Challenges and Affordances of Hybrid Learning: A Pilot Study from the Perspective of Teachers and Students at College Foundation Level

Fathimath Shifaza[1], Aminath Suha[2] , Fathmath Mazna Mumthaz[3] , and Lam'ath Mohamed[3]

Abstract

The experience of hybrid teaching presented in this paper was shaped by the emergency remote teaching during the Covid-19 pandemic, the affordances of which allowed us to redesign our program to a hybrid mode. In particular, the study highlights strengths, and weaknesses which need to be addressed in curriculum, pedagogy, and technology; to ensure students become successful learners, in hybrid learning contexts. An online survey questionnaire was administered to collect both numerical and written data. Fourteen lecturers who taught in hybrid modality in September 2021 semester at Centre for Foundation Studies at Villa College, and 132 randomly chosen out of the 508 enrolled students participated in this study. The findings of the survey highlighted various challenges faced by the lecturers such as difficulty in engaging with the students, technical issues, and poor student engagement. Similarly, the students noted that they faced various difficulties such as unaffordability of the internet and lack of confidence to interact. Thus, the results prompted a need to further train the lecturers and students on hybrid teaching and learning. Further, the institution needs to establish a mechanism to provide better internet access such as introducing affordable internet packages for the students and develop strategies to support remote students more effectively. The significance of this research is that following the suggested recommendations may aid in enhancing the current hybrid modality experience for both the lecturers and students.

***Keywords*:** synchronous hybrid teaching and learning; college foundation studies; student engagement

---

1 Fathimath Shifaza works as a lecturer at the Centre for Foundation Studies (CFS), Villa College. She holds a master's degree in Leadership and Management in Education from the University of Newcastle, Australia. Correspondence concerning this article should be addressed to Fathimath Shifaza, email: fathimath.shifaza@villacollege.edu.mv

2 Aminath Suha is the Deputy Dean of CFS, Villa College. She holds a master's degree in Educational Leadership and Management from the University of Nottingham, UK.

3 Fathmath Mazna Mumthaz and Lam'ath Mohamed are Associate Lecturers at CFS. They are currently completing their master's degrees from Asia Pacific Institute of Technology, Sri Lanka and Taylor's University, Malaysia respectively.

Introduction

In the wake of the Covid-19 pandemic, higher education institutions have in general accepted online education as the new normal for student learning. Blended learning with flipped classroom teaching paved the way for fully online remote emergency teaching. Villa College (VC) is one such institution to bring forth a multitude of operational changes, which had been introduced starting around 2017 to deliver remote, virtual synchronous teaching across the islands in the Maldives. To cater to the multiple restrictions and social distancing procedures owing to the lockdown during the pandemic, Centre for Foundation Studies (CFS) alongside VC's other faculties and centers, chose to adopt the hybrid teaching modality, offering its students the opportunity to join classes online as well as face-to-face, depending on local public health restrictions put in different islands.

Since hybrid teaching and learning is a newly implemented teaching modality at CFS, the lecturers along with students were faced with various challenges in adapting to the new model. This study is aimed to identify the perceived challenges faced by lecturers and students at Centre for Foundation Studies, Villa College, in the implementation of hybrid teaching and learning, whilst exploring the affordances of hybrid teaching from both lecturers' and students' perspectives.

Literature Review

Hybrid learning is a combination of synchronous blended learning in which on site and remote students simultaneously attend learning activities, enabling for a stimulating learning environment experience, by the students who are unable to attend normal classrooms. While the potential benefits are many, hybrid teaching is a relatively new concept with challenges at multi levels including institutional challenges, technology related concerns, challenges of teaching in several learning environments simultaneously as well as challenges for students to engage in the complex learning environment, where students of different ages, with a wider range of experiences, learning skills, and expectations may be learning together (Bonderud, 2021; Raes et al., 2019).

There are two modes of hybrid teaching, one in which remote students attend lessons in a remote campus classroom, which has been connected for hybrid teaching, and is supported in person by a tutor with technological capabilities. The other mode of hybrid teaching, the one which we had used, was the

learning from anywhere mode. This mode offers more flexibility to students to study from any location. However, this require seamless internet connectivity, which is not yet available in all of the remote islands in the Maldives.

While remote emergency teaching situation during the COVID pandemic provided affordances in terms of training for staff, orientation of students to learn online, improved levels of internet speed and reduced costs of internet connections, Maldives is lagging in the expansion of broad band with only 12% of the population using a faster connection than 256 kbps by 2020 (World Data), with a download speed of 9.4Mbps for fixed network broadband internet (Speedtest Global Index). A household using 2 devices at the same time, or one person who is using telecommuting for real time study needs to have at least 12 to 25Mbps internet speed for it to be considered adequate (Household Broadband Guide, July 2022). Global average for Fixed broadband download speed was 72.4Mbps in October 2022. Currently connectivity at this speed is available for approximately US$ 200 per month, an amount equivalent to roughly 50% of average monthly income in rural Maldives. "Internet providers currently have the capacity to provide up to 100Mbps in the islands and 1Gbps in Male'" (Azlifa & Saeed, 2021, p.62).

According to Nizam and Saeed (2021), student engagement in online learning is perceived to be difficult for students from low-income families who can't afford the high connectivity costs of internet services. These students are also reluctant to switch on cameras and microphones during synchronous online lessons, as they are embarrassed about their overcrowded, loud home environments. Azlifa & Saeed (2021) reported that the high costs of internet connectivity and low internet speeds prevented technology savvy teachers in their study from using technological tools in face-to-face classrooms. Yadav and Zubair (2020) found that Maldivian medical students were aware of the advantages of e-learning, trusted technology, yet only 20% thought that e-learning could be an effective mode of delivery. However, 49% thought that e-learning could solve the problems of medical education in the Maldives. The authors were optimistic, agreeing with Lorenzi & Riley (2000), that the "main success factors to system success are behavioral than technical" (p.112)

Thus, this exploration of teachers' and students' experience of hybrid teaching was conducted in the spirit, that in workplaces and in other life settings, young people are learning to interact, communicate, learn, and work across both physical and virtual environments synchronously. Furthermore, hybrid teaching allows for inclusion of disadvantaged students in college education, who may not be able to attend the course physically due to financial, geographical or time

constraints (Raes et al., 2019). Adopting hybrid teaching could be particularly beneficial for a country such as the Maldives due to its geographical constraints associated with the islands being dispersed with populations too small for a college experience within the community.

