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An Investigation on the Demeanour of Online Education to Enhance Its Standard in the Sri Lankan Context

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Abstract

With the advancement of technology, education has been tempted for modifications over the past few decades to alter classroom education, the traditional practices to blended learning pedagogy. The alternation process from traditional education to online education has been a challenge for teachers and learners over two years in Sri Lanka. Although Sri Lankans had to adapt to online education with the current outbreak of COVID-19, there is a void of understanding of the positive and negative impacts generated by this virtual learning pedagogy. Therefore, this quantitative study with 60 participants examines the facets; the advantages and opportunities inaugurated by online education, the challenges faced by students in the virtual classroom environment and the recommendations to reduce those difficulties and means to enhance the standard of online education in Sri Lanka. Hence, a questionnaire comprising 16 close-ended and one open-ended question was administered with participants and the collected data was analyzed using graphs and charts. According to the findings, online education paves the way for continuing education during the COVID-19 restriction period by utilizing

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other learning sources to optimize the learning process, learner autonomy, student-centred approach, flexibility, and creativity. On the contrary, the study highlighted several negative facets of online education, including less comfort, connection issues, technical errors, lack of facilities, unavailability of LMS and the damage caused to students' psychology due to the workload and lack of companionship. Therefore, Sri Lankan education institutions should adopt the recommendations elaborated through the study – innovations and creative learning pedagogy with well-facilitated learners and teachers, for enhancing students' learning potentials as new technology for learning becomes a trending scenario worldwide.

Keywords: COVID-19, online education, online learning, virtual classrooms

Introduction

Education: the strategical process which encompasses both practicalities to the authentic world wisdom and theoretical knowledge gained by institutions, teachers and books paves the path for the literacy of individuals. Smith (2021) emphasizes education as an approach which seeks people to navigate accuracy and feasibility, allocating time for them to come across. Correspondingly, each person in contemporary society is persuaded to be involved in academia, even to a certain extent, as education is a key component in moulding one's present and future.

With the advancement of technology, education has been tempted for modifications over the past few decades to alter classroom education, the traditional practice of every institution, to blended learning pedagogy. The renovation to this blended learning enabled the students to continue their studies while staying miles away from their institutions and at any time of the day without being trapped in a heavily scheduled timetable experiencing extensively in the online education system. Online education can be defined as Internet-based learning and teaching practices in synchronous and asynchronous atmospheres utilizing digital devices such as mobile phones, laptops, desktops, and other necessary equipment (Singh & Thurman, 2019). Though synchronous learning experience grants real-time lectures and feedback, asynchronous learning experience provides previously recorded lectures, and videos, increasing the waiting period for feedback from the tutors (Littlefield, 2018).

Due to the prevailing pandemic, all fields are encouraged to continue their daily chores online as the world is affected by COVID-19. Similarly, every academic institution has chosen online education over conventional teaching methods adapting themselves to the restrictions put on by the governments to avoid the spread of the virus. However, this pandemic triggered the need to advance online teaching methodologies, which had been researched for a more extended period but had not been harbingered as a worldwide practice. According to the findings of UNESCO (2020), more than 1 billion and 575 million students in 188 countries worldwide are affected by this current pandemic. Therefore, as the only alteration, students and teachers had to involve themselves in online education even though they are experienced or inexperienced in blended learning pedagogy.

In response to this worldwide new trend, Sri Lanka also made a significant modification in the traditional education system of the country from 12 March 2020 with the beginning of the COVID-19 restriction period (Hayashi et al., 2020). Regardless of the education stage, all the primary, secondary and tertiary level students were asked to participate in their synchronous and asynchronous learning processes using digital devices. Although "15 state universities and about 40 other state and nonstate tertiary education institutions" possessed "existing Moodle-based learning management systems under university Web servers", primary and secondary schools had to adjust themselves to the necessity overnight (Hayashi et al., 2020, p.2). With the continuous alternation process, Sri Lankan higher education institutions and schools tended to utilize Zoom in a broader range and other video conferencing platforms, including Microsoft Teams, Google Meet, Canvas, Moodle, Skype for business, Adobe Connect inculcating Gmail, Electronic-mail, WhatsApp, and other platforms for communication purposes. In addition, Sri Lankans moved to commence an exploratory asynchronous learning system through primarily used social media platforms-Facebook and YouTube to advance the online education of students with minimum technological facilities. Thus, this new teaching and learning methodology granted Sri Lankan students the ability to enrol themselves into extra online courses from world class universities to brush up their professionalism surpassing all the geographical barriers.

Statement of the Research Problem

The alternation process from traditional education to online education has been a challenge for teachers and learners over two years in Sri Lanka. Although Sri Lankans had to adapt to online education with the current outbreak of COVID-19, there is a void of understanding of the positive and negative impacts generated by this virtual learning pedagogy.

Objectives of the Study

This study examines the facets; the advantages and new opportunities inaugurated by online education, the difficulties, challenges, and disadvantages faced by teachers and students in the virtual classroom environment and the recommendations to reduce the challenges and difficulties faced by the users and ways and means which can be taken to enhance the standard of online education.

