – the only such learning platform in the country – has given students across the nation access to higher education, and it serves a population scattered across 200 remote islands.

3.3 Data Sources

To ensure the validity and accuracy of the findings of this case study, data were collected through multiple data collection methods: (1) Semistructured interviews, (2) Students' reflection journals, (3) Lesson observations, and (4) Review of documents, and the data was triangulated. Semistructured interviews were conducted with lecturers, students, and a member of the management of the institution. In addition, 35 reflection journals of students were mined for data for this study. Furthermore, the virtual teaching sessions of four lecturers were observed, and anecdotal notes were collected. Moreover, an experience report that had been compiled by the college management was studied, and email communication between college management and lecturers regarding VL during the pandemic, was examined.

3.4 Participants

This study required data from multiple sources, and a variety of participants contributed to the data collection. Table 1 illustrates the methods of data collection, the categories of participants, and number of participants in each category.

Table 1. Details about participants

Type of data	Participant categories	Number of participants
Semistructured interviews	Management member	1
	Lecturers	4
	Students	11
Reflection journals	Students	36
Lesson observations	Lecturers	4

The researchers selected participants through purposive sampling. Participants in this research were selected due to their experiences of teaching and learning through the virtual platform of the institution during the pandemic. Participation in the study was voluntary, and no compensation was offered to the participants.

Table 2 provides demographic information of the lecturers who participated in this study.

Table 2. Demographic details of the lecturers

Lecturer	Gender	Years of experience at the institution	Qualification level	Current teaching level
L.1	Female	6 years	Master's degree	Diploma, associate degree and degree
L.2	Female	3 years	Master's degree	Foundation and diploma
L.3	Female	4 years	Master's degree	Master's degree
L.4	Male	3 years	Master's degree	Diploma, associate degree and degree

Table 3 summarizes demographic details of the students who participated in the semistructured interviews. The details include gender, the level of the programs the students were enrolled in, and the number of semesters they had completed at the time of data collection.

Table 3: Demographic details of the students

Student	Gender	Name of the course enrolled in	No. of semesters completed
St.1	Female	Bachelor of Education (Secondary)	4
St.2	Male	Bachelor of Education (Secondary)	1
St.3	Male	Advanced Diploma in IT	0
St.4	Male	Bachelor of Teaching (Primary and Middle School)	1
St.5	Male	Associated Degree of Teaching (Primary and Middle School)	3
St.6	Female	Bachelor of Education (Primary and Middle school)	2
St.7	Female	Foundation for Degree Studies	1
St.8	Female	Foundation for Degree	1
St.9	Male	Advanced Diploma in IT	2
St.10	Female	Foundation for Degree Studies	2
St.11	Female	Associate Degree in Teaching (Primary and Middle School)	1

As indicated in Table 3, almost equal numbers of male and female students were selected for the interviews. These students were enrolled at different levels of the educational programs offered by the institution. The duration of each of the interview was approximately 20 minutes.