Benefits of hybrid teaching

The literature highlights various benefits of hybrid teaching and learning (Bonderud, 2021; Raes, 2022). Learner autonomy is one of the most frequently cited benefits of hybrid classes. Hybrid teaching can also allow the students to take more ownership of their learning (Frimming, Bower, & Choi, 2013). Hybrid modality can facilitate for the teachers to adapt to a more rich and diverse style of lesson delivery and flexibility to reconfigure classroom layouts to cater for diverse learning styles. Hybrid teaching also can enable the facilitators to connect with the learners who join from remote areas of the country (Northeastern University, 2022; Bonderud, 2021).

From an organizational perspective, hybrid teaching and learning allows for efficiency of delivery, where the teaching faculty may be few; allows for subject expert integration into the course delivery across several campuses; and widens access to a broad range of students who may be unable to attend face to face classes. It also allows for pedagogical innovation to engage students and to promote collaborative learning (Raes, et al., 2019).

Challenges of hybrid teaching

Hybrid teaching places a strong emphasis on teachers' and students' digital competencies and digital literacy. The quality of teaching is solely dependent on whether all the participants have the required skills to utilize the technology efficiently (Bülow, 2022). Other technological challenges that can cause reduced student engagement and dropout are absence of just in time technological support for online students and teachers, technical issues with the platform, unfamiliarity with the technological tools, low level of readiness and hesitation among lecturers, unstable internet connection and sound-related issues (Nebrida & Bangdud, 2022; Pressley & Ha, 2021).

One of the most common challenges faced by educational institutions is the lack of student engagement (Lorenzo-Lledó, Lledó, Gilabert-Cerdá & Lorenzo, 2022; Nebrida & Bangdud, 2022; Raes, 2022). For example, in a study on the challenges perceived by students due to teaching modality changes owing to

the Covid-19 pandemic, Lorenzo-Lledó et al. (2022) contended that motivating and involving students in the lesson is challenging in hybrid classes. Additionally, based on their study on the comparison of the face-to-face classroom to online hybrid instruction, Frimming et. al, (2013) reported that the students in face-to-face classes displayed better involvement and engagement than those who studied online.

Hybrid learning becomes a challenge for those applying it the first time, since it takes time to adapt teaching materials, to become familiar with the technology, time that could be spent on preparing resources for a single learning environment (Kim, Speed, & Macauly, 2019). Once, the teacher is ready to begin to use the hybrid approach to teaching, more time and resources are required to design or look for the best audio-visual resources to be shared with students, which are meaningful to the students and can actively engage and hold the interest of the students, who may have different issues accessing the resources synchronously (Bergmann & Sams, 2014). Technology not only changes the way we carry out a task, but also changes the way we think about a task (Weitze, 2015).

Another challenge in teaching in hybrid learning environments is the heavy mental load on the teacher, who must pay attention to students' learning in two different environments simultaneously. Gonzales and Heck (2020) highlight that lecturers find it overwhelming to read through the student responses on the chat log of the students joining online, and the students not being able to immerse themselves into the learning experience. Maurice, Raad and Odhabi (2021) stressed communication as another issue with online classes. They assert that online communication is less effective compared to the traditional classroom setup. Frimming et. al, (2013) also support that traditional classroom settings foster better interactivity between students and their teachers. To address such issues, Hussain, and Shahzad (2019) suggest the importance of familiarizing themselves with technologies which can enhance students' involvement, motivation, and academic performance.

While hybrid learning is perceived as an easy method by some students, others face challenges in adapting to this new and unfamiliar learning method. The remote students can feel ambiguous about their sense of inclusion and group membership to the on-site students, technology, and place. Learning can be disrupted by repetition and slowing down of the lesson to respond in two different environments. Lack of confidence to interactively engage in collaborative remote learning, and lack of effective communication skills, can prevent student engagement, thus, increasing drop out and failure to complete

programs successfully (Almaiah, Al-Khasawneh and Althunibat, 2020; Okello, 2021). Hence, Koob, Schröpfer, Coenen, Kus and Schmidt (2021) advocate the significance of establishing initiatives to strengthen students' self-efficacy beliefs at academic institutions for productive hybrid teaching and learning.

Further challenges frequently cited in the literature are the technical issues as a barrier to conducting hybrid classes, since teachers and students depend heavily on the technological set up for hybrid lessons. Devices such as laptops, cameras, microphones, speakers, need to be set up from different angles to speak, to be seen and to be heard simultaneously. Stable internet connections are essential for seamless hybrid learning. A technology savvy teaching assistant or an additional tutor need to be present to support the students who may face difficulties with using technology and to respond to the heavy demand on the teacher, to ensure both remote and on-site students are learning effectively (Hussain & Shahzad, 2019; Rasheed, Kamsin & Abdullah, 2022).

Theoretical Framework

The successful implementation of hybrid teaching and learning largely depends on the users' perception towards technology and their intention to adopt it in teaching and learning. Technology Acceptance Model (TAM), introduced by Fred Davis in 1989, has been one of the most dominant models of technology acceptance. The theory was initially based on two primary factors influencing an individual's intention to use new technology, which are perceived ease of use and perceived usefulness (Davis & Davis, 1989). However, in response to criticism, the model was extended by Venkatesh and Davis, (2000) with the inclusion of external variables which consequently affect users' intention to use and the actual usage (Joo, Park & Lim, 2018). Figure 1 shows the technology acceptance model which was adopted for this study.

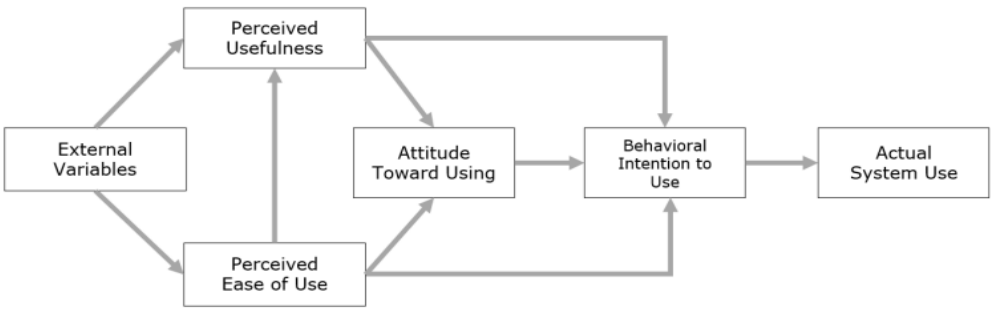

Figure 1. Technology acceptance model (TAM) (Davis, Bagozzi, &Warshaw, 1989, p. 985)

Methodology

The research was conducted in May to June of 2022, with a cohort of students and teachers who had just completed the first repurposed Foundation Studies programme, offered at Villa College. The study was a year-long course offered using a hybrid modality which allowed students in eight remote island campuses of the college to join into the face-to-face sessions taught on the campus in Male'.