Research Questions

1. What are the advantages and new opportunities inaugurated by online education?
2. What are the difficulties, challenges and disadvantages teachers and students face in virtual classrooms?
3. What are the recommendations to reduce the users' challenges and difficulties, and what ways and means can be taken to enhance the standard of online education in Sri Lanka?

Materials And Methods

Research design and the sample

A quantitative approach was employed in conducting the study to achieve a broader understanding of the issue while answering the research questions. Furthermore, the study is conducted with the participation of 60 random students waiting for the university entrance. Furthermore, all the selected participants have completed their (G.C.E.) Advanced Level Examination preparations using online education in 2020. The chosen participants had the experience of learning via Zoom, Google Meet and Microsoft Teams. Moreover, the students in the sample ranged between 20 to 21, and their First Language (L1) was Sinhala.

Data Collection Tools and Data Analysis

A questionnaire comprised of 16 close-ended questions and one open-ended question was administered to the participants as a Google Form. The questionnaire, which consisted of three sections, aimed to determine the advantages, challenges, and recommendations to reduce the challenges and difficulties faced by online education users. As the data analysis method, students' answers to the questionnaire were presented using pie charts and graphs.

Ethical considerations

The students' consent was obtained using a Google Form. According to Byrne (2001), gaining informed consent is an essential part of all research endeavours that involve human participants to protect the human rights of the research participants. Moreover, the risk to participants in the study was nominal because the themes reviewed in the interview were improbable to cause negative responses post-interview (Van Esch, 2013).

Results

The focus of the present section is the analysis of the data to answer the research questions.

Advantages and Opportunities of Online Education

Certain advantages and opportunities could be discovered based on the participants' responses. According to the results in Figure 3.1, 76.7% of the participants agreed that online education is very important in this pandemic, while only 20% of the students revealed that online education is essential. In contrast, the rest of the students argued it to be moderately important. These presented results analyze that most students benefit from this distance learning methodology during the outbreak of COVID-19.

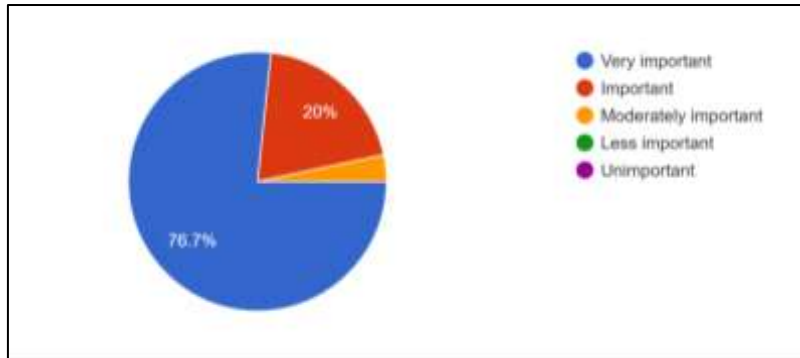


Figure 1 - The importance of online education during the pandemic 11

Moreover, the engaging audio-visual material, PowerPoint presentations, images, and games make the students During this uncertain period, online tools, including audio, videos and text messages which communicate with students promote the lacking human bonds and enhance the cooperative and interconnected online classroom environment (Dhawan, 2020). Games and other innovative interactive activities improve learners' creativity compared to the teacher-centred learning approach in physical classrooms. Mukhtar et al. (2020) acknowledge that discussion forums, chat rooms, polls, surveys, quizzes and whiteboards facilitate the communication of teachers and learners effectively and flexibly to share the learning material. In Figure 2, 63.3% of the students approved that an online classroom is a platform which provides more interesting audio-visual material, whereas only 36.7% of the respondents rejected the above idea. Additionally, in Figure 3, 91.7% of the participants expressed that they are provided sufficient online teaching material by their teachers, and only 8.3% of 60 students disagreed with the above statement. Thus, these results showcase that online education is more efficacious in providing visual aids for learners.