3.5 Data Analysis

The purpose of data analysis is to convert data into a story that describes the issue under investigation. Data obtained for this study were analyzed qualitatively using the process of thematic analysis (Braun & Clarke, 2016). To increase the rigor and trustworthiness of the findings, the themes that emerged from the interviews with the participants were cross-checked and triangulated with information provided by the reflection journals of the students, observations of the lecturers' lessons, and the review of documents that were obtained from college management. Figure 1 conceptualizes the data triangulation process, and how the final themes were derived at from the corroborated data sources.
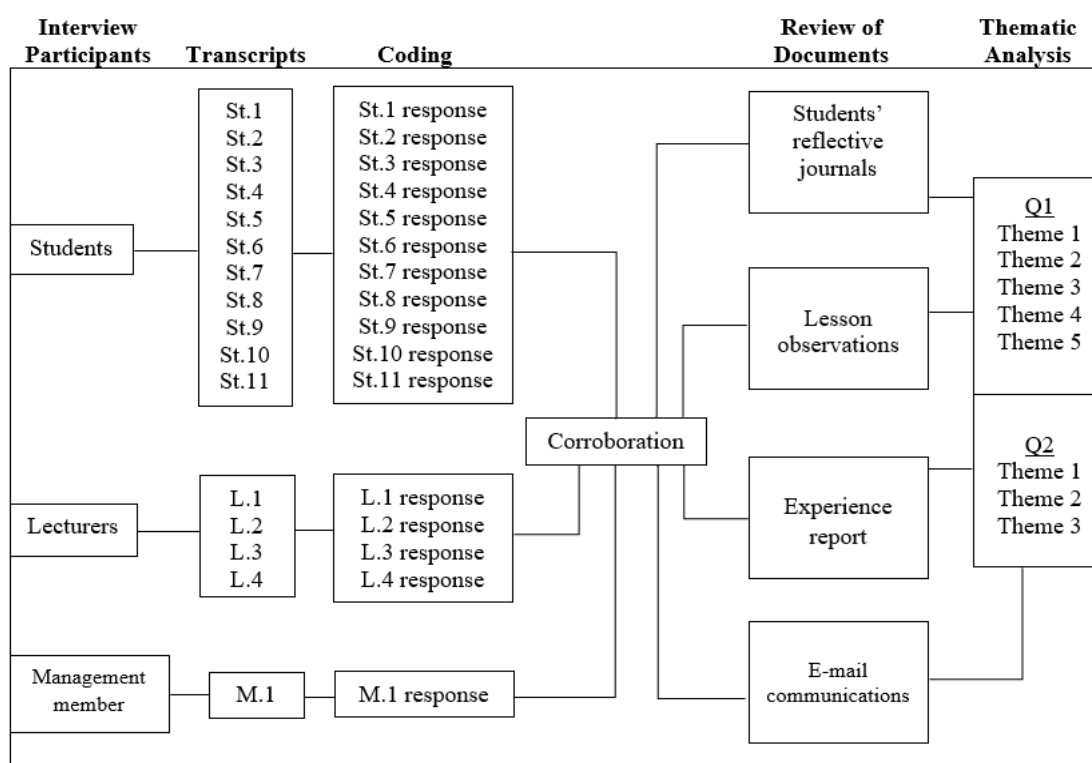

Figure 1. Process of data analysis

4. Results

This section will present the themes derived from the analysis of the data. To align with the research questions, themes were divided into two categories. The first category includes themes relating to information about the changes that were made to the VL system of the college in response to the stay-at-home situation. The second category includes themes pertaining to various ways to improve delivery of instruction. A list of the categories, themes, and subthemes are presented in Table 4.

Table 4: Categories, themes, and subthemes

Categories	Themes	Subthemes
Changes made to VL during the pandemic	Lesson delivery	Lecturers and students - home stationed
		Internet connectivity issues
		Fewer glitches
	Student and lecturer interaction	Better lecturer–student interaction
		Better student–student interaction
	Support system	Lecturers' high responsiveness
		Support for exam preparation
		Flexibility of schedules
		Calls not returned by admin/Delay in attending to queries/IT personnel not responsive
	Examination	Virtual exam
		Delay in getting the results
	Students' psychological status and readiness	High anxiety due to pandemic status
		Difficulties at home
		Frustrations due to class timing and class cancellation
Ways to improve program delivery	Use of effective teaching strategies	Using effective strategies to enhance student engagement and learning
		Accommodation of students' interests and needs
	Network and connectivity issues	Improving the speed of connection
		Using students' personal Wi-Fi during session time
	Improving communication	Answering students' calls/attending to students' queries without delay

4.1 Changes that were made to virtual learning during the pandemic
The data reveals that significant changes had to be made to the instructional setup, to the structural arrangements, and to improve the psychological readiness of students. Detailed explanations of these specific changes will be presented in the following subsections.

4.1.1. Lesson Delivery
One of the most common themes identified from the interviews, student journals, and documents is about the modifications that were required for the VL system in response to the lockdown of the country's capital city. Participants indicated that, even though the institution had been presenting virtual lectures before the pandemic, lecturers had to go to the college physically to present the lectures from classrooms on campus. During that time, some students who resided in the vicinity attended the classes physically, while the lectures were conducted virtually for students in other locations. When lecturers presented virtual lectures on campus, they could easily approach the admin desk and seek technical assistance for issues that arose. However, during the lockdown, the college had to present all the lectures in fully virtual mode, so that staff and students could teach and learn from home. To establish a fully virtual work-from-home setup, college

management had to conduct staff training, and change certain setups to facilitate continuation of lectures.

