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## A Mixed Method Study of Students' Experiences with Online and Distance Learning During the Covid-19 Pandemic in Malaysia

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### Abstract

Many people have been affected by the pandemic, particularly those in the education sector, which has seen higher education institutions shut down to prevent infection. During the closure, online and distant learning was implemented, and it has been ongoing since 2019. This new approach of disseminating information requires both instructors and learners to conform to the most recent teaching and learning process norm. The purposes of this study were to investigate ESL learners' attitudes toward online learning and the impact of online learning on them. The study's significant contribution could be to help instructors better understand how learners interact in the online classroom so that they can create the most appropriate teaching materials to fit their needs. Understanding their preferred method of learning would lead to increased engagement and improved learning results. Because of the growing importance of online learning management systems, this study could help to improve the quality of university education by studying how learners use it for online learning in their studies. The study adopted the mixed-method research design to survey 152 ESL undergraduates and interview ten of the respondents at a Malaysian public university. The findings revealed that many of the respondents were satisfied with their online language classes and felt at ease conversing in this situation. Many were unsure whether online learning was motivating, and half of them believed that online classes encouraged participation. However, several of the respondents struggled to complete group work since it was difficult for them to get to know one another. When given the option, most of them would prefer to learn in a face-to-face setting. This research would assist instructors in determining the most effective online teaching style and foster better empathy for students who face challenges beyond their control. This study is limited to undergraduate learners at a Malaysian public university. The closure of universities has a substantial impact on all institutions of higher learning. As a result, students all around the world face the same obstacles, but under different circumstances. Future research should focus on understanding

how different higher education institutions in other countries contribute to online learning success. Besides, future research could examine into how learners view online learning during the pandemic and how it affects their ability to adapt and recover from learning setbacks. Instructors may be able to use the findings of this study to better understand students' perspectives and attitudes toward online learning, as well as to solve problems linked to online learning.

**Keywords:** Pandemic, Learning Experience, Perspectives, Mixed-Methodology, Online Learning, Attitudes

### **Introduction**

The coronavirus pandemic, which broke out at the end of 2019, posed one of the most severe threats to the global education system in the previous century. Over 1.6 million individuals enrolled in schools and higher education have all experienced closures to physical mode to learning. During the pandemic, online learning has taken over as the primary mode of instruction. This new dissemination method required both instructors and learners to adjust to the latest teaching and learning process norm. Is this online learning approach effective in educating students?

Before the pandemic, the individual lives of both instructors and their learners were constantly connected. They participated in physical lessons and sessions with their respective instructors. However, many schools, colleges, and higher education had to be closed because of the pandemic, resulting in a paradigm change in online teaching and learning. Due to the closure of educational institutions, instructors and their learners were badly impacted (Mailizar et al., 2020). Many of them were not ready for this significant change that was going to happen in their daily lives because virtual learning could not magically happen overnight, as humans naturally take time to cope with change. With online teaching and learning, one's way of seeking education has been replaced with being flexible. The growing number of learning and teaching alternatives indicates internet technology's flexibility to higher education (Daniel, 2016). Due to this, many educational platforms and institutions have reacted to the pandemic by implementing rapid digital teaching and learning transformations. This study investigated how online learning and teaching affected the higher education sector, with particular attention to how learning online impacted English as a Second Language (ESL) learners.

With the pandemic on the rise, the teaching and learning process has moved on to using laptops, computers, and mobile phones as the medium for learning. Many benefits have been proven by Kim et al (2013); Mehdipour & Zerehkafi (2013) on laptops and mobile phones for learning., one of which was mobile phones being utilised for educational and entertaining purposes. In Japan, you will notice the use of phones by students in most places as it allows them to email friends and browse through websites (Thornton & Houser, 2004). Relating online learning to these significant scenes that seem to be happening globally could be the first step into integrating learning through online mediums, which could inevitably become an alternative norm for the post-pandemic era.