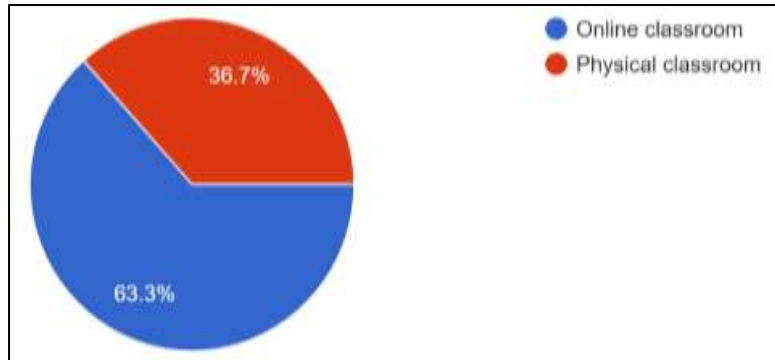


Figure 2- The usage of audio-visual aids in the classroom

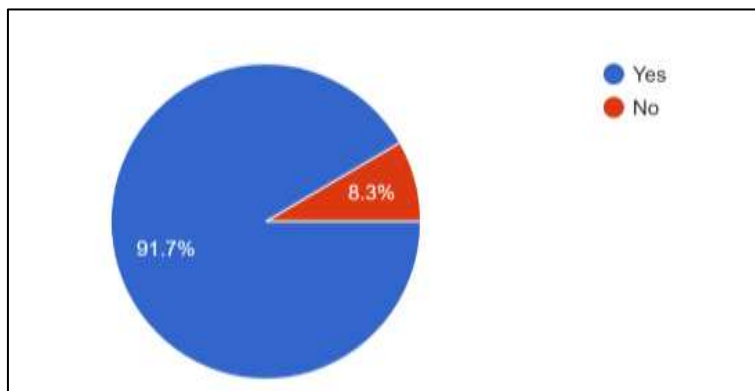


Figure 3- The availability of online learning material provided by the teachers

Though conventional teaching pedagogy depends on the paper-based learning material provided by the teacher, the online education system motivates learner autonomy on a vast scale. As the facilities of asynchronous learning are much developed with the current flow of education, the students have become self-directed learners (Mukhtar et al.,2020). Learners' autonomy has influenced the students to research more on their subjects rather than being marginalized to the theoretical knowledge they ought to learn. This process stimulates students' capability, enriching them with vast background knowledge of their learning content. Furthermore, students' contribution to their learning process promotes learning rather than narrowing down teaching content and provides sufficient learning prospects for the learners to engage in their online education more successfully. According to the responses in Figure 3.4, 95% of the total participants navigate extra learning sources such as Google and YouTube to participate more actively in their virtual classes, while on the contrary, only 5% of the responses deny the above statement. Regarding

the responses, it can be concluded that online learning pedagogy involves learner autonomy much more effectively than the traditional classroom environment, where most students are not encouraged to use the Internet.

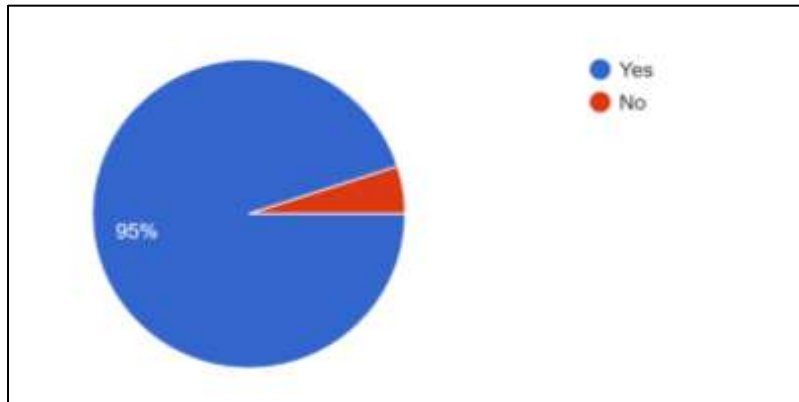


Figure.4 – The usage of other learning sources in online education

Student-centeredness can be highlighted as one of the main advantages of online education, and it enhances the flexibility of the learning pedagogy. Goode et al. (2007) emphasize that Information and Communication Technology based modern teaching philosophies shed light on more open teaching methods improving students' flexibility, independence, and self-determination to be responsible for their learning. The students' learning potentials are maximized with flexible education as they can organize their agenda more efficiently to complete an online course using face-to-face interactions with their teachers in their flipped classrooms (Dhawan, 2020). Due to the student-centred approach and the courses designed with more flexibility, the students are more comfortable and relaxed in the virtual classroom environment rather than being captives of a heavily scheduled timetable of physical classes. When considering the results of the online survey, which is illustrated in Figure 5, 90% of the participants admitted that they are comfortable with the online learning pedagogy as it motivates them to be independent learners with self-studies and as it saves their time without wasting it for transportation and other delays. However, 10% of the respondents felt comfortable with the traditional teaching pedagogy. Elaborating on the majority's response, it is evident that the virtual classrooms are enriched with a student-centred approach and flexibility of learning

schedule creating advantages and opportunities for the learners in this challenging time.