The interview data and the college report on the pandemic lockdown experience revealed that a contingency plan was developed and executed towards the end of February and early March 2020, and the work-from-home setup was initiated immediately. Following a briefing session that familiarized staff s with the system and helped them to gain confidence in using it, all staff were allowed to work from home. From the beginning of lockdown, all technical staff were on standby during office hours. The lockdown experience report and email communication provide details about the monitoring mechanism established at the institution. Staff representing admin or management attended lectures to monitor and record the attendance of students for every virtual class. The monitoring system helped to identify and attend to technical difficulties experienced by lecturers and students during the lectures.

However, despite these preparations, during work-from-home both students and lecturers encountered many internet connectivity issues. "Conducting classes at their [lecturers'] home and the delivery of classes on air is sometimes interrupted […] we were not able to concentrate in the class due to lecturers getting disconnected," St.4 reported. Connectivity issues were also mentioned in the lockdown experience report, which claimed that connectivity was a problem caused by the network provider's low range of coverage. The report mentions that connectivity problems were related to the population density of Male, the city where the campus is located, and also to nearby high-rise buildings.

Except for connectivity issues, the analysis revealed that lecturers and students experienced very few glitches, as they were already accustomed to the VL setup, as they had been using it long before the pandemic made itself felt in the local community. One of the lecturers (L.1) expressed her view: "we have been used to online system, and we become better with practice. […] students are also familiar with these techniques and programs." Lecturers and students appreciated the smooth running of the programs of the college during the crisis. Similar sentiments were echoed by the management member. He explained the situation as follows:

> "Lecturers were quite happy, and they were very cooperative. No lecturer objected to anything [...] overall the college was functioning fully just like they worked before. All students' services were available to students; classes were going on as scheduled […] all our staff were at home […] and we regularly meet in our virtual campus […] so we were able to make that shift very quickly."

The findings reveal that the transition of lesson delivery to fully virtual mode was not much of an issue, except for connectivity problems that were encountered by some lecturers and students. In fact, it was noticed that staff were more satisfied with the lesson delivery than in the time before the pandemic, as they could present lectures from the comfort of their homes.

4.1.2. Student and Lecturer Interaction

The second theme that emerged from the data relates to the interaction between students and lecturers during and before the pandemic. Analysis of the interviews with students and lecturers indicated positive changes in two types of interactions: interaction between lecturers and students, and interaction between the students themselves. In terms of the interaction between lecturer and students, it was reported that students had better interactive opportunities with their lecturers during the pandemic. St.4 explained that "the level of interaction between the lecturers is less before the pandemic […] during the pandemic the interaction is little bit more." It was also revealed that, during the lockdown, private communication took place between students and lecturers on Viber groups. "The lecturers even gave their contact numbers to create Viber groups, so that we can ask our doubts to them. They do reply to me as soon as they see my message which is super nice of them," St.11 elaborated. Furthermore, it was noted during the classroom observations and interviews that students were provided with opportunities to participate in discussions and group activities during lectures.

As the findings indicate, interaction increased, not only between lecturers and students, but between the students themselves. St.1 said, "fortunately, during the pandemic it was much easier to meet up all, because other works are being paused, and college was on, so we got time for studies during pandemic." These statements confirm that the transition to fully virtual mode created avenues for interaction between students and lecturers.

4.1.3. Examination

Online examination during the pandemic was another major theme that was derived from the data. According to data obtained from the participants and documents, before the pandemic, in spite of classes being conducted virtually, exams required students' physical presence at the regional centers established in the atolls. Prior to the pandemic, students on remote islands travelled to regional centers to write (normal) examinations physically. However, during the pandemic, the college designed a virtual examination system and conducted open-book examinations. Students stayed at home, wrote the exams on physical paper, scanned their scripts and submitted it to the portal in real time. Procedures to be followed during this novel virtual examination were laid out and shared among staff, invigilators, and students. In preparation for the examination, staff were trained to invigilate a virtual examination, monitoring mechanisms were established, and mock exams were conducted with the students before the examination took place.