### **Effectiveness of Online Learning for ESL learners**

According to Smart & Cappel (2006), online learning does have benefits for the students. One of their participants in their study stated that using simulations to apply concepts is beneficial

since it allows them to obtain experience in a realistic setting. Apart from that, both instructors and learners benefit from the flexibility and convenience of online learning. The opportunity to view the lessons from any location and at any time, as well as to go through modules at one's own pace (Smart & Cappel, 2006) are among the main benefits of online learning.

Allo (2020) highlighted that ESL learners perceived online learning during the pandemic as good and very helpful as the online learning system assisted them in their studies. Many of these learners are also prepared to operate in an internet-based and paperless environment. When interacting online, ESL learners were engaged in the four phases of engagement: sharing information, discovering the inconsistency of ideas, concepts, or statements, negotiating for meaning and making agreement statements/applying newly constructed meaning (Choo et al., 2014).

In a study by Omar et al (2012), who studied the Facebook as a medium for online discussions between ESL learners, they discovered that students were positive, as Facebook groups created for online discussions are seen as an excellent virtual tool and a platform for encouraging positive interaction among ESL learners. In fact, learners also learn to build stronger bonds and gain more self-assurance as the participants the teacher's role was decentralised.

According to Murugaiah & Thang (2010), interactive and reflective practices are possible in online learning. Through ample opportunity, learners' participation and contribution in online discussions have significantly increased. Learners feel at ease with their peers and teachers through the online environment. The learners also revealed that the online interactions among peers had benefited them in learning the English language. They can practice and learn when they get to connect online. In conclusion, ESL students' interactions with one another may impact their impressions of online learning.

### **Factors Affecting Online Learning in ESL Classrooms**

Expectations of performance, effort, and social influence impact online learning in ESL classrooms (Yunus et al., 2021). Effort expectancy may be used to describe the expected complexity of the technology and the amount of energy required to utilise it. The instructor's professional growth may impact the learners' social influence when adopting online learning. The university administration plays a critical role in ensuring that online knowledge is practical and helpful to the educational process.

Another factor mentioned by Mahmood et al (2014) is that instructors lack experience and expertise in utilising technology. In some educational settings, instructors are forced to use technology without proper training and sufficient time to learn to instil the passion for using it in an ESL classroom. However, lessons do go well if instructors understand how to use the technological tools. Evidently, these external factors may influence students' perception of online learning.

### **Purpose of the Study**

This study presents the issues that ESL students at a Malaysian public institution faced during online learning and its influence on their learning. It responds to the following research

questions: What are ESL learners' attitudes toward online learning, and what are the effects of online learning on them?

The goals of this study are:

- (1) To identify the attitudes of ESL learners in online learning
- (2) To determine the influence of online learning on ESL learners

The study will answer questions pertaining to their satisfaction with online learning, preferred form of learning, communication comfort, perception of online learning, perception of online media, and the influence of online learning on ESL learners.

### **Method**

This research used the mixed methodology design, which comprised quantitative and qualitative methods of collecting data. Mixed methodology is important since it can provide clearer and accurate responses to research problems. The combination of several methods will result in a more comprehensive understanding of the research issues. In our study, a set of questionnaires was used to collect the quantitative research data. According to Mathers et al (1998), questionnaires will be a good option as it is a quick method for data collection if the sample size is large and widely spread. Hence, for this study, a set of questionnaires was constructed for data collection regarding students' perspectives on online learning during the pandemic. An interview session was also used to collect data the qualitative data. Interviews require active listening, note-taking, careful planning, and preparation to avoid wasted opportunities and disappointing results (Hannabuss, 1996).

### **Participants**

The targeted research respondents were 152 ESL undergraduate students from a public university in Malaysia, and ten participants from the data size were chosen voluntarily to be interviewed to gain insights on their perspectives on this issue.

### **Data Collection and Analysis**

For acquiring and collecting data for the study, a set of questionnaires and an interview were used as research instruments. Ten of the 152 respondents were chosen voluntarily from the survey.