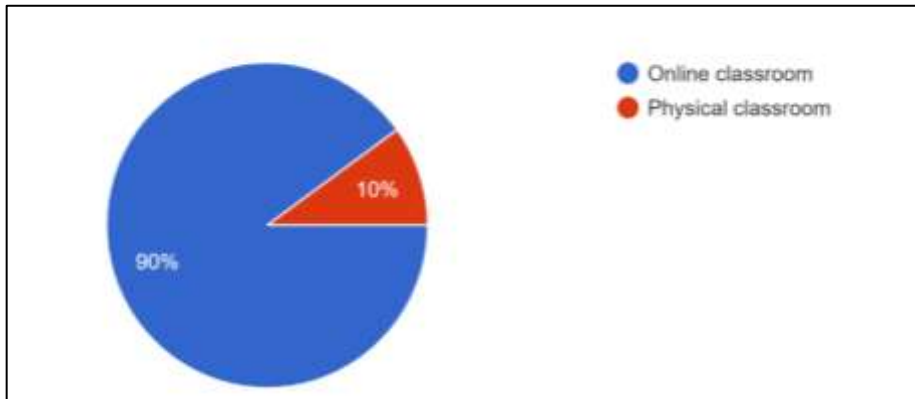


Figure 5 – Time management and the student-centeredness in the classroom

The Difficulties, challenges, and Disadvantages of Online Education

Although online education offers students numerous opportunities and advantages, several challenges, difficulties, and disadvantages could be found through the online questionnaire. The lack of enough facilities to participate in the online learning process more efficiently was demonstrated in the study as a critical challenge. Because Sri Lanka is still a developing country, all the primary, secondary and tertiary students are not provided with laptops to continue online education. According to Hayashi et al. (2020), utilizing smartphones as the alternative source of more advanced technologies for a more extended period proved to damage students' physical and mental health as a consequence of the less availability of facilities to approach the learning materials, complete quizzes and written assignments through the narrowed down screen of mobile phones. According to Figure 6, most respondents use mobile phones to participate in their classes frequently, while only 41.7% of the students had laptops for learning. Meanwhile, few people declared that they use desktops or other technological devices.

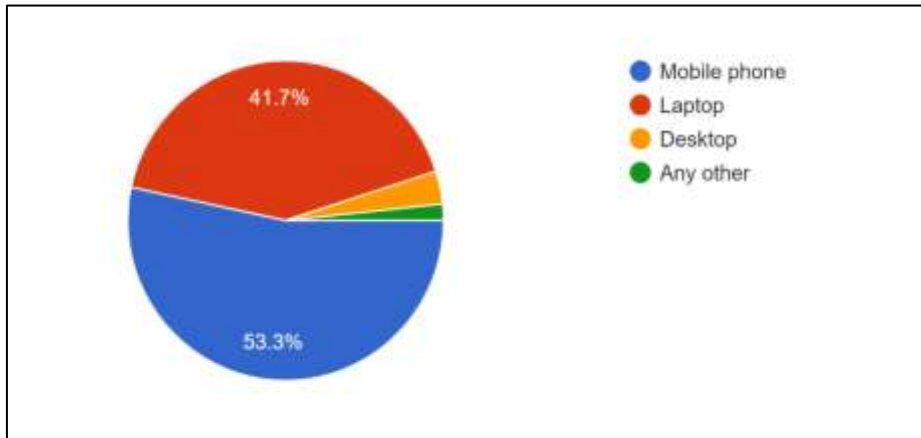


Figure 6- The device divergence in online education

In addition, some of the Sri Lankan students' online education was challenged by their Wi-Fi or mobile data connection. Since the students in rural areas are not provided with a solid mobile connection, their education deteriorates with the rapid alteration process. It negatively impacted the mindsets of the less privileged students as they had to travel for several miles in search of proper mobile connections (Hayashi et al., 2020). Furthermore, the available mobile packages were not affordable for most of the learners, and primary and secondary students were the ones who faced this problem gravely. Most of them did not possess a suitable device for their online classes and faced monetary issues in acquiring new technological devices, while tertiary-level students were one step ahead of the others in this scenario. Figures 7 and 8: the questions based on the connection type (Wi-Fi or mobile data) and the affordability of the mobile packages illustrated that 14.3% of the respondents were not comfortable with the package prices, and 22.4% stated that they could manage it to a certain extent. Thus, these two questions analyze that the lack of facilities in the country is making the condition of the students worse during this challenging time.