With regard to feedback given to students, some of the students reported that there was a delay in receiving lecturers' feedback after the online examination. Students were concerned about having to wait for feedback during the pandemic. One of the lecturers (L.4) confirmed the delay, by stating that, "I tried my best to provide feedback as it is necessary, but sometimes we had to deal with the internet issues".

4.1.4. Support System

Many of the students and lecturers referred to the increase in support provided to students during the pandemic. According to the students, lecturers provided much better support. St.9 reported, "every student in our batch is full time working, and lecturers understand that, so [lecturers] provide us full support and flexibility." The senior management member confirmed that adequate support was provided to not only students, but to lecturers too. Interview data confirmed that lecturers extended the deadlines for assignments extensively. Students expressed that lecturers took students' requests into consideration, and granted them if at all possible. The email communication of the college also provided evidence of the flexibility of lecturers in their consideration of the critical situation facing students, before the lecturers determined deadlines for submitting assignments.

In contrast to the positive feedback received on the support received from lecturers, the lack of response and/or delays in attending to student enquiries by administrative staff of the college caused much distress to many students. Students expressed disappointment, as their phone calls or text messages elicited no response. It is important to highlight the misalignment between student statements and the claims made by the management staff's justification that all services were available to students, and that admin staff monitored the lectures. Therefore, owing to the disparity, it is assumed that, for whatever reasons, some of the staff did not provide the required services.

4.1.5. Students' Psychological Status and Readiness

The final theme of this category pertains to the psychological status of students and their readiness to study during the COVID-19 crisis. It is likely that a global crisis could impact negatively on people's lives. A pandemic could pose unique challenges, such as higher levels of stress, anxiety, and depression. Students explained that anxiety during the pandemic made them unable to concentrate on their lessons. It was found that students were not emotionally stable, especially during the initial days of the lockdown.

Many students who participated in this study worked full time while studying at the college full time. Students had to juggle working and studying remotely from home. One of the students enrolled for a teaching course explained the difficulties she faced in studying from home while looking after her children: "during the pandemic, I had to stay at home and [continue] studying […] it was very difficult for me. Also, the news and all about Covid-19, I can't even concentrate more on studying." The struggles of students were confirmed by lecturers. It was perceived that students were not that comfortable studying in their home environment, as other family members also stayed at home during the lockdown.

In addition to the struggles students faced at home, the analysis of the data revealed that students experienced frustration due to the timing of lectures, and lecture cancellations. According to the students, before the pandemic they had regular schedules without much interruption, as lecturers presented lectures from the college campus. Before the pandemic, students had greater access to the college front desk and information centers. Extra classes were arranged if they had doubts or questions. However, during the pandemic, "classes started getting

cancelled more often and we couldn't contact information centers most of the times", St.11 reported. Such incidents contributed to students' tension and disappointment, which, in turn, affected their readiness to study during the pandemic.

4.2 Ways to Improve Delivery of VL Programs
The second category of findings relates to ways to improve delivery of instructional programs by the institution. Details about the themes in this category are provided in the following subsections.

4.2.1. Effective Teaching Strategies
Interviews with the students revealed that they believed that lecturers should use effective strategies that increase student engagement and learning in online classes. Many of the students emphasized the importance of adopting better learning strategies in virtual classes, so that lectures are more interesting and engaging. Even though some lecturers explained that cooperative learning strategies were incorporated in their teaching, lesson observations revealed that student participation in lectures declined. Students' reflection journals also referred to the importance of group activities and learner engagement in lectures. One of the students wrote, "I feel that it would be something good if the lecturer could include a few group activities based on the content […] to make us understand the content better." Lack of variation in the lectures was also mentioned by lecturers, and some of them acknowledged it in their interviews.