The questionnaire consisting of 26 questions was distributed to 152 students taking language proficiency courses at the university where the study was conducted. The questions were a mix of Yes/No, Likert Scale, and open-ended questions. The questionnaire sought information on the participants' satisfactory level of online learning and their issues with online learning. Data was categorised into two major themes: the learners' attitudes in online learning with categories such as their satisfaction with online learning, preferred form of learning, communication comfort, perception of online learning, perception of online media, and the influence of online learning on ESL learners. During the data collection process, a workflow was used to ensure the research aims were met. Planning a flow for data collection would also help have a seamless process. Firstly, the set of questionnaires was distributed to the targeted respondents through an online medium: Google Form to the ESL learners studying at the university. In today's networked world, online survey tools or web-based survey tools have become commonly used instruments for data collection (Raju & Harinarayana, 2016). It

gives an advantage for researchers to collect data in a fast and more uncomplicated way. After the survey had been answered by the participants, interview sessions with ten respondents were conducted through online platforms that were Webex and Google Meet, depending on the respondents' preference. The final procedure was to analyse and interpret the data obtained.

### Validity

Validity is defined as how accurately the research measures what it is meant to measure. It also means evaluating the validity of research by judging how well the study is (Yardley, 2008). To ensure the validity of the items, the questionnaire was given to ten undergraduate students taking language proficiency courses. The results from the pilot study were analysed to prove further that the objectives of this research would be met, and the respondents had no difficulty understanding the intended questions.

### Findings

The data were categorised using thematic analysis into two key themes during the data analysis: learners' attitudes about online learning and the influence of online learning on them.

#### Attitudes of the ESL Learners in Online Learning

The following data depicts the attitudes of ESL learners in online learning.

#### Satisfaction of Online Class

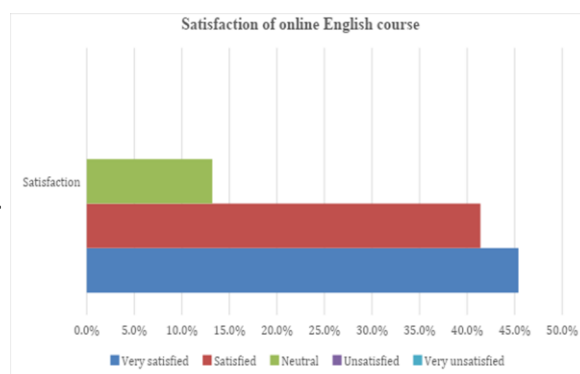


Figure 1. Satisfaction of online English course

Figure 1 shows ESL learners' satisfaction with online language classes attended. 45.4% of the respondents were 'very satisfied,' and 41.4% were 'satisfied' with the online language classes. In addition, one of the respondents, Liz, quoted that "communication between lecturer and students has become easier via online". Another respondent, Tan, said that "more interaction with the lecturer helps improve my discipline and helps me manage my time". In comparison, the rest of the respondents felt neutral about online learning, at 13.2%. Overall, the ESL learners perceived online learning platforms for English courses as satisfactory. This clearly shows that the ESL learners were satisfied learning English online.

### Preferred Mode of Teaching and Learning

**Table 1.** Preferred mode of teaching and learning

Way of Teaching and Learning	Percentage (%)
Face-to-face classroom	63.2
Online classes	36.8

However, it is interesting that most learners preferred to learn via the face-to-face method at 63.2%. An interview with one of the respondents, Pavitira, revealed the following,

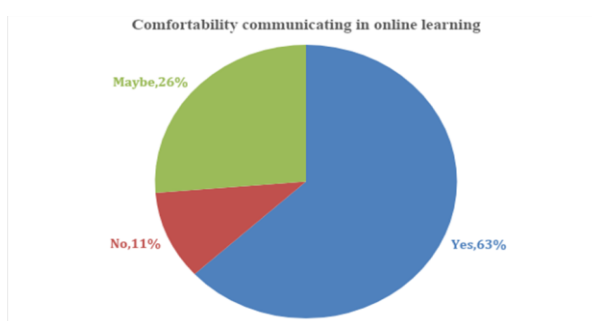
"When it comes to online learning, I can only focus for a certain period. Some teachers can make the class interesting in online classes, but some cannot. So, if it is in a physical class, the teacher would be making jokes or going around, you can walk around, see your friends, the physical touch is there and, and you are more connected in physical classes".