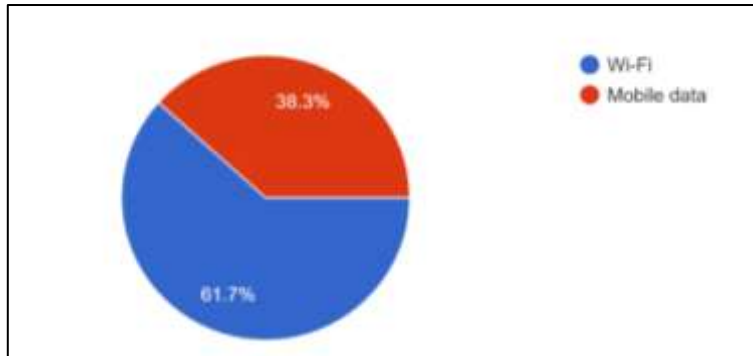


Figure 7 – The type of connection used in online education

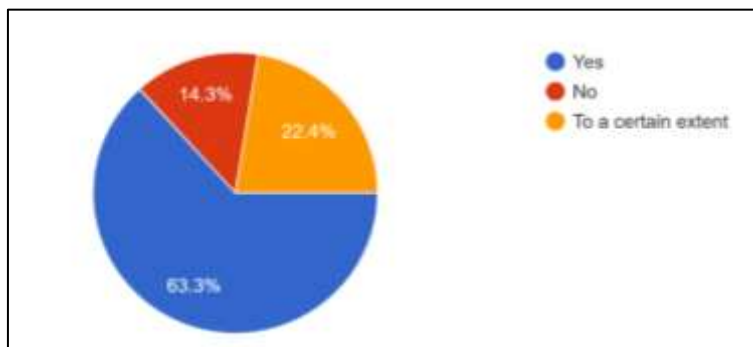


Figure 8 – The affordability of mobile packages

Further, observing the factors related to online education, the lack of prior experience in the online pedagogy of both teachers and students was one of the main difficulties that caused the lack of online education standards—completing well-designed online assessments with more credibility, just as the assignments in the traditional classroom were more difficult for the students due to their lack of technical experience (Hayashi et al., 2020). Moreover, teachers were also challenged with the modernized learning pedagogy with the unplanned rapid shift. They also had no prior experience engaging in their primary, secondary and tertiary classes through Web-based technology. The lack of experience and proper training delayed the progress of online classes, and it hugely affected the knowledge absorption of the students in every learning stage. According to Figure 9, 76.7% of the participants had no experience with online education before the outbreak of COVID-19, while 63.3% of the respondents agreed that teachers are not well-trained to conduct

virtual classes. Hence, these two factors can be demonstrated as primary causes of degrade the online education system in the country.

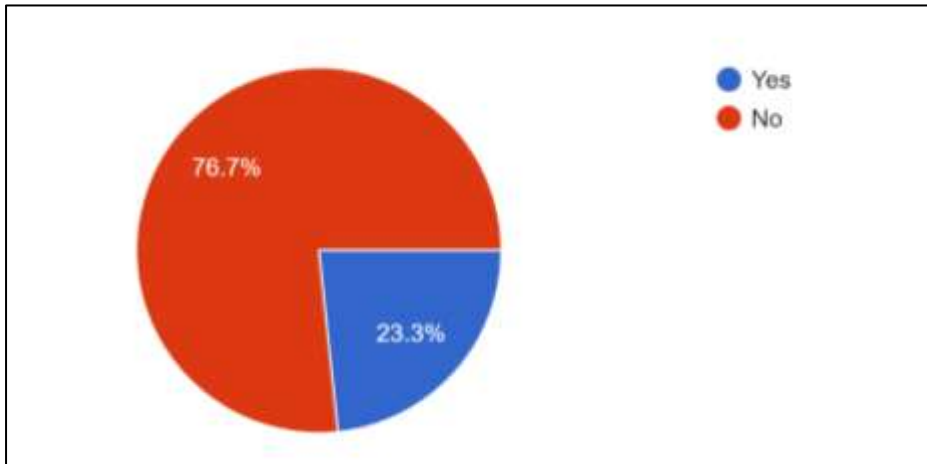


Figure 9- The experience of students in online education before COVID-19

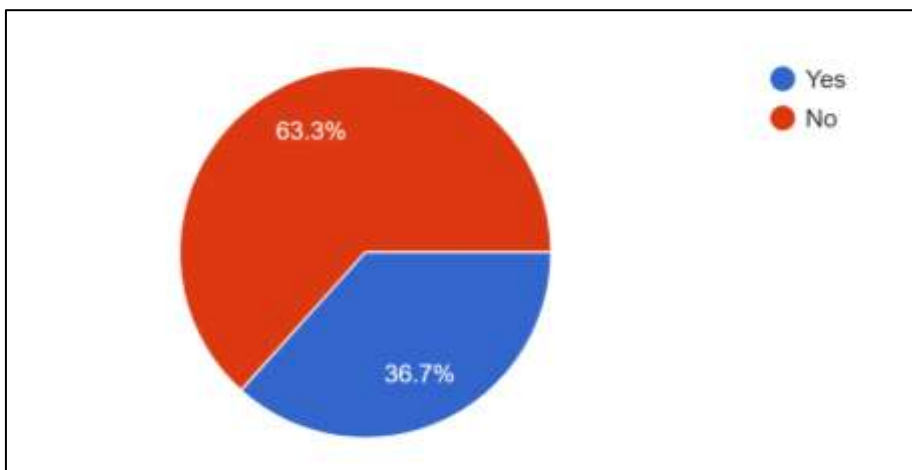


Figure 10- The experience of teachers in online teaching

Despite the abovementioned issues, the challenges inculcated with technology also make it more difficult for students to access their virtual classes easily. According to Dhawan (2020), modern technology causes downloading errors, login problems, audio and video problems, and installation issues. As presented in Figure 11, 58.3% of the respondents demonstrated that they faced errors while downloading, and 41% of the participants had issues with installation processes. 65% of the participating students had experienced login

problems login errors while utilizing Learning Management Systems and virtual classes. Further, 68.3% agreed that they faced issues associated with audio and videos in online classrooms.