Aligned with teaching strategies, accommodation of students' interests and learning needs was identified as a subtheme of this category. Both lesson observations and student journals showed that not much attention was given to individual students during the lectures, and when attention was given, it was sporadic. Lecturers admitted that they were unable to carry out differentiated instruction in the little time that was available. "Catering to individual students' needs is very difficult in virtual classes. We have very few assessment tasks, and it's difficult to identify their levels," L.3 reported. In contrast, another lecturer described explicitly how she catered for individual students, by stating that,

> "in some of my language classes, we normally have pictures which we have discussions on. We talk about them. We do the brainstorm. When we come to the writing, I get them to do individually as well. The aim is to develop from where they are."

Although lecturers' instruction addressed individual students' abilities to some extent, it should be provided more consistently across all the lecturers' instruction.

4.2.2. Network and Connectivity Issues
Solving problems related to connectivity was a major request referenced by almost all the participants in the study. Students' disappointment was apparent when they explained their current status. "I had issues with the portal but it was not resolved even when the semester was over. Also, when I use a dongle, I was not able to use [personal] internet, and it caused a lot of difficulties", St.4 elucidated. It was obvious that students encounter connectivity problems during virtual sessions, with audio and video feed being interrupted. However,

participants believed that connectivity issues could be resolved completely if the lectures were conducted on fully virtual mode.

At the time of data collection, the college was providing connections through a portable dongle that could be used anywhere in the country where the internet service provider's network was available. However, when students and lecturers use dongles for connectivity, they cannot access to their home Wi-Fi simultaneously. When the dongle is used, accessibility is restricted to the college portal. Students cannot search using Google, nor access the internet at all at the same time as using the dongle. Moreover, the dongle also experienced relatively more downtime than normal home WIFI systems; participants confirmed that bad weather affected the network. Hence, students believed that if they could connect to the portal with their own Wi-Fi at home, their connectivity may be improved.

The management member confirmed that the college was exploring alternatives to the dongles. He stated that "we are developing a solution where we can try and give the network to each student without using dongles but through a Wi-Fi system". The requirement was that such a system had to provide better internet bandwidth than what was offered at that time. Hence, management needed to attempt to provide this improvement sooner rather than later.

4.2.3. Improving Communication
The final theme of this category is improving communication within the institution. This includes communication that takes place between the management and staff, between lecturers and students, and between administration and students. Most importantly, the college admin officers need to answer students' calls more responsively, and attend to their queries without delay. When students experience connectivity issues during lectures, they normally approach someone at the admin office or IT department. When the calls and messages of students are not answered promptly, students feel helpless, frustrated, and disappointed.

Another sub-area of this theme relates to clarifying standard operating procedures. As revealed by the document analysis, the institution has documented adequate policies and guidelines. However, the findings suggest that sharing such information with stakeholders requires greater emphasis. The main purpose of increasing understanding of standard operating procedures would be to ensure that staff and students operate according to a formalized and coordinated process, to help reduce miscommunication and errors. One such example relates to the 'inquiry forms' students use to inquire about various issues. The document analysis found that students were not given clear information about the form and its purpose. Likewise, procedures for conducting classes, the monitoring mechanism, assessment and evaluation, student feedback, and student enrolment and attendance are among the areas that need to be communicated better to both staff and students.

5. Discussion
Findings of this study reveal that, during the pandemic, a number of changes, positive and negative, were made to the VL process of this particular institution.

These changes include those that were made to the instructional setup, structural arrangements, and regarding the psychological readiness of students.

One of the most significant changes observed in the teaching and learning process of the institution during the pandemic was that the college had to shift the instructional setup to a fully virtual mode, thereby enabling not only students, but also lecturers and other staff, to work from home. Literature reports that many higher education institutions worldwide had to undertake similar changes during the pandemic (see Houlden & Veletsianos, 2020; Knysh & Dudziak, 2020). Unlike the situation at other institutions, a fully virtual mode of learning was not much of an issue for this institution, as the college had implemented VL long before the pandemic struck. Accordingly, we believe that, in a crisis such as the one caused by the pandemic, institutions should enrich their teaching and learning setup, as VL is the only educational prospect for disadvantaged students, like those on the remote islands of the Maldives. We also took note of the barriers that make it difficult to implement VL successfully.

