Learner Perspectives of Synchronous and Asynchronous Online Education: A Comparative Study

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Abstract- Synchronous and asynchronous online education came to the forefront as the most used mode of delivery in the education sector during the COVID-19 pandemic from early 2020 onwards. This paper presents the findings of a study conducted with a view of obtaining learner perspectives of both synchronous (real-time) and asynchronous (accessing material anytime) online education when learning English as a second language. The study used a population of tertiary-level engineering technology diploma students learning English at a higher educational institute in Sri Lanka. Data for the study was collected from students' feedback forms, reflective journal entries and essays. The study found that the students preferred a blended mode of online education (synchronous and asynchronous) in order to overcome the shortcomings of synchronous online learning. Furthermore, it was found that flexible learning hours, a stress-free learning environment, use of visuals and videos and easy to understand course material had maintained students' interest in the subject and contributed to their learning. Ninety-eight percent of students agreed that they had improved their level of proficiency in the English language and revealed that asynchronous online learning had increased their motivation to learn the language and made them more independent learners responsible for their own learning.

Index Terms- asynchronous online learning, synchronous online learning, blended method of online learning, student-centered learning

I. INTRODUCTION

As an immediate and timely solution to the temporary closure of the Higher Educational Institutes (HEIs) in Sri Lanka owing to the COVID-19 pandemic, the HEIs abruptly shifted from a face-to-face mode of classroom-based delivery to an online mode of delivery. Online education, as defined by Inch and Jacobs, (2012, p.546, cited in Sun & Chen, 2016) is "all forms of teaching and learning where the learners and teacher are separated geographically and temporally". Although e-learning was previously limited to asynchronous teaching and learning, increase in bandwidth capabilities has led to the growing popularity of synchronous e-learning today. In the research literature, e-learning is also known as "distance education,", "online learning," "blended learning," "computer-based learning" and "web-based learning." As Pappas (2015) defines, in synchronous learning learners virtually log onto a platform (Zoom, Microsoft Teams) in order to participate in real-time classroom discussions, whereas in asynchronous learning, learners have the convenience of accessing materials ubiquitously.

In the wake of the COVID -19 pandemic, the Sri Lankan government made an immediate decision to conduct students' educational activities without interruption under the distance education concept from 31st March 2020 (Gazette Notification 2169/02).This unexpected and unplanned overnight transformation in the mode of delivery brought about a mixed reaction from students, teachers and the general public alike, worldwide, due to concerns such as lack of facilities and devices for online teaching and learning, insufficient Wi-Fi coverage, lack of IT skills among students and teachers and the lack of training for teachers. As an immediate solution, the University Grants Commission (UGC) and the Telecommunication Regulatory Commission of Sri Lanka (TRCSL) agreed with the network providers to provide free access to the university Learning Management System (LMS) for university students. Concurrently, a decision was also made to grant an interest-free laptop loan for undergraduates.

This study was carried out in this backdrop with a view of investigating the issues, challenges, and benefits of both synchronous and asynchronous online teaching and learning from the perspective of the learners and with a view of making recommendations for effective online education. The study will shed light on the benefits and challenges of online learning and provide a cornerstone for policymakers, educators, academia, and teachers in Sri Lanka, in decision making and planning future study courses.

II. LITERATURE REVIEW

Online education became a global discourse with the temporary closure of Higher Education Institutes (HEIs) worldwide, due to the COVID -19 pandemic. Following WHO's declaration of COVID-19 as a health emergency of international concern on March 11, 2020, the HEIs swiftly shifted to an online mode of teaching and learning. This unplanned and abrupt transformation in the mode of teaching and learning led to a plethora of studies on online education. This section brings to light the issues, benefits and challenges of online learning focusing on the pedagogical constraints of online language courses from perspective of language learners.