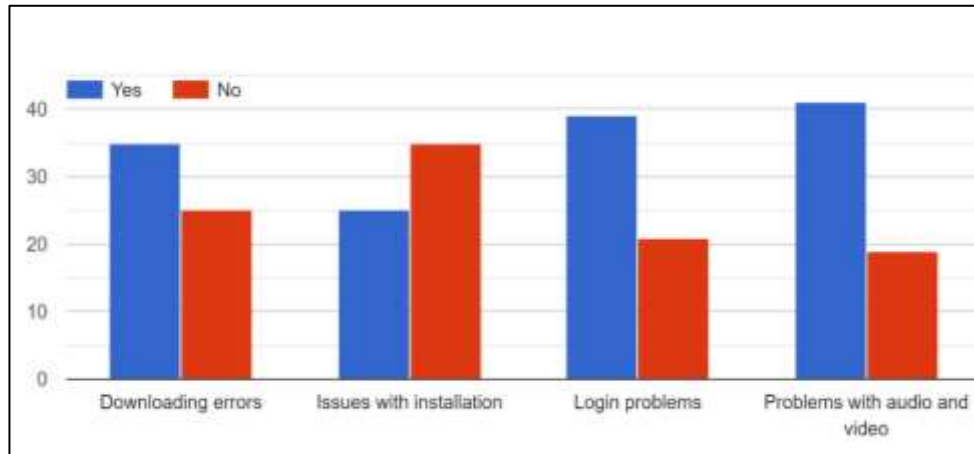


Figure 11 – Technical issues in online education

Though physical classrooms are composed of strong interpersonal relationships, virtual classrooms do not promote human bonds much. This is caused by minimized direct communication and the lack of human touch (Dhawan, 2020). Rather than providing only theoretical knowledge, the educational institution's mission is to allocate space to develop social interactions, teamwork, personality management and personality development, know about others, taking part in extracurricular activities (Hayashi et al., 2020). Figure 12 illustrates that 83.3% of the responses are partial to physical classes, while only 16.7% interpret that online classroom promotes interpersonal relationships. Studying this facet more and more, it is clearly visible that lack of communication discourages students from speaking freely and answering the teachers' questions as they are uncomfortable in that environment. According to Figure 13, 55% of the participants state that they feel motivated to speak in the physical classroom, whereas 45% of the respondents argued it to be an online classroom. Thus, the below representation depicts that online classroom is more challenging though the learners and teachers can use face-to-face interactions.

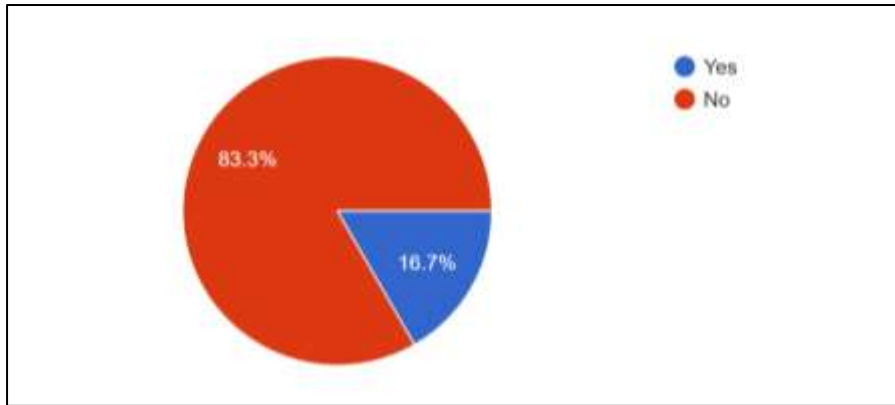


Figure 12 – The level of inter-personal relationships in online education

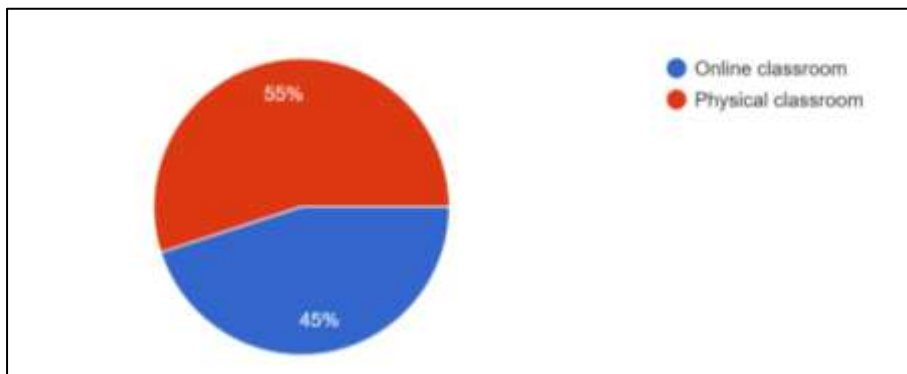


Figure 13 – The level of confidence and motivation of students in the classrooms

Correspondingly, the conditions related to the students' psychology should also be considered while conducting online classes. According to Figure 14, 51.7% of the results demonstrate that they are distracted from the lessons. Moreover, 10% of the respondents stated that their privacy was threatened due to online education meanwhile, 16.7% supported the idea that they were heavily stressed and frustrated because of over-usage of technological devices and facing high anxiety levels. Furthermore, it is spotted that the students are less engaged because of boredom (Dhawan, 2020). Monotony in virtual classes augments the boredom of both teachers and learners, decreasing the effectiveness of the online learning pedagogy. Thus, according to the findings, online education is more monotonous than conventional learning pedagogy.