Fourteen lecturers who taught in hybrid modality in the September 2021 semester at CFS participated with 132 randomly chosen students from a cohort of 508 students enrolled in foundation programs in the September 2021 semester at CFS.

Research Instrument

Two separate survey questionnaires which included close ended and open-ended questions, were administered to the lecturers and students using an online form. The questions were on the affordances, opportunities and challenges of hybrid teaching and learning.

The survey data was gathered with the informed consent of all the participants and parents of the students under 18 years of age.

Findings and Discussion

Demographic Information

Five Hundred and Eight students of which 56% (285 students) were female, enrolled in the Foundation Programs in the September 2021 Semester. Of the 508 students, 314 (63%) had enrolled from the remote campuses. Among the remote students, 59% were female.

Thirty percent of the 132 students who voluntarily participated in the study were male and 70% were female. Among the respondents, 70% of the students were from the age group 17 to 20 years. Eighteen percent were from the age group 21 to 27, whilst the remaining 12% belonged to the age group 28 and above.

Of the 14 respondents who were lecturers, 21% were male and 79% were female. Fifty percent of the lecturers were from the age group 50 and above, 29% were between the ages 35 to 40 and 21% were from the age group 30 to 35.

Hybrid teaching and learning space

The classroom setup was made in a way that face-to-face, as well as remote students can view the lecturer's Surface Pro screen. Instead of using the physical smart whiteboards attached to the walls of the classroom, lecturers used software and available applications such as Microsoft OneNote, Google Meet Whiteboard, and Microsoft Word etc. to demonstrate and annotate during the lessons in real-time. This minimised time lag due to internet connectivity issues, where remote students see the teacher's screen a while later, and not clearly. The photographs in Figure 2 demonstrate the current set up.

Figure 2. Hybrid classroom setup

The on-site classroom does not use any auto tracking or fixed cameras in the classroom since most of the remote students do not access visual data because of internet data cost and low quality of reception. At the existing internet speeds, remote students can view videos in real time with the on-site students, however, lecturers send video links to remote students before the session, so they can have them downloaded before the teaching session.

Certain devices or arrangements that are necessary for hybrid teaching were available in the hybrid teaching space for the lecturers, as shown in Figure 1. As per Szoke (2021b), for a hybrid class to be effective devices and arrangements

such as a laptop, webcam, microphone, speakers, and most importantly a stable internet connection are vital.

While the lecturers were satisfied with the availability of basic equipment, they stated that the microphone set up and the screen set up was not perfect for collaborative learning.

Over 70% of the students reported that they were familiar with the use of technology for remote learning, skills they would have gained at school during the COVID19 Pandemic. Since the remote students were accessing the class from their own homes, they were asked if the following arrangements and devices were available in their learning space. Figure 3 shows that most of the students had access to the essential arrangements and devices in their learning space. It is concerning that some of the students did not have a desk, a chair, a learning space without disruption, and a few did not have a Wi-Fi connection or a computer, indicating they were learning using only a smart mobile phone. This shows that remote campuses of the College need to be set up, in such a way that students feel supported in their learning, so that they will prefer to learn on campus, in suitable classrooms with tutorial support.

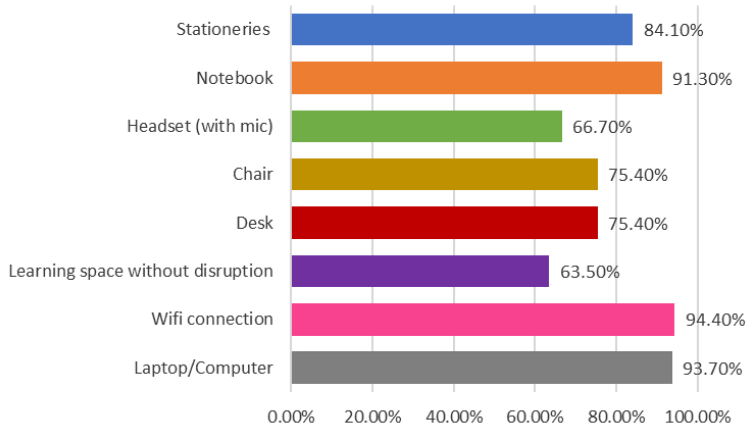

Figure 3. Learning Space Setup of Students

Hybrid teaching experience

Lecturers' overall experience in teaching in the hybrid modality was explored to identify their level of familiarity and confidence in implementing hybrid teaching. Hybrid teaching models are effective when teachers are highly

competent in digital teaching and are provided with the opportunity to apply their skills (Martín-Núñe, Bravo-Ramos, Sastre-Merino, Pablo-Lerchundi, Caravantes Redondo & Núñez-del-Río, 2022). The results elucidated the importance of conducting further training for the lecturers. Despite all lecturers being given an adequate level of training initially, lecturers suggested that they require more training at different intervals in time. Most lecturers, however, are confident in their ability to integrate technology into teaching and learning.

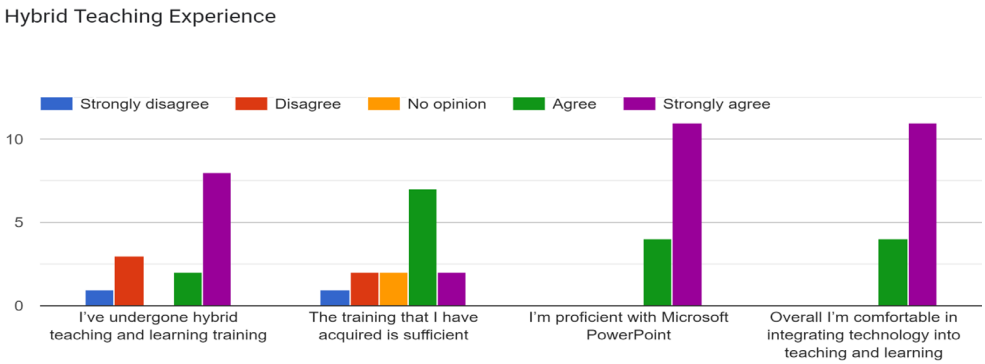

Figure 4. Hybrid Teaching Experience

Lecturers' experience towards hybrid learning

Lecturers' experience towards hybrid learning and their ratings are shown in the table below (Table 1). The results revealed that about two thirds of lecturers were confident in the use and implementation of hybrid teaching methods although they were novice users. Over 50% of the lecturers rated themselves as being familiar with both synchronous and asynchronous learning. The lecturers agreed that they ensure the learning process occurs as planned. Also, they stressed that both student participation and maintaining a strong rapport with them are given utmost importance. However, a quarter of the lecturers stated that they lacked confidence in hybrid teaching, a third of the teachers were not sure that they had the familiarity with synchronous teaching methods. Only 64% stated that they were able to check the learning process of the students during the lessons.