On another note, another respondent, May commented that,

"since there is not much hands-on practice needed for this language classes, taking this class online doesn't affect the quality of the lecture. The class activity such as online scavenger hunts also sparked my interest to learn online".

From the interview, it can be concluded that different students have different attitudes towards online learning. A study by Kemp & Grieve (2014) showed that in completing activities online, students chose to do them face-to-face which corresponded with the result of our findings.

### Learners' Comfortability to Communicate in Online Learning



**Figure 2.** ESL learners' comfortability to communicate in online learning

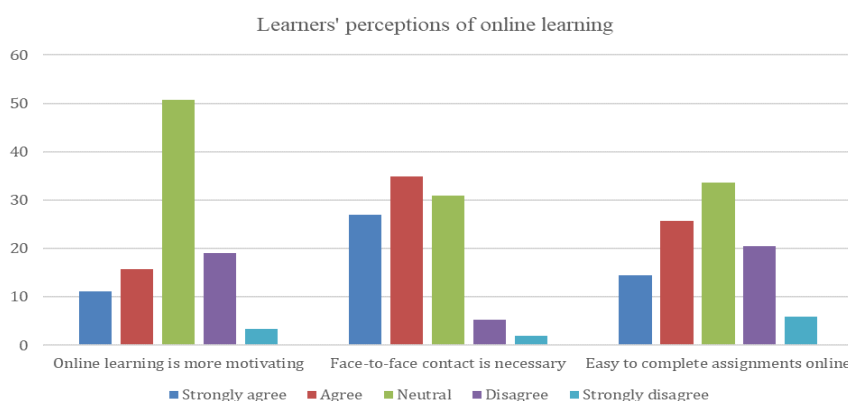
The figure above illustrates ESL learners' comfortability to communicate with their lecturers and their classmates during online learning. 63% of the respondents were comfortable communicating in the online environment.

Our interview findings reveal this preference,

"I am more confident learning online because I can talk without seeing other peoples' faces".

In contrast, 11% of the respondents were uncomfortable communicating online because online learning “makes me more nervous,” said May. Another finding from the interview is that some respondents were shy to speak up and turn their cameras and microphones on during online classes. So, they only typed out their messages in the Chat box provided during the video conferencing platform.

### Learners' Perceptions of Online Learning



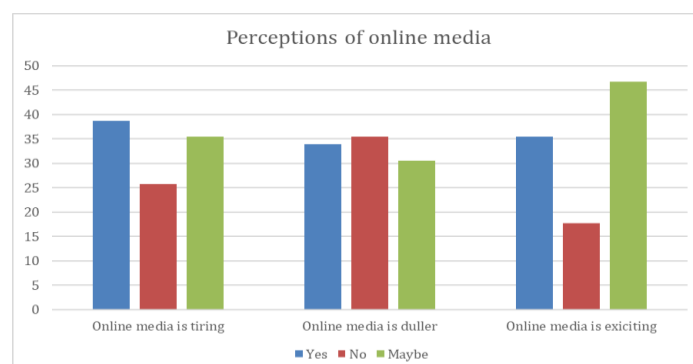
**Figure 3.** ESL learners' perceptions of online learning

Figure 3 presents the ESL learners' perceptions of online learning. The overall response given by the respondents were based on their own experience in online learning. Many of the respondents agreed that face-to-face meetings are necessary for learning. In terms of assignment completion, about 37% of the respondents were positive that it was easier done online, and about 32% felt neutral about this. In addition, half of respondents had neutral feelings whether they thought online learning is more motivating than face-to-face learning. The respondents gave neither a positive nor a negative response because their motivation varies from time to time for online learning. Based on the interview, another respondent commented that,

“I had no choice but to take online classes, so I kept my motivation going. However, I became demotivated during group assignments when everyone did not fully commit.”