Along with the other countries, following the outbreak of coronavirus, the HEIs in Sri Lanka too shifted to online education. Free internet access provided to university servers during the lockdown period until 17 August 2020, as reported in Hayashi et al., (2020) was a promising step taken by the government of Sri Lanka to promote online learning in 2019. However, the study notes that poor internet connection tops the list of issues that students face while taking online classes. Further, it was reported that even though 90% of students own a smartphone, just 55% of students in state higher educational institutions and 66% of students in non-state higher educational institutions possess a laptop in Sri Lanka. Similarly, findings of a study conducted by Howshigan and Nadesan in 2021 revealed that "in Sri Lanka, both lecturers and students, especially students from rural areas, are severely affected by poor internet connectivity and other online learning facilities'' (p.51). Additionally, as evident in the study, the online learning mode accounts for mental health problems,

including fear, anxiety, nervousness, boredom, distress, depression, anger etc. In a similar vein, Sudusinghe and Kumara (n.d) conducted an online survey among 253 students who followed compulsory English Language courses via distance learning education in Sri Lanka. Results showed that students in online classes were inclined to skip and postpone assessments and in-class activities.

A study conducted by Al-Qahtani in 2019 studied the effectiveness of virtual classes in enhancing communication skills in Saudi Arabia using online learning and teaching resources, such as chat, whiteboard, breakout rooms, application sharing, synchronized web browsing, and feedback. According to students, online learning is facilitative in many ways including providing a relaxed and comfortable learning environment, improving listening comprehension skills, boosting shy learners' confidence to share their thoughts in class and giving the opportunity to refer to recorded lectures over and over again. Students on the other hand regard technical issues, lack of facial expression and body language as downsides of synchronous learning. In a similar vein, Bukari and Basafar (2019) investigate EFL learners' viewpoint on blended learning in terms of motivation, interaction and learner autonomy by employing 120 female students who were enrolled in an intensive English course at a university in Saudi Arabia. Findings attest to the fact that blended learning was advantageous and interesting and the participants considered it to be more flexible, convenient, and useful in improving confidence. Moreover, the majority of learners perceived that blended learning creates interactive sessions where learners can receive feedback from teachers.

In order to maintain social distancing, all college courses in China were offered completely online across the nation from February 2020. Findings of a study by Lin and Gao (2020) identified that self-control learning is an advantage of the asynchronous online mode of delivery as it enables students to watch the course videos repeatedly. And also, students reported that they were able to concentrate more on learning when they engaged in self-studies. Being distracted by classmates in synchronous online classes or

feeling socially isolated in asynchronous online classes were the shortcomings of both modes of delivery.

In another study, Dahmash (2020) explores the benefits and challenges of blended learning during COVID-19 in Saudi Arabia from the perspective of English as a Foreign Language (EFL) students. Data were collected from 12 students taking a general intensive English course at a Saudi University over six weeks. All participants had 7 weeks of face-to-face teaching, and 7 weeks of virtual synchronous classes. In consonance with the previous research, the findings confirmed that implementing blended learning in English courses benefited EFL students by 1) supporting their writing skills, as the instructor demanded students to write in English in the chat box during virtual classes. And also, it had stimulated learners to search for supplementary materials immediately after class. Further, Damash goes on to explain that virtual classes are economical for learners in terms of both time and expenses. However, the study recommended that synchronous classes should not exceed 25% of the entire time allotted for each English course and that each meeting should not be longer than one hour. The challenges identified included technical issues such as constraints on providing access to a large number of participants, insufficient digital abilities of teachers, intermittent internet connection, and limited resources.

Altunay (2019) also investigated the opinion of 62 students who were following compulsory English language courses via distance education in a public university in Turkey. Results of the questionnaire reveal that students were unsure about the suitability, effectiveness and teachability of distance education and were of the opinion that face-to-face interactive sessions are facilitative for English language learning.

Adnan and Anwar (2020) state that a large majority of students in Pakistan are unable to access the internet due to technical (lack of digital skills, insufficient internet speed) and financial concerns (high cost incurred in regular connectivity). According to Adnan and Anwar, online learning suffers from a lack of engagement with the teacher and a lack of campus socialization which make it difficult for students to complete their group assignments. The study showed that 73 % of students had access to the internet and

71.4 % were digitally literate, thus, the majority of students (78.6%) agreed that traditional classrooms were more effective than online programs.