Table 1. Lecturers' Experience towards Hybrid Teaching and Learning

#	Statements	Strongly Disagree	Disagree	Neutral/No opinion	Agree	Strongly Agree	Total
		1	2	3	4	5	
Lecturer's experience towards Hybrid Teaching							
Q1	I am confident in implementing hybrid teaching methods	1 (7.14%)	3 (21.42%)	0	2 (14.28%)	8 (57.10%)	14 (100%)
Q2	I carefully check the learning process in the class	1 (7.14%)	2 (14.28%)	2 (14.28%)	7 (50%)	2 (14.28%)	14 (100%)
Q3	I maintain a good relationship with the students	0	0	0	3 (21.42%)	11 (78.57%)	14 (100%)
Q4	I ensure to engage with the students during my lesson (physical and online) participants	0	0	0	3 (21.42%)	11 (78.57%)	14 (100%)
Q5	I am approachable to my students after the lecture sessions				4 (28.57%)	10 (71.42%)	
Q6	I ensure that the learning outcomes are achieved in each lecture session				5 (35.71%)	9 (64.28%)	
Q7	I am familiar with the synchronous and asynchronous teaching methods		1 (7.14%)	4 (28.57%)	2 (14.28%)	7 (50%)	
Q8	Most of my students are engaged in most of my classes		1 (7.14%)	3 (21.42%)	6 (42.85%)	4 (28.57%)	
Q9	I am thorough with my subject content				5 (35.71%)	9 (64.28%)	

Q10	I ensure that the required reading materials and other resources are available for the students before the lecture sessions		1 (7.14%)	1 (7.14%)	6 (42.85%)	6 (42.85%)	
Q11	I ensure to assign a tutorial task focusing on the content covered during the lecture session			1 (7.14%)	5 (35.71%)	8 (57.14%)	
Q12	I make sure that the exit form is shared with the students at the end of the lecture session			1 (7.14%)	4 (28.57%)	9 (64.28%)	
Q13	I ensure to check the exit form for feedback and bring the required changes in my teaching when planning the next lecture				4 (28.57%)	10 (71.42%)	
Q14	I am familiar with the LMS (Learning Management System- Moodle)		1 (7.14%)	3 (21.42%)	3 (21.42%)	7 (50%)	

Challenges in implementing hybrid teaching and learning

Data analysis shown in Figure 5 shows the perceptions of lecturers regarding the challenges they faced when teaching via hybrid modality at CFS. These findings indicate that the main concern of lecturers was related to the lack of student participation. Along with that, the second most challenging problems were related to the difficulty in engaging with students during the lecture session and internet connection issues. These findings support the challenges identified by Lorenzo-Lledó et al. (2022), which shows that motivating and involving students in the lesson is challenging in hybrid classes. Furthermore, 43% of the lecturers said they faced internet issues and 7% said that they had poor classroom setups. Previous studies have also examined the importance of hybrid setup on both ends; the institution and students as hybrid teaching is completely dependent on both lecturers' and students' technological setup.

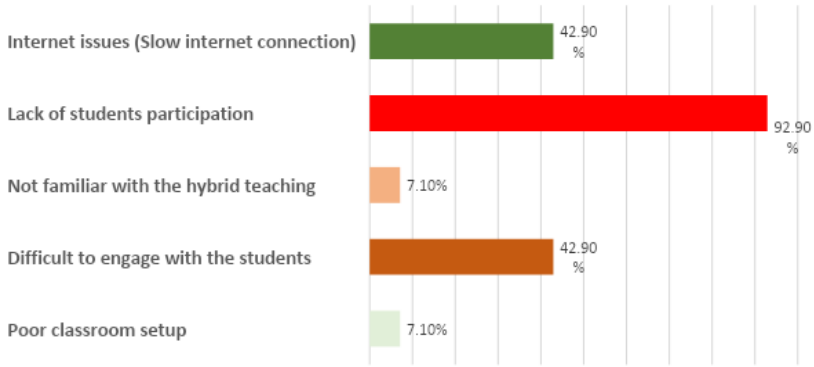

Figure 5. Hybrid teaching and Learning Challenges by teachers

One of the identified challenges by the lecturers during hybrid classes is student engagement. A similar study by Raes (2022), also found that despite questions being asked in the chat, student interaction was seen to be almost non-existent. It is apparent that in a hybrid learning space, communication is often asynchronous, which proves that there is a gap between the teacher and the students. Hence, this gap creates opportunities for misunderstandings to develop which sometimes allows a problem to snowball before it can be corrected unless properly addressed. Gonzales and Heck (2020) highlight that a potential reason for such limited engagement might be lecturers finding it overwhelming to read through the student responses on the chat log of the students joining online and not being able to immerse them into the learning experience.

Lecturer response 4: Students do not talk in class. There are students who finish a whole semester without using the chat or mic for interaction.

Lecturer response 7: Getting the online students to respond is the most difficult challenge I have experienced during hybrid teaching

Lecturer response 9: Online students don't answer questions asked during the class and come up with excuses like their mic is not working. I think making students receive attendance when they answer questions asked during class sessions is a good way to address this problem

Lecturer response 11: Students don't respond in class even when I use student focused activities to tackle lack of participation

Lecturer response 13: Online students are mostly distracted and some of them never respond to questions. Thus, making the session less effective for the online students.

Lecturer response 14: I sometimes feel that online students are hesitant to engage in online discussions and activities although online quizzes are conducted via quizizz, kahoot etc.

Challenges pertaining to technology were indicated by the lecturers as one of the significant factors affecting hybrid teaching and learning. These challenges include students having poor connectivity and thus the online learning tools being less effective for them. This was mainly apparent amongst the students who joined from the atoll campuses. This issue is also evident from the findings of a study conducted by Rasheed et al. (2020), where the issue of broadband quality was highlighted as a major challenge. Hence, it is crucial to ensure that the internet bandwidth is strong on both ends; the institution and students, as hybrid teaching is completely dependent on both lecturers' and the students' technological setup.