## Perceptions of Online Media



**Figure 4.** Perceptions of online media

On the other hand, Figure 4 depicts ESL learners' opinions of internet media. Online media, according to 38.7% of the respondents, was exhausting. "Looking at the screen for extended hours is taxing," Dineshwar said, noting that "online learning can happen for 4 to 6 hours per day." If he was not weary, he would be interested in any sort of internet media. In contrast, 25.8% of the respondents did not find internet media to be exhausting, while 35.5% stated it was monotonous for them. Furthermore, 33.9% indicated that online media is less interesting than classroom content. 35.5%, on the other hand, did not believe that online media is uninteresting. One of the interview participants, Fathnin, expressed the following,

"If a teacher provides a video or slides, we can follow the lessons closely. If they are just talking without giving notes or PowerPoint slides, we cannot follow what they are teaching".

30.6% of those surveyed were not sure if the materials were duller than those used during face-to-face classes. 35.5% of the respondents thought online media was exciting. 17.7% of the respondents, on the other hand, claimed it was not compelling. At 46.8%, the remaining respondents said online materials might be exciting. Learners may be apprehensive about their enthusiasm for online learning because of some of their most difficult problem they faced was internet connectivity, which they do not always have. This could be the primary reason for their scepticism about whether online learning would interest them.

In conclusion, students' attitudes about online learning may be summarised as follows: they prefer face-to-face learning since it is easier to comprehend what was taught. A comparable finding from Paechter and Maier (2010)'s study is that students prefer online learning since it allows for a faster interchange of information, such as receiving feedback on assignments. However, on the other hand, in their study they found that students prefer face-to-face learning to acquire knowledge. Respondents in our study also highlighted the relevance of online learning resources for learners. If they were not provided materials to work with, they were more likely to not understand or have a shorter attention span during the class. Learners believed that visually appealing and easily accessible materials are essential in online learning. This can be supported by a study by Martin and Bolliger (2018), who demonstrate that providing a range of course resources to online students is incredibly beneficial. Ko and Rossen (2010) also suggest utilising a range of educational materials, such as instructional

materials, web resources, book chapters, multimedia resources, and instructional films for online learning to make learning effective for learners

### Influence of Online Learning Towards ESL Learners

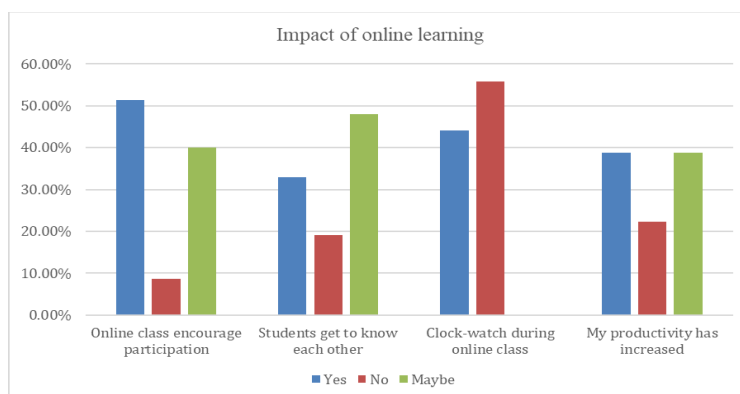


Figure 5. Influence of online learning

ESL students have benefited from online learning in a variety of ways. Figure 5 shows that 51.3 percent of respondents were motivated to engage in additional online classes. Fathnin stated in the interview that she contributed to online learning by asking questions and expressing her ideas. While 8.6% of those polled indicated they were not encouraged to participate, 40.1% said "maybe."