Similarly, analyzing the perceptions of students at a state university in Turkey, Gazan (2020) concluded that synchronous learning promotes flexibility, classroom interaction and an individual learning pace. However, learners on the other hand encountered technical problems due to poor internet connectivity, a lack of a real-time classroom environment, limited resources and a lack of digital skills.

Along with the other countries, Indonesia too shifted to e-learning in mid-March 2020. In a study conducted to investigate the perceptions of 66 students who were following an English Language Study Program in a college in Indonesia, Agung et al., (2000) mentioned that due to unstable internet connectivity in Indonesia students in rural areas had had to go miles away from their home to a relative's place or a hilltop to connect to the internet and therefore browsing the internet and uploading assignments were beyond the reach of the majority of Indonesian students. The study pointed out that 84.8% of students used low-end mobile phones with limited memory capacity which limited the number of applications that can be installed on the phone at a given time.

As evidenced in Nartiningrum and Nugroho (2020) the challenges and problems faced by Indonesian students in virtual classrooms were investigated using written reflections and semi-structured interviews obtained from 45 EFL students at a private university in Indonesia. The study echoes that unstable network connections, electricity blackouts and lack of interaction and feedback as being major obstacles to online classes.

In another study, Nambir (2020) mentioned that in the wake of COVID-19, the education sector in India underwent a major transformation in the mode of delivery shifting to fully virtual classes. The study mentions that a lack of supportive home environments, motivation and interest to attend online classes, health issues such as eye strain and pain, ear pain, backache, headache etc. and back-to-back sessions, boredom and frustration

make it harder for students to fully engage in online classes. As perceived by students, positive aspects reported are - conducive environment to clarify doubts, possibility of accessing recorded materials repeatedly and flexibility.

Following this line of thought, Zboun and Farrah (2021) examined the standpoint of 114 students who were following two online service English courses at a university in Palestine. According to the findings of the survey, 82 % of students, were dissatisfied with the online classroom and 68 % of students rejected online learning citing that they didn't understand the material well in online classes. Although many studies see technical and connectivity issues as challenges of online learning many studies conjointly attest to the fact that following language courses online promotes learning and develop language skills and other soft skills.

III.METHODOLOGY

The Institute of Technology,University of Moratuwa , Sri Lanka offers a diploma course in Engineering Technology to students with A' level qualifications in the physical science stream. The diploma course is conducted in the English medium. A pre-academic course is therefore offered to all students who register to follow the Diploma courses offered by the Institute with a view of helping them to switch over to English as the medium of instruction. Since the country went into lockdown due to the COVID-19 pandemic a few days prior to the commencement of the pre-academic English course, the Institute decided to offer the course to the students in distance mode. During this time, it was decided to offer the first two levels of the pre-academic English course online, and the course material was initially uploaded to the Institute's website since neither the teachers nor the students were conversant with online platforms such as Moodle, or google classroom. The level three course was also offered asynchronously via the MOODLE platform once the students were familiarized with the use of the platform for accessing the course material.

The research sample for the study consisted of a random sample of 100 students following the National Diploma in Technology course at the Institute of Technology, University of Moratuwa who had followed their pre-academic English course and the semester 1 English course online. The pre-academic English course was conducted on a self-study basis online, while the Semester 1 English course was conducted real-time, online.

Both courses included lessons aimed at developing language proficiency through the four skills of language learning, i.e. listening, speaking, reading and writing plus viewing and representing. (Language arts stressed by the ELA framework of 2014 and the Manitoba Curriculum Framework of Outcomes and Standards - 2009). Cuban's study (2001) also reveals that 83% of what is learned is from the sense of SIGHT and that people generally remember, 10% of what they READ, 20% of what they HEAR, 30% of what they SEE, 50% of what they HEAR and SEE, 70% of what they SAY and 90% of what they SAY as they DO a thing.