Lecturer response 4: Sometimes we face some difficulties in class, like the screen blinking or glitches on the computer screen.

Lecturer response 6: Participation of the students online is the main concern, and it is because of different issues like being at work, network issues, not having private space at home etc.

Lecturer response 7: Even if the lecturers use digital tools in the classes, they are participating in the class activities.

Lecturer response 10: Students in class can follow the lesson easily. However, the students joining from remote campuses face a lot of internet issues due to which some content must be explained repeatedly.

Lecturer response 11: I have noticed that students joining online from campuses cannot interact in class due to their poor connection. Students from different islands with bad internet connections at their homes. It would be a good idea to introduce affordable data packages for students for them to be able to.

Lecturer response 12: Poor internet connection is a major reason pointed out by the online students as a reason for not interacting in lecture session.

Lecturer response 13: Some students join the classes using their phones because they do not have a laptop or a pc at home. It's not at all an ideal tool for them to use to join a hybrid class. These students are unable to fully participate in the lecture sessions and do the in-class exercises.

Technological setup is integral in conducting hybrid classes effectively. However, the responses by students of this study indicate poor and unstable internet connection as a hindrance to their learning experience, by both students from the on-site campus in Male' and the remote campus students.

Student response 64: We don't get hybrid teaching fully because of internet speed issue.

Student response 68: Sometimes class gets disconnected while we are in the class.

Student response 71: Have issues of the allocated classes due to slow Wi-Fi in college besides small spaces for the class sometimes.

Student response 76: Poor audio quality because of slow internet connection at home.

One of the challenges faced by the students was the unaffordability of internet packages. Twenty six percent of the students mentioned their concern regarding their internet connection being expensive.

Student response 16: Was easier to study without having to change to another island but the internet connection is very bad due to which sometimes I must refer to the lecture recording to understand the lesson without any disruption.

Student response 22: It is an easy way of studying but my parents are unable to afford a good internet package for home as the packages are very expensive.

Student response 46: Hybrid is good, but internet is very expensive.

Student response 72: To attend 2-hour classes every week, must take a higher internet package.

Student response 128: Expensive internet.

Students were asked whether they experience the following issues or concerns regarding hybrid teaching and learning. As shown in Figure 6 below, 52% students responded to having faced internet issues, 45% of the students were less confident to communicate via microphone, 39% students were poor in engaging with lecturers during the lecture session and 50% had poor relationships with their classmates.

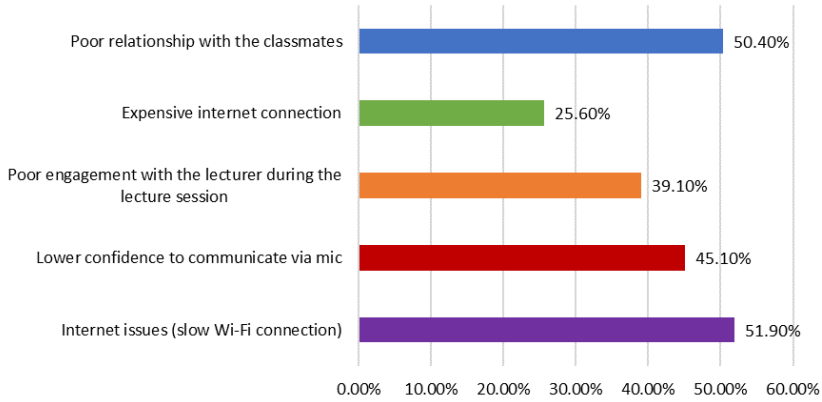

Figure 6. Challenges faced by students in hybrid learning

Since hybrid teaching was a new modality for the students, some of the students also highlighted that lack of confidence was a major challenge for them. Similarly, in a study conducted by Doghonadze et al. (2021) to explore the tertiary students' experience of hybrid learning in Georgian and Italian universities, it was found that students encounter feelings of isolation and loneliness during the online and hybrid learning experience.

Student response 19: I hesitate to answer questions as it can be seen on screen and heard.

Student response 27: I try but I am not confident to speak in class, using the mic(microphone).

Student response 94: Less confident.

Student response 101: Lack of motivation, and I get bored.

Suggestions from the lecturers and students

The suggestions by the lecturers mainly indicated a need for training and development for both lecturers and students to effectively implement the hybrid modality of teaching and learning. In a similar vein, Bonderud (2021) highlights three important aspects to focus on for effective training on hybrid modality. These include effectively using platforms, delivering effective lessons, and engaging and assisting students in their learning. Hence, it is important to conduct more training on technical areas for lecturers, enabling them to be more self-reliant and confident in delivering lessons in the hybrid modality, with ongoing capability development for student engagement and achievement of learning outcomes.

Lecturer response 1: Frequent training focusing on the various edtech tools to incorporate in hybrid teaching.

Lecturer response 3: Moodle and resources training.

Lecturer response 6: Give orientation to the students on some of the common online tools that we use for classroom activities.

Lecturer response 7: Conduct a session to the students at the beginning of the semester to make them aware of the importance of class participation, engagement, interaction etc.

Lecturer response 12: More professional development sessions focusing on Hybrid teaching and online learning tools.

Lecturer response 13: Sharing of best practices and experiences on Hybrid teaching in the weekly Academic Bite sessions for lecturers.

Areas of improvement about the learning management system (LMS) were highlighted in the lecturers' responses. The lecturers' suggestions include having a more automated process for marking attendance and for the student attendance list to be in sequential order. Furthermore, suggestions were made to provide better Wi-Fi for face-to-face students during the lecture sessions to enhance the participation in the online in-class activities conducted through EdTech tools.

Lecturer response 2: Provide better Wi-Fi for face-to-face students during lecture hours so that they would be able to participate in the in-class activities conducted using digital tools.

Lecturer response 7: Making attendance marking an easier and more automated process.

Lecturer response 11: The important thing is attendance administration. The students enrolled are not in a sequential number, either at SMS or at marking sheet provided.

Lecturer response 12: Making attendance marking an easier and more automated process.

One of the major suggestions from the students was for their lecturers to be approachable. Approachability is an inherent and crucial attribute of a positive teacher-student relationship. This can be accomplished through efforts such as having an open-door policy and being accessible to students; (1) during and outside of office hours, (2) in person and online and (3) outside of class timings (Hagenauer, Muehlbacher & Ivanova, 2022). However, this level of approachability will not be available unless teacher student ratio is reduced, and additional tutorial support is available to the teacher during the session, such as a teaching assistant.