Students were able to learn from each other through online classes, according to 32.9% of the respondents. On the other hand, 19.1% of the respondents stated that they did not know others in the class.

Furthermore, the effectiveness of online learning is determined by whether students keep track of time during their sessions. Clock-watching is defined as being overly concerned about not exceeding one's working hours. 44.1% of the respondents who clock-watched wished for the online course to end early or on time. On the other hand, the remaining 55.9% of the respondents did not keep track of the time in class. In fact, almost half of students were unconcerned about the time allotted for online classes.

The perceptions of the output of ESL students are also examined to see if it has improved. According to the table above, only 38.8% of the respondents felt that their productivity has increased. In contrast, 22.4% of the respondent's productivity has not improved, and 38.8% did not feel any difference.

This study was able to collect data demonstrating that ESL students were more interested about online learning. The internet has influenced them in a variety of ways. For starters, in online classes, some students are less hesitant to speak up than in regular classrooms. Second, online conversation, according to Clark (2003), can be more democratic than face-to-face discussion. Even the shy, less orally competent, soft-spoken, and perhaps more thoughtful or slower responders have equal access to having their views shown or "heard" in the online forum.

According to the findings of this study, the chat box function on online platforms has provided these pupils more confidence in expressing their thoughts and opinions. Bakar, Latiff, and Hamat (2013) found that ESL students' shyness has decreased, and their confidence has increased because of online learning. At the same time, in a real-life classroom, learners are shy because everyone is focused on speaking. With online platforms, ESL learners were seen to be more confident. A small percentage of respondents, on the other hand, kept an eye on the clock in the hope that the online session would end on time. This could be due to the fact that online students' attention spans were shorter than in regular classrooms.

### **Discussions and Conclusion**

The study's objectives were mostly met based on the data collected. The study's first question is: What are ESL students' thoughts on online education? It is possible that ESL students prefer face-to-face education to online learning. Face-to-face classes are their preferred method of instruction, notwithstanding their favourable views of online learning. This is because the speaker is much simpler to comprehend, and the ties between students and teachers and, students and students are much stronger. They also believe that having additional online learning resources will help them learn more effectively. Students prefer to use a variety of tools in class because it keeps them engaged and attentive. "How does online learning effect ESL learners?" is the study's final research question. Thanks to online learning, ESL students have been effectively inspired to speak up more during class time. As a result, they are far more confident than they were in traditional classes. They have also benefited greatly from video conferencing services with features such as Chat box.

Learners' opinions of online learning differ depending on whether it is provided face-to-face or online, according to the findings. Face-to-face learning is preferred by some since it is easier to comprehend. However, because online learning is more flexible than face-to-face learning, some people prefer it. Despite this, learners' attitudes on online learning may be unimportant because they had never encountered it in an undergraduate classroom prior to Covid-19. Students who were accustomed to online learning before to Covid-19 may have a different viewpoint. Furthermore, if online learning had been implemented long before the pandemic, students could have had a different perspective because they would have been completely comfortable with it.

The spread of Covid-19 has allowed higher education to re-examine educational norms, according to (Rapanta et al., 2021). Educators of all grades and circumstances were obliged to reconsider their roles and methods of assisting students with their learning activities, especially in an emergency remote teaching (ERT) pandemic. Because educators did not have enough time to prepare for such an event, online learning may be complex for both educators and students. In the case of the Covid-19 epidemic, adjusting to the new normal can be difficult for both parties because change takes time.

### **References**

- Allo, M. D. G. (2020). Is online learning good in the midst of the Covid-19 Pandemic? The case of EFL learners. *Jurnal Sinestesia*, 10(1), 1-10.
- Bakar, N. A., Latiff, H., & Hamat, A. (2013). Enhancing ESL learners speaking skills through an asynchronous online discussion forum. *Asian Social Science*, 9(9), 224.