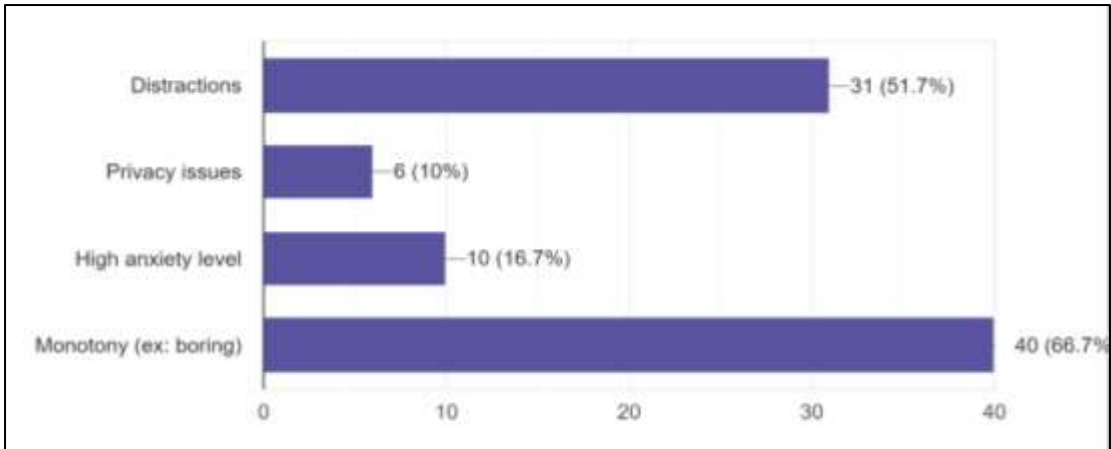


Figure 14- The difficulties face in online learning.

Further, the lack of a Learning Management System (LMS), which is used to upload lesson material, and supplementary material and to maintain students' records, was identified in the responses. Figure 3.15 depicts that 33.3% of the respondents do not clearly identify the efficacy of a Learning Management System (LMS) in online education as their institutions do not utilize or do not possess Learning Management Systems.

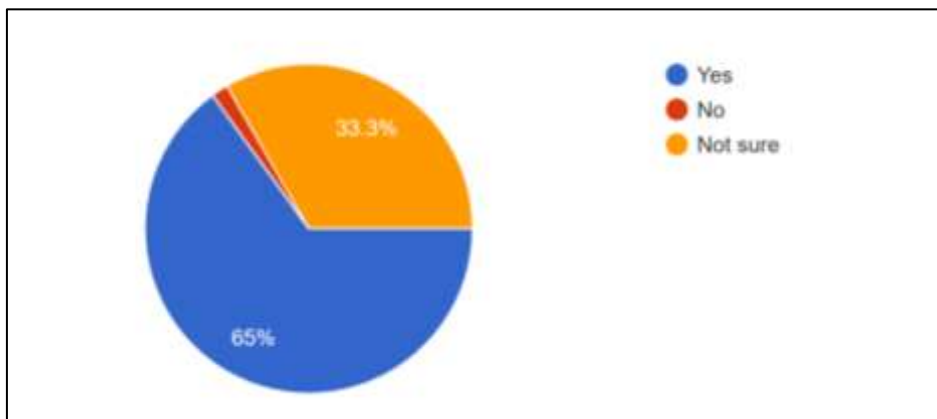


Figure 15 - The effectiveness of a Learning Management System (LMS) in online learning

Recommendations to reduce the challenges and steps to enhance the standard of Online Education

Considering the recommendations provided by the participants, it is evident that most of them require solutions for connection issues. Even though it is mentioned that all internet service providers in Sri Lanka granted free

access to university web servers during COVID-19, 12 participants requested a more stable connection all around the country (Hayashi et al., 2020).

"Improving connection quality is the best suggestion."

In addition, Participant Q requested a stable free Wi-Fi connection for all the country's rural areas as it will reduce the number of students who are not privileged to attend online classes due to the unavailability of a stable connection.

"Give free Wi-Fi facility for rural areas."

Additionally, the participants' responses included suggestions to minimize the digital divide in the country. As the lack of digital devices lessens the students' learning potential in online education, Participant O presented the thought of distributing technical devices to the students and teachers who are with necessary.

"Government can give technical devices for all students and teachers who need them."