The importance of lecturers being approachable to students, especially to online students, was emphasized in the responses. It was suggested for lecturers to promptly check and attend to the messages sent by students on the chat platforms and email.

Student response 6: Be more active in chatting.

Student response 17: To check messages more often…

Student response 39: Some of my lectures disappear after lecture sessions. Please check email more.

Student response 58: More engagement with online students.

Student response 62: That every teacher should communicate with online students. Even if it's not a class time.

Student response 96: Be more aware of the situation the students are in and it would be great to have an even better relationship with the students and the lecturers.

Student response 100: Hybrid is okay. but lecturers should pay more attention to online students.

Student response 111: If we communicate on comment section Sometimes, we don't get any reply from lecturer.

Student response 115: Sometimes difficult to clarify doubts.

Student response 120: Poor communication between lecturers and students.

Student response 121: Not being able to ask questions frequently.

Student response 124: Lecturers engage with students who are f2f more.

The responses from the students suggested for the lecturers to prepare more interactive presentations and provide more detailed explanations with relevant examples. This is an important pedagogical concern as students learn in unique ways, thus, incorporating more teaching and learning methods increases the likelihood that all the students grasp the concepts that are being taught in the classes (Concordia University, 2021).

Student response 19: If lecturers use colourful images, powerpoints will be more interesting.

Student response 28: When lecturers give examples while teaching, it makes me understand the lesson better.

Student response 48: Some teachers do not use any quizzes or online activities in class. That is why teaching online is boring in some classes.

Student response 64: More engagement with online students, focus on giving more attention.

Student response 67: Online games.

Student response 71: It was cool and efficient, maybe just a little bit disconnected from the usual college experience.

Student response 72: make it fun.

Student response 75: In hybrid classes online students are not given attention at all. Sometimes it feels like you are listening to a podcast of an ongoing class. Also, when the lecturer is explaining a slide, they tend to point to perhaps a diagram and structures using hands or fingers. Saying this here is this part of the area and such. It can be a great advantage for students present physically. But those who joined online it's a struggle and they are completely lost not knowing where the lecturer is pointing at. Using the curser might be helpful for all students I believe.

Student response 83: communicate more with students.

Student response 85: encourage students to engage more, it makes learning more fun.

Student response 93: Giving online and face to face students equal attention.

Student response 111: Barriers in understanding study materials in depth because of boring presentations and explanations.

Student response 114: Pay attention to online students.

Student response 125: Being in online class does not feel we are in the class.

Best practices highlighted by the students and lecturers

Lecturers stated that even though there were technical issues and glitches during classes, these were promptly attended to, and solutions were provided by CFS and Villa College. This reinforces the qualitative finding where 93% of the lecturers highlighted that their hybrid teaching space is set up well and without disruptions. Furthermore, lecturers stressed the ease of using the LMS as a platform that benefits their teaching and learning. This conforms to TAM as lecturers' effective use and experience with the LMS; their perceived ease of

use positively influenced their perceived usefulness of this technology (LMS) in their teaching (Joo et al., 2018).

Lecturer response 3: I like the classroom with two TV screens, good interaction between both modalities. I wish all classroom setup was like this.

Lecture response 9: Easy to conduct assignments, activities and share the reading materials with the students.

Lecturer response 12: Sometimes the screen gets frozen, and we need to wait for IT staff, it is very time consuming, I loved the setup of EW301 with a separate screen on the wall, so it is easy to move around and attend online students as well.

Lecture response 18: Improved my computer skills.

Research into teacher's motivation posits that the level of confidence amongst teachers strengthens their autonomy that aids in making the right professional decisions (Daniels, 2017). Additionally, Daniels (2017) highlights that teachers' connection with their colleagues and administrators have an impact on teachers' motivation to become and remain effective. It was emphasized by the lecturers that the appreciation extended to them by the faculty and administrators at CFS provided a boost and incentivized them to continue teaching and become more efficient in their teaching practices. Moreover, the feedback forms collected at the end each semester; Student Evaluation of Teaching and Learning (SETL), was stressed by the lecturers as being a source of motivation and encouragement.

Lecturer response 2: Appreciation certification received from CFS makes me motivated.

Lecturer response 5: The SETL evaluation conducted every semester.

Students responded positively to having more flexibility in learning and being able to join classes in the comfort of their homes, after work, and from remote islands. Further, being able to access the lecture recordings for revision was highlighted as a convenience, especially for the students who missed the lecture session.

Student response 6: As most of us are working people, getting to take online classes is very convenient and saves us a lot of time.

Student response 10: Being able to study at home at my own comfort.

Student response 31: Was easier to study without having to change to another island.

Student response 46: Can be in class despite wherever I am and study and getting recordings of the lectures to listen to later for better understanding.

Student response 62: Being able to study in the island rather than having to go to classes.

Student response 72: The teachers are very patient and deliver the lesson perfectly to online students too. We don't miss out on anything compared to physically attending students.

Student response 74: Flexibility on attending classes and able to study from island or anywhere in the world.

Student response 84: Getting to attend classes online. Allows me to work and afford education on my own.

Student response: 93: We can complete a course from anywhere in the world at our own comfort hence this is very beneficial and convenient for students that are both working and studying.

Student response 95: I get to study from home, and my teachers are amazing.

Student response 127: Been able to study in a more comfortable space.

Students also stressed that during their experience with hybrid learning, they were introduced and made familiar with computer skills, technology and EdTech tools. These include Google Meet, Moodle, Mentimeter, Quizzes, Kahoot and Wizer Worksheet. Kenney and Newcombe (2011) assert the significance of using EdTech tools and games in hybrid classrooms to make lessons interesting and interactive. They also postulate the importance of student familiarity and

ease with the use of online learning tools such as discussion forums, online quizzes, and the use of LMS. This was evident in the student responses where the user-friendliness of the LMS was mentioned.

Our findings complement the concept of the TAM, as according to the model, the key concepts that influence the use of technology among people are their perceived ease of use and their perceived usefulness of that technology (Davis & Davis, 1989).

The perceived usefulness has a significant positive influence on users' intention to use an E-learning system again, after the initial use (Budu et al., 2018). It is apparent from the responses that our students believe that the digital tools such as LMS used in their classes are user-friendly and beneficial for them in their learning.

Student response 8: Improved my knowledge.

Student response 12: Learnt new things.

Student response: 29: Easier to submit assignments online.

Student response 42: Easy to study and do assignments after discussion.

Student response 43: Best experience was Online games and the recordings.

Student response 58: It's made fun with different activities and convenient.