The duration of the Pre-academic English course was approximately 08 weeks and the course consisted of an English for specific purposes (ESP) component consisting of science and technology-related reading passages, PowerPoint presentations with voice recordings, vocabulary tasks, grammar lessons and exercises, videos with subtitles for listening and speech practice, and model answers where appropriate. The course was offered asynchronously.

The semester 1 English course was offered synchronously using the MOODLE platform with screen sharing of PowerPoint presentations. The recordings of the sessions were also uploaded at the end of each session. The course comprised reading, writing, speaking, listening, grammar and vocabulary tasks. The lessons included exercises and tasks to be done by the students, model answers and oral and written assignments.

Reflective journal entries and feedback forms submitted by the students regarding the pre- academic English course and data gathered from students' essays about their perceptions of the Semester 1 English course were used for collecting data for the study.

IV.RESULTS

This section analyses the data gathered from students' feedback forms, reflective journal entries and essays.

Figure 4.1 given below shows students' evaluation of their standard of English at the beginning of the Pre-academic course.

As depicted in Figure 4.1 the majority of students who had registered to follow the course were average learners of English.
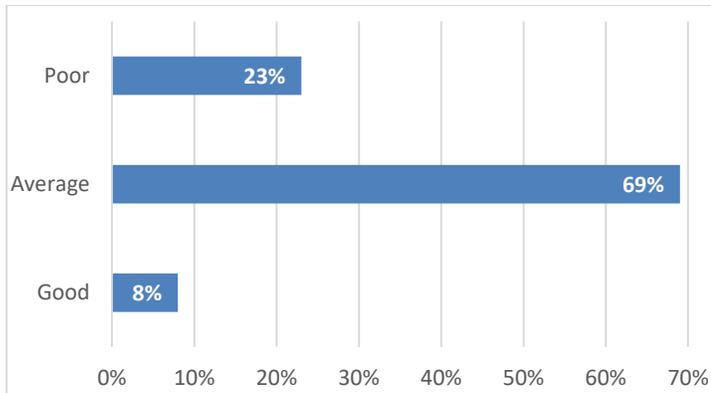

Figure 4.1 Students' Evaluation of their Standard of English

Figure 4.2 below shows students' responses to the question as to whether they had improved their English language proficiency at the end of the Pre-academic course:
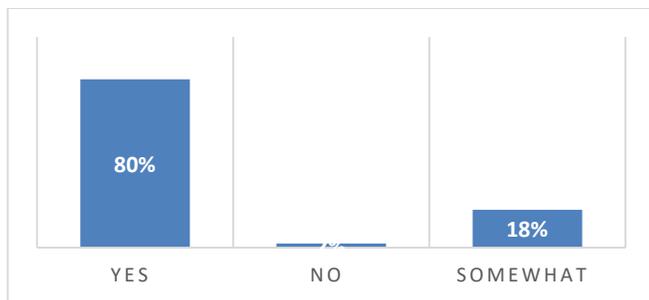

Figure 4.2 Students' Perceptions of their Improvement in the English Language

As depicted in Figure 4.2, more than 80% of students believed that the course had improved their language proficiency and only 2 % of students were of the opinion that the course had little impact on their language proficiency.

Results of the survey conducted revealed that 98% of the students believed that they had improved their English language proficiency at the end of the pre-academic English course which was conducted on a distance and self-study mode (asynchronously) and 97. 29% of students were of the opinion that they would be able to follow their academic programme with confidence after following the English for science and technology (ESP) component of the Pre-academic programme.

Data gathered from feedback forms also revealed that only 67% of students had followed the course using a laptop or a desktop computer and no student had used the Vidatha Resource Centres to follow the course (VRCs are located country-wide, covering 80% of the total number of DS divisions in Sri Lanka to develop IT literacy at grassroots level). It can therefore be assumed that a vast majority of students had access to a laptop or a desktop computer and /or a smartphone and had the opportunity to download the course material despite intermittent internet connection in some areas of the country.