Furthermore, Participant X commented that the students should be supplied with facilities to take hard copies of their learning material during the lockdown period to reduce the period they are staring at the screen of mobile phones or computers. Due to financial restrictions and COVID-19 restrictions, they cannot find enough facilities. Hence the government or the institutions should take steps to facilitate the learners with printed learning material.

"Better if there are facilities to take printed documents, especially question papers, because it is hard to write tests looking at the screen for a long time."

As for the cause of the lack of preparation, participants suggested implementing a programme to inform the tutors and learners about modern technology. The opinion of Participant L is as follows.

"Providing both students and teachers enough computer literacy."

Though there are enough facilities-"Gmail, Google forms, Calendars, G-Drive, Google Hangouts, Google Jam Board and Drawings, Google Classroom and Open Board Software", to make online education more

engaging, the usage of these facilities are ignored due to the lack of knowledge of Information and Communication Technology (Dhawan, 2020, p 8). Improving computer literacy in each part of education can be identified as a must. To continue education in the country, teachers should be well-organized to adapt themselves to the prevailing situation engaging the key solution; planning. Even if Plan A fails, plan B should make it through the difficulties (Dhawan, 2020). By promoting teacher proficiency development, the standard of online education would be maximized.

Observing the recommendations, it can be identified that the lack of interactions in the virtual classes had affected the student's learning potential. The suggestions included several ideas to improvise the variety in the monotonous online learning pedagogy. Participant 1 and Participant 2 commented on their ideas on interactive methods as follows.

"1. Using games and fun learning activities and visualizations

2. Using a variety of activities

3. Using group work."

"Innovative methods, group activities, breakout rooms, and interactive activities should be augmented".

Employing interactions such as the above recommendations would increase the learning potentials of the learners as it promotes significant concepts, including remote learning as well as a student-centred approach, and it would minimize distractions in a virtual classroom environment.

Additionally, few participants shed light on the facet of face-to-face interactions. They requested to switch on the cameras of all the participants to conduct the classes through video technology. Participant E presented his idea as follows.

"It is better if the teacher and students connect through video technology during the class."

The education institutions were closed for almost 2 years due to the health restrictions in the country. Hence, the encounter between the students and the teachers are not optimized in the COVID-19 period. Suppose there is opportunity to have direct communication with their colleagues and the

teachers through video technology. In that case, it will lessen the less comfortable mentality during the online classes and augment the lacking human bonds in the online learning pedagogy. Further, positive reinforcement must be included in online classrooms. As everyone is dealing with a hard time, identifying, and supporting students with various difficulties is necessary. To advance the abovementioned recommendation, Participant D and Participant W enhanced the idea of reforming the courses designed with excessive workloads to implement better physical and psychological conditions for the learners.

"It is better to have some ways for children to be mentally healthy than running for deadlines."

Reducing over-scheduled online class timetables and homework would prevent students from overworking and staring at screens for a longer time and the anxiety generated by the ambiguity of homework and deadlines with limited periods. Furthermore, every institution should optimize their service with a better Learning Management System (LMS) in case of providing learning material, guidelines for exams and assignments, supplementary learning material and lecture recordings to prosper asynchronous learning potentials of the learners. Participant Z suggested this to the stage by commenting, *"A quality LMS with Pdfs"*.

DISCUSSION

Stepping out of conventionalism, the acculturation of learners to online education has taken place in the world for decades through distance learning in blended learning pedagogy. With the alteration process declared due to COVID-19 restrictions, online learning is emerging as a saviour amidst the chaos (Dhawan, 2020). According to the findings in section 3, online education paves the way for continuing education during the COVID-19 restriction period by utilizing other learning sources (Google, YouTube) to optimize the learning process, learner autonomy, student-centred approach, flexibility, and creativity. On the contrary, the study highlights several negative facets of online education, including less comfort, connection issues, technical errors, lack of facilities, unavailability of LMS and the damage caused to students' psychology due to the workload and lack of companionship. Therefore, the findings that emerged in the present study are

congruent with the previous research studies that investigated the process of online learning (Dhawan, 2020: Mukhtar et al., 2020: Hayashi et al., 2020).

Correspondingly, Farris-Berg (2005) emphasized that digital natives appreciate using Internet-based resources in their classes and progressively want to employ technology to learn. According to Blattner and Lomicka (2012), teachers need new strategies and resources to grab students' attention, considering their thinking patterns and socializing behaviours stimulated using the Internet. Therefore, Sri Lankan education institutions should adopt the recommendations elaborated through the findings of the study – innovations and creative learning pedagogy with well-facilitated learners and teachers, for enhancing the learning potentials of students as the use of new technology for learning becomes a trending scenario in every school and university worldwide.

Limitations and future directions

A limitation of the present study was the application of an online questionnaire that might produce confined views. Hence, this limitation might affect the possibility of generalizing the research results. In addition, the current study was conducted only with a sample of 60 participants before joining the Sri Lanka university system. The thoughts and recommendations of the students already studying in university contexts may probably vary from the perceptions and views obtained from the present study.

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