Student response 66: Got to experience about google meet sessions.

Student response 73: Learnt about new technology that they use in hybrid.

Student response 76: Interactive quizzes.

Student response 120: Gets the recordings of the lessons from Moodle.

The results indicate that the students had a positive experience in terms of

social engagement in their hybrid classes. For instance, students related their experience of meeting and befriending new peers. Further, they emphasized the opportunity of interacting with peers from different locations of the country, despite geographical limitations. In line with the findings of research conducted by Pittaway and Moss (2014), social engagement provides students with the opportunity of expanding their personal beliefs and perspectives to understand the world in different ways. In addition, Yang and Spitzer (2022) suggest that social interaction is imperative to process and create meaningful learning experiences among students. They also stressed that introverted students benefit from online interaction as it allows them the flexibility to create meaningful responses.

Student response 32: Have confidence and get to know online students.

Student response 38: I am more confident to do presentations online.

Student response 40: The collaboration with the online and face to face students. The best part is haven't felt that I was studying online. The lecturers and students are so collaborative.

Student response 84: Made new friends from all over Maldives.

Student response 102: Getting to learn and getting to know new people.

Student response 111: Working among other classmates in group.

Student response 124: Hearing the kids in face-to-face talk makes it feel like I am in that class as well.

Conclusions, Recommendations and Limitations

This study aimed to identify the challenges and affordances of hybrid learning environments experienced by the lecturers and students as well as their perceptions in the implementation of hybrid teaching and learning at College Foundation Level Studies. In particular, the study intended to explore the different ways of overcoming challenges faced by the lecturers and students to strengthen the hybrid modality. In line with the findings, it is evident that the lecturers faced various issues such as poor student engagement and technical issues with devices and facilities. While the classrooms are set up for fully online teaching, they were not set up for hybrid teaching, hence, the online

students felt disconnected from the rest of the class and the lecturer.

The key challenges students faced were the unaffordability of internet, slow broadband speed, and lack of confidence to actively engage in the classes. It is suggested by both the lecturers and students that prior training and support are imperative to improve the current hybrid teaching modality. Hence, the professional development training provided by VC could focus on some essential areas to develop hybrid teaching and learning such as familiarizing lecturers with the use of EdTech tools, the LMS, and other processes involved in hybrid teaching and learning. In addition to this, Villa College could collaborate with the internet service providers to introduce affordable internet packages for both students and lecturers to further facilitate and improve the hybrid teaching experience.

Though few, some students mentioned lack of motivation and boredom. It is important for staff and students to work in partnership to make the curriculum and instruction meaningful and relevant to the students.

Since none of the studies is inclusive of all possible aspects, this study too has some shortcomings which if addressed can improve the research. This research is solely based on CFS, therefore, the findings of this study can only be generalized to some extent, to other faculties of VC or other higher education institutions.

References

Azlifa, M. & Saeed, F. (2021). The challenges to digitalization of schools in the Maldives. *International Journal of Social Research and Innovation*, 5(2), 57-76.

Almaiah, M., Al-Khasawneh, A., & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic. *Education and Information Technologies*, *25*(6), 5261-5280. https://doi.org/10.1007/s10639-020-10219-y

Bergmann, J., & Sams, A. (2014). Flipped learning: Maximizing face time. *Training & Development, 68*(2), 28-31.

Bonderud, D. (2021). What Role will Hybrid Learning Play in the Future of K-12 Education? Edtech Magazine [online] 10 February. https://edtechmagazine.com/k12/taxonomy/term/12206

Budu, K., Yinping, M. & Mireku, K. (2018). Investigating the effect of behavioral intention on E-learning systems usage: Empirical study on tertiary education institutions in Ghana. *Mediterranean Journal of Social Sciences*, 9(3), pp.201-216.

Bülow, M. (2022). Designing synchronous hybrid learning spaces: Challenges and opportunities. *Understanding Teaching-Learning Practice*, 135-163. doi: 10.1007/978-3-030-88520-5_9

Concordia University. (2021). *3 Reasons why Teachers Need to use Technology in the Classroom.* https://www.concordia.edu/blog/3-reasons-why-teachers-need-technology-in-the-classroom.html

Daniels, E. (2017). Curricular Factors in Middle School Teachers' Motivation to Become and Remain Effective. *RMLE Online*, *40*(5), 1-14. doi: 10.1080/19404476.2017.1300854

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.

Davis, F. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*. 13. 319-. 10.2307/249008.

Doghonadze, N., Dolidze, T., & Vasadze, N. (2021). Face-to-Face, Hybrid and Online English as a Foreign Language Learning Efficiency in Higher Education (Georgian and Italian students' views). *Journal of Education in Black Sea Region*, 7(1), 120-143.

Federal Communications Commission (July 18, 2022). Household Guide to Broadband. https://www.fcc.gov/consumers/guides/household-broadband-guide

Frimming, R. E., Bower, G. G. & Choi, C. (2013). Examination of a physical education personal health science course: Face-to-face classroom compared to online hybrid instruction, *Physical Educator*, 70(4), pp. 359–373. https://search.ebscohost.com/login.aspx?direct=true&db=afh&AN=98591090&site=ehost-live

Gonzales, E.B., & Heck, A.J. (2020). *Managing the Chat in Online Teaching: What we can Lear from Live Streamers*. https://www.facultyfocus.com/articles/online-education/online-course-delivery-and-instruction/managing-the-chat-in-online-teaching-what-we-can-learn-from-live-streamers/

Hagenauer, G., Muehlbacher, F., & Ivanova, M. (2022). It's where learning and teaching begins – is this relationship: Insights on the teacher-student relationship at university from the teachers' perspective. *Higher Education*. doi: 10.1007/s10734-022-00867-z

Holden, H., & Rada, R. (2011). Understanding the influence of perceived usability and technology self-efficacy on teachers' technology acceptance. *Journal of Research on Technology in Education*, *43*(4), 343-367. https://doi.org/10.1080/15391523.2011.10782576

Hussain, I. & Shahzad, A.H. (2019). A qualitative study on practices and issues of blended learning in higher education*. Pakistan Journal of Distance & Online Learning* [online]. (1), 189-208.