The data gathered from students' essays and reflective journal entries were analyzed under the two categories of synchronous and asynchronous language learning and the results obtained are given below:

Students' perceptions of the asynchronously conducted pre-academic English course:

Students' reflective journal entries about their perceptions of the pre-academic English course which was conducted asynchronously brought forth the following comments.

1. Easy access to materials through website / MOODLE

2. Free data to access Institute's MOODLE platform

3. Convenient – not time / place bound

4. Learner friendly environment (home) / stress-free

5. Lessons presented creatively using new technologies

6. Improved grammar

7. Improved subject -related vocabulary

8. Improved writing skills

9. Improved pronunciation and listening skills

10. Improved speaking skills – role played the dialogues

11. Encouraged us to engage in self–studies (read for more information, used dictionary/Google translator, learned pronunciation using e-dictionaries, made a list of new vocabulary with their meanings in a separate notebook)

12. The model answers made us realize our mistakes

13. Collaborative learning through WhatsApp groups - could discuss with peers.

14. Easy to understand material – simplified with audio recordings and visual illustrations

15. Interesting videos with subtitles were a real help in improving communication skills

16. Videos made learning fun / interesting / enjoyable

17. Narrated PPTs which included lists of technical terms and unfamiliar vocabulary with pronunciation were a real help and were more effective than text only lecture note.

18. If we needed to get something clarified, we were able to connect with the lecturer over the phone or via email and use the WhatsApp group to discuss with our friends. This compensated for the lack of real-time face-to-face interaction in online education.

All in all, the journal entries showed that the students were extremely appreciative of the efforts taken by the Institute to offer them a comprehensive English course which they had enthusiastically followed during the lockdown period in a stress-free atmosphere. The journal entries also revealed that the students had improved all four language skills; reading, writing, speaking, listening as well as vocabulary and pronunciation. According to the students, the course material and the power-point presentations with visual illustrations, graphics and images and voice recordings, and the videos with subtitles that were uploaded for conversation practice had made their learning interesting and enjoyable.

Students' perceptions of the synchronously conducted semester 1 English course:

Listed below are students' perceptions of the synchronously conducted semester 1 English course, as stated in their essays. The course material and the video recordings of the sessions were made available to the students through the MOODLE platform. The recordings of the live sessions were also made available to the students immediately after the lecture, on the Institute's MOODLE Platform.

1. Free access to MOODLE

2. Improved all four language skills; reading, writing, speaking and listening, grammar and vocabulary.

3. Lectures have become more interesting because of creative visual aids and videos.

4. Easy to understand course material and clear instructions

5. New technologies are helping students to gain knowledge and improve their skills.

6. Sitting for long hours, in front of a computer was stressful.

7. Were given the chance to ask questions and interact with the students

8. Since there are a large number of students at a lecture only a few students interacted with the lecturers, but we were able to listen to other students asking questions and clear our doubts.

9. Were able to connect with the lecturers and other learners through phone and email and WhatsApp groups.

10. Many siblings had online classes at the same time. Some have to skip lessons due to lack of computers/phones, but we were able to follow the lectures asynchronously because of the recorded lectures.

Given below are students' views on the uploaded recordings.

1. Recorded lectures are time saving and not affected by power cuts, signal issues, lagging etc.

2. Can watch recorded videos at our convenience so we don't have to stay focused on the computer/ phone for long hours, therefore there are no health issues.

3. Can prepare for exams well by watching the recorded sessions over and over again.

4. Recorded lectures are convenient and stress-free – Not time / place bound. We can learn at our own pace.

5. Sometimes if we had questions regarding a lecture, we were able to clear our doubts by watching the video recordings of the lecture over and over again or by doing some supplementary reading on the internet.

V.DISCUSSION

Similar to Howshigan & Nadeshan (2021), Zboun & Farrah (2021), Agung et al. (2000), Andan &Anwar (2020), Gazan (2020) and Bukari & Basafar (2019), the present study too identified poor internet connectivity and technical issues as being two major obstacles of online learning.