Literature reports that the sudden and unexpected changes required for lesson delivery, which involved switching from conventional face-to-face mode to fully online mode, lead to higher education institutions experiencing significant challenges – like the institution in this study did. Some of these challenges include internet issues, being unprepared for online teaching and learning, the closure of education institutions, the lack of technical support, and the shortage of professional skills needed for online lesson design and delivery (Bao, 2020, Crawford et al., 2020, Sepulveda-Escobar & Morrison, 2020; Gohiya & Gohiya, 2020). Similar to many of these studies, at the institution selected for this study, students and lecturers experience frequent and serious internet connectivity issues. According to Hamid et al. (2020), one of the "main supporting factors for the effectiveness of online learning in the Covid-19 period were the carrying capacity of network access and the ability of devices to access the internet" (p. 85). Hence, we believe that, especially during the pandemic, it is essential for an institution to pay extra and immediate attention to upgrading internet availability, as it is one of the most basic requirements for the smooth and effective continuation of online classes.

The findings also indicate that, in spite of the pandemic, improvements were reported for some aspects of fully virtual lecture delivery at this institution. One of the very significant improvements was interaction between lecturers and students. Transition to fully online mode had created more avenues for interaction between lecturers and students, which is a necessary condition for establishing good rapport between the two parties, particularly in a situation where students are psychologically affected to a serious extent (Roddy et al., 2017). This study also found that, in addition to better student–lecturer interaction, a good connection and interaction between students and the other support staff – such as those in administration and IT – is essential. These staff members should be extra-responsive and easily approachable, as most communication occurs online during the crisis.

To improve delivery of instructional programs, effective teaching strategies was discovered to be one of the main areas that requires special attention. It was

reported that lecturers need to use effective teaching and learning strategies to increase student engagement and learning, particularly when classes are held fully online in this kind of a critical situation. Lecturers can present the curriculum in various formats, and complement it by video chats, hold virtual meetings that make immediate feedback possible, and maintain a personal connection with students (Dhawan, 2020). As a matter of fact, effective strategies are not only important for online teaching and learning platforms, but in general, in any situation that involves teaching and learning (Pentimonti et al., 2017). As researchers such as Crawford et al. (2020) found at other institutions, that one of the reasons for lecturers' inability to apply effective learning strategies could be time constraints and because they lack the skills required to design and deliver fully virtual classes. As the pandemic spread across the globe, academics did not seem to be fully ready and equipped with the tools and knowledge required for a rapid switch in the nature of delivery, from face-to-ace to fully virtual mode, which was forced by the crisis of full lockdown that confined people to their homes (Rapanta et al., 2020).

6. Conclusion and Implications

This paper provided an account of the experiences of the students and staff of a higher education institution in the Maldives during the lockdown due to the COVID 19 pandemic. The study found that several changes had occurred to the teaching process of this particular institution, even though VL had been practiced at the institution long before the pandemic.

The study uncovered that some significant changes were made to the instructional setup and structural arrangements at the institution; these changes had both positive and negative impacts. Interaction between students and lecturers improved as they became more open to each other, which was beneficial for the psychological well-being of the students. However, due to internet connectivity issues, and in the absence of the required responsiveness of some administrative and IT staff at the institution, students experienced a great deal of difficulty, specifically during lecture delivery. Hence, improving communication between students and staff, and upgrading internet connectivity were found to be essential for improving the institution. Use of effective teaching and learning strategies is another aspect to be improved in the institution as a whole. Without a doubt, it is imperative for the institution to train and familiarize its staff for the fully VL era, so that they possess the necessary skills, knowledge, tools, and equipment to implement it effectively.

As this is a case study, the findings of this study are limited to the context of the higher education institution selected for this research. Therefore, research is required to identify and determine whether the situation is similar at other higher education providers in the Maldives, and in other countries. Research can be done at other institutions where VL had been practiced prior to the pandemic, so that they may be compared with these findings. Likewise, research could compare the changes that took place at institutions that did and did not practice VL prior to the pandemic.

7. References

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