Joo, Y. J., Park, S., & Lim, E. (2018). Factors influencing preservice teachers' intention to use

technology: TPACK, teacher self-efficacy, and technology acceptance model. *Journal of Educational Technology & Society*, *21*(3), 48–59. http://www.jstor.org/stable/26458506

Kenney, J., & Newcombe, E. (2011). Adopting a Blended Learning Approach: Challenges Encountered and Lesson Learned in an Action Research Study. *Journal of Asynchronous Learning Network*, 15 (1). pp. 5-57. https://files.eric.ed.gov/fulltext/EJ918218.pdf

Klein, A. (2021, November 4). The Number one Reason Students Still Lack Internet at Home: Parents Can't Afford it. https://www.edweek.org/technology/the-number-one-reason-students-still-lack-internet-at-home-parents-cant-afford-it/2021/11

Kim, A. M., Speed, C. J., & Macaulay, J. O. (2019). Barriers and strategies: Implementing active learning in biomedical science lectures. *Biochemistry and Molecular Biology Education, 47(1), 29–40. https://doi.org/10.1002/bmb.21190*

Koob C., Schröpfer K., Coenen M., Kus, S., & Schmidt, N. (2021). Factors influencing study engagement during the COVID-19 pandemic: A cross-sectional study among health and social professions students. https://doi.org/10.1371/journal.pone.0255191.

Li, Y., Duan, Y., Fu, Z., & Alford, P. (2012). An empirical study on behavioural intention to reuse e-learning systems in rural China. *British Journal of Educational Technology*, 43(6), 933–948. https://doi.org/10.1111/j.1467-8535.2011.01261.x

Lorenzi, N., & Riley, R. (2000). Managing Change: An Overview. *Journal of The American Medical Informatics Association*, 7(2), 116-124. https://doi.org/10.1136/jamia.2000.0070116

Lorenzo-Lledó, A., Lledó, A., Gilabert-Cerdá, A. & Lorenzo, G. (2022). The pedagogical model of hybrid teaching: difficulties of university students in the context of Covid-19. *European Journal of Investigation in Health, Psychology and Education.* [online]. 11. pp. 1320- 1332.

Maldives Finest. (2021). Bad News to Dhiraagu and Ooredoo. Starlink Sharing Could Lower Internet Prices. https://maldivesfinest.com/blog/internet-price-starlink-dhiraagu-ooredoo

Martín-Núñez, J., Bravo-Ramos, J., Sastre-Merino, S., Pablo-Lerchundi, I., Caravantes Redondo, A., & Núñez-del-Río, C. (2022). Teaching in secondary education teacher training with a hybrid model: Students' perceptions. *Sustainability*, *14*(6), 3272. doi: 10.3390/su14063272

Maurice, E., Raad, A., & Odhabi, H. (2021). Hybrid learning here to stay! *Frontiers in Education Technology*, *4*(2), p121. https://doi.org/10.22158/fet.v4n2p121

National University. (2022). *Challenges of Distance Learning for Students.* https://www.nu.edu/blog/challenges-of-distance-learning-for-students/

Nebrida, J. & Bangdud, A. (2022). Challenges in hybrid teaching amidst pandemic: The proposed model. *Journal of Engineering Research and Reports.* 22 (9), 51-64. doi:10.9734/JERR/2022/v22i917564

Nizam, A. & Saeed, F. (2021). Teachers' perspective on the impact of online education on students' learning. *International Journal of Social Research and Innovation*, 5(2), 1-16.

Northeastern University. (2022). *The Benefits of Online Learning: 7 Advantages of Online Degrees.* https://www.northeastern.edu/graduate/blog/benefits-of-online-learning/

Okello, L.M. (2021). Students' self-efficacy and challenges to virtual classes: A conceptual integrated model of Rongo University-Kenya during COVID-19 pandemic, *International Journal of Applied Psychology*, Vol. 11 No. 3, 2021, pp. 61-71. doi: 10.5923/j.ijap.20211103.01. http://article.sapub.org/10.5923.j.ijap.20211103.01.html

Pittaway, S., & Moss, T. (2014). "Initially, we were just names on a computer screen": Designing engagement in online teacher education. *Australian Journal of Teacher Education*, 39(7).

Pressley, T., & Ha, C. (2021). Teaching during a Pandemic: United States Teachers' Self-Efficacy During COVID-19. *Teaching and Teacher Education*, *106*, 103465. https://doi.org/10.1016/j.tate.2021.103465

Raes, A. (2022). Exploring student and teacher experiences in hybrid learning environments: Does presence matter? *Postdigital Science and Education,* 4, 138–159. https://doi.org/10.1007/s42438-021-00274-0

Raes, A., Detienne, L., Windey, I., & Depaepe, F. (2019). A systematic literature review on synchronous hybrid learning: gaps identified. *Learning Environments Research*, 23, 269-290

Rasheed, R., Kamsin, A., & Abdullah, N. (2020). Challenges in the online component of blended learning: A systematic review. *Computers & Education*, 144, 103701. https://doi.org/10.1016/j.compedu.2019.103701

Suryaman, M., Cahyono, Y., Muliansyah, D., Bustani, O., Suryani, P., Fahlevi, M., & Munthe, A. P. (2020). COVID-19 pandemic and home online learning system: Does it affect the quality of pharmacy school learning? *Systematic Reviews in Pharmacy*, 11, 524–530.

Szoke, J. (2021a October 28). Challenges of hybrid teaching and how we can overcome them. *Short and simple English.* https://www.shortandsimpleenglish.com/post/challenges-of-hybrid-teaching-and-how-we-can-overcome-them

Szoke, J. (2021b February 26). Practical tips for the hybrid classroom. *World of Better Learning*. https://www.cambridge.org/elt/blog/2021/02/26/practical-tips-hybrid-classroom/

Venkatesh, Viswanath & Davis, Fred. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. Management Science. 46. 186-204. 10.1287/mnsc.46.2.186.11926.

Waring, M. (2022, May 2). Technology's critical role in the Hybrid Learning Experience. TechRadar. Retrieved November 9, 2022, from http://bitly.ws/wvid

Weitze, C. L. (2015). Pedagogical innovation in teacher teams: An organisational learning design model for continuous competence development. In I A. Jefferies, & M. Cubric (Eds.), *Proceedings of 14th European Conference on e-Learning ECEL-2015* (s. 629-638). Reading, UK: Academic Conferences and Publishing International. Proceedings of the European Conference on e-Learning.

Yadav, S. K. & Zubair, S. (2020). Perception of e-learning among medical students of the Maldives National University, Republic of Maldives, during COVID-19 pandemic. Maldives National Journal of Research. 8(1), 106-113.

Yang, Z. & Spitzer, L. (2022). A Case for Hybrid Learning: Using a Hybrid Model to Teach Advanced Academic Reading. *ORTESOL Journa*l, 37, pp.11-22.