Along the same line as Hashigan & Nadeshan (2021) and Nambir (2020) the study too attests to the fact that online learning had led to various health issues such as eye strain, backache, headache etc. Moreover, in consonance with Qahtani (2019) , Lin & Gao (2020) and Nambir (2020) the study found that the recordings of the synchronously held online sessions that were made available to students had contributed immensely towards their learning and that the students preferred to follow the course asynchronously due to various reasons such as unstable signal strength and poor Wi-Fi coverage, lack of proper e-devices for online learning and learning under stress, having had to be in front of the computer screen for long hours at a stretch.

Additionally, in agreement with Lin & Gao (2020) and Damash (2020) the study highlights the fact that asynchronous online education had promoted student-centred learning and that the students had become more independent learners eager to do supplementary reading online and find information using online reading material and dictionaries.

VI CONCLUSION

This study was conducted with a view of obtaining students' perspectives on both synchronous and asynchronous online learning. Results show that ninety-eight percent of students had improved their level of proficiency in the English language and revealed that asynchronous online learning had increased their motivation to learn the language which had made them more independent learners responsible for their own learning.

The results also bring to light that the students preferred a blended mode of face-to-face online learning with access to video recordings that they could access at any time in order to overcome various difficulties they have had to face when following an online real-time course of study (synchronous).The study concludes that a successful language course can be offered to students online in asynchronous mode if the course material is designed to develop all four language skills of listening, speaking, reading and writing, making use of new technologies and easy to understand course material supported by visual illustrations and video material which can create interest in the students and motivate them to learn the language. The findings of the study will bring important insights to academia, policymakers and educators when planning online language courses.

REFERENCES

[1]Agung, A. S., & Surtikanti, M. W. (2020). Students' perception of online learning during COVID-19 pandemic: A case study on the English students of STKIP Pamane Talino. SOSHUM: Jurnal Sosial dan Humaniora, 10(2), 225-235.https://doi.org/10.31940/soshum.v10i2.1316

[2]Qahtani, M. H. (2019). Teachers' and Students' Perceptions of Virtual Classes and the effectiveness of Virtual Classes in Enhancing Communication Skills. Arab World English Journal, Special Issue: The Dynamics of EFL in Saudi Arabia. 223-240. DOI: https://dx.doi.org/10.24093/awej/efl1.16

[3]Altunay, D. (2019). EFL students' views on distance English language learning in a public university in Turkey. Studies in English Language Teaching, 7(1), 121. https://doi.org/10.22158/selt.v7n1p121

[4]Cuban, L. (2001). Computers in the Classroom, Cambridge, M.A. Harvard University Press. Retrieved from http://www.webpages. uidaho.

[5]Edu.gov.mb.ca. 2021. English Language Arts | Manitoba Education. [online] <https://www.edu.gov.mb.ca/k12/cur/ela/docs/frameworks-ktos1.html> [Accessed 30 December 2021].

[6]Gazan, M. (2020). Synchronous and asynchronous learning: Perceptions of students at a state university in Turkey. Futuristic Implementations of Research in Education (FIRE), 1(2), 96-107.

[7]Hasnan Baber (2020). Determinants of Students' Perceived Learning Outcome and Satisfaction in Online Learning during the Pandemic of COVID19. Journal of Education and e-Learning Research, 7(3): 285-292. https://doi.org/10.5281/zenodo.388161

[8]Lin, X., & Gao, L. (2020). Students' sense of community and perspectives of taking synchronous and asynchronous online courses. Asian Journal of Distance Education, 15(1), 169-179.

[9]Nambiar, D. (2020). The impact of online learning during COVID-19: students' and teachers' perspectives. International Journal of Indian Psychology, 8(2), 783-793. DIP:18.01.094/20200802, DOI:10.25215/0802.094

[10]Sun, A. & Chen, X. (2016). Online education and its effective practice: A research review. Journal of Information Technology Education: Research, 15(1), 157-190.

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