- Choo, L. P., Kaur, G., Fook, C. Y., & Yong, T. C. (2014). Patterns of interaction among ESL students during online collaboration. *Procedia-Social and Behavioral Sciences*, 123, 307-314.
- Clark, T. (2003). Disadvantages of collaborative online discussion and the advantages of sociability, fun and cliques for online learning. *In Proceedings of the 3.1 and 3.3 working groups conference on International federation for information processing: ICT and the teacher of the future*. Volume 23 (pp. 23-25).
- Daniel, J. (2016). Making sense of flexibility as a defining element of online learning. Athabasca University <https://teachonline.ca/tools-trends/exploring-future-education/making-sense-flexibility-defining-element-online-learning>.
- Hannabuss, S. (1996), "Research interviews", *New Library World*, Vol. 97 No. 1129, pp. 22-30.
- Kemp, N., & Grieve, K. (2014). Face-to-face or face-to-screen? Undergraduates' opinions and test performance in classroom vs. online learning. *Frontiers in Psychology*, <https://doi.org/10.3389/fpsyg.2014.01278>
- Kim, D., Rueckert, D., Kim, D. J., & Seo, D. (2013). Students' perceptions and experiences of mobile learning. *Language Learning & Technology*, 17(3), 52-73.
- Ko, S., & Rossen, S. (2010). *Teaching online: A practical guide* (3rd ed.). New York: Routledge.
- Mahmood, F., Halim, H. A., Rajindra, S., & Ghani, M. M. (2014). Factors Affecting Teachers Utilization of Technology in Malaysian ESL Classrooms. *Malaysian Online Journal of Educational Technology*, 2(2), 15-23.
- Mailizar, Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary school mathematics teachers' views on e-learning implementation barriers during the Covid-19 pandemic: The case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education*, 16(7), em1860.
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, 22(1), 205-222.
- Mathers, N. J., Fox, N. J., & Hunn, A. (1998). *Surveys and questionnaires*. NHS Executive, Trent.
- Yunus, M., Ang, W. S., & Hashim, H. (2021). Factors affecting teaching English as a Second Language (TESL) postgraduate students' behavioural intention for online learning during the COVID-19. *Sustainability*, 13(6), 3524; <https://doi.org/10.3390/su13063524>
- Mehdipour, Y., & Zerehkafi, H. (2013). Mobile learning for education: Benefits and challenges. *International Journal of Computational Engineering Research*, 3(6), 93-101.9 pandemic. *Sustainability*, 13(6), 3524.
- Murugaiah, P., & Thang, S. M. (2010). Development of interactive and reflective learning among Malaysian online distant learners: An ESL instructor's experience. *International Review of Research in Open and Distributed Learning*, 11(3), 21-41.
- Omar, H., Embi, M. A., & Yunus, M. M. (2012). ESL learners' interaction in an online discussion via Facebook. *Asian Social Science*, 8(11), 67.
- Paechter, M., & Maier, B. (2010). Online or face-to-face? Students' experiences and preferences in e-learning. *The Internet and higher education*, 13(4), 292-297.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2021). Balancing technology, pedagogy and the new normal: Post-pandemic challenges for higher education. *Postdigital Science and Education*, 3(3), 715-742.
- Smart, K. L., & Cappel, J. J. (2006). Students' perceptions of online learning: A comparative study. *Journal of Information Technology Education Research*, 5(1), 201-219.

- Thornton, P., & Houser, C. (2004, March). Using mobile phones in education. *2nd IEEE International Workshop on Wireless and Mobile Technologies in Education, 2004*. Proceedings. (pp. 3-10). IEEE.
- Raju, V. N., & Harinarayana, N. S. (2016). Online survey tools: A case study of Google Forms. In National Conference on Scientific, Computational & Information. *Research Trends in Engineering, GSSS-IETW, Mysore*.
- Yardley, L. (2008). Demonstrating validity in qualitative psychology. *Qualitative Psychology: A Practical Guide to Research Methods, 2*, 235-251.