The Acceptance of E-Learning as a Tool for Teaching during Covid-19 Pandemic among Teachers, Students and Parents in Malaysia

By

Quirinus Chong Lap Gui

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Project Paper Submitted in Partial Fulfillment of the Requirements for the Degree of Master in Management
Universiti Tun Abdul Razak

June 2022

DECLARATION

I hereby declare that the case study is based on my original work except for quotations and citations that have been duly acknowledged. I also declare it has not been previously or concurrently submitted for any other degree at Universiti Tun Abdul Razak (UNIRAZAK) or other institution.

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Signature :

Name : Quirinus Chong Lap Gui

Date : 23 June 2022

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Abstract of the project paper submitted to the Senate of Universiti Tun Abdul Razak in partial fulfilment of the requirements for the Master in Management.

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The present research proposal aims to identify the challenges and experiences associated with the acceptance of e-learning procedure among parents, teachers, and students. This study will also focus on to establish an idea about the relationship between good or bad experiences of e-learning and its acceptance. The study will also provide in-depth discussion regarding different aspects of e-learning in the new changing environment due to covid-19 outbreak. It is discussed that some of the students have find it interesting while others find it difficult due to lack on interaction and face to face meeting with teachers and peers. Moreover, the adoption of technology for learning has also been a significant challenge for students and teachers. The various research methods have been used in this study such as positivism philosophy, deductive approach, and co-relational data analysis to find out the experiences, acceptances, and challenges of e-learning. A total number of 151 respondents have been taken primarily for the research but with the help of sample size calculation a total number of 109 participants were selected. Research survey questionnaires are going to design based on Section A demographic, Section B Experience, Section C challenges and Section D acceptance of e-learning among teachers, students, and parents.

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TABLE OF CONTENTS

UNIRAZAK
UNIVERSITI TUN ABDUL RAZAK
Copying, modifying, or reprinting, is not permitted.

UNIRAZAK
UNIVERSITI TUN ABDUL RAZAK
Copying, modifying, or reprinting, is not permitted.

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Copying, modifying, or reprinting, is not permitted.

LIST OF FIGURES

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LIST OF TABLES

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CHAPTER 1: INTRODUCTION

1.1. Background of the study

E-learning mainly refers to the process of learning obviously including teachers in an organized way but fully based on the internet as well as computers. It is evident that traditional learning among teachers and parents as well is not accepted in this digital era especially in the pandemic situation. As per the argument of Sadeghi (2019), e-learning mainly creates social distancing as well as isolation leading to a lack of verbal practice of the learned lessons. On the other hand, direct instruction with the instructors is prevented from happening in the e-learning process. However, with the progression of digitalization all over the world as well as having obstacles to move due to pandemic situations, e-learning has become the backbone of learning especially in this particular era.

There are several advantages also associated with the e-learning process that can be a reason for increasing acceptance of e-learning. For instance, it can be said that the most important advantage of e-learning is it helps in saving time as well as money. On the other hand, implementing e-learning processes has become more accepted thus increasing student engagement and retention. As per the views of Soni (2020), applying the process of e-learning mainly provides easy, gradual as well as clear instructions in order to serve better understanding for the learners. As supported by the author in this article, the e-learning method can be considered as the most suitable way, especially for self-learning.

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However, there are several challenges for e-learning also such as lack of suitable learning materials, lack of online teaching skills, lack of support from technical teams, and many more. As per the views of Soni (2020), a proper learning attitude is sometimes lacking during the online learning procedure leading to a sense of challenges. However, despite these challenges e-learning techniques have grown in society especially due to the Covid-19 pandemic situation. Thus, the following research proposal will focus on the advantages as well as challenges of the e-learning methods to deliver proper knowledge in these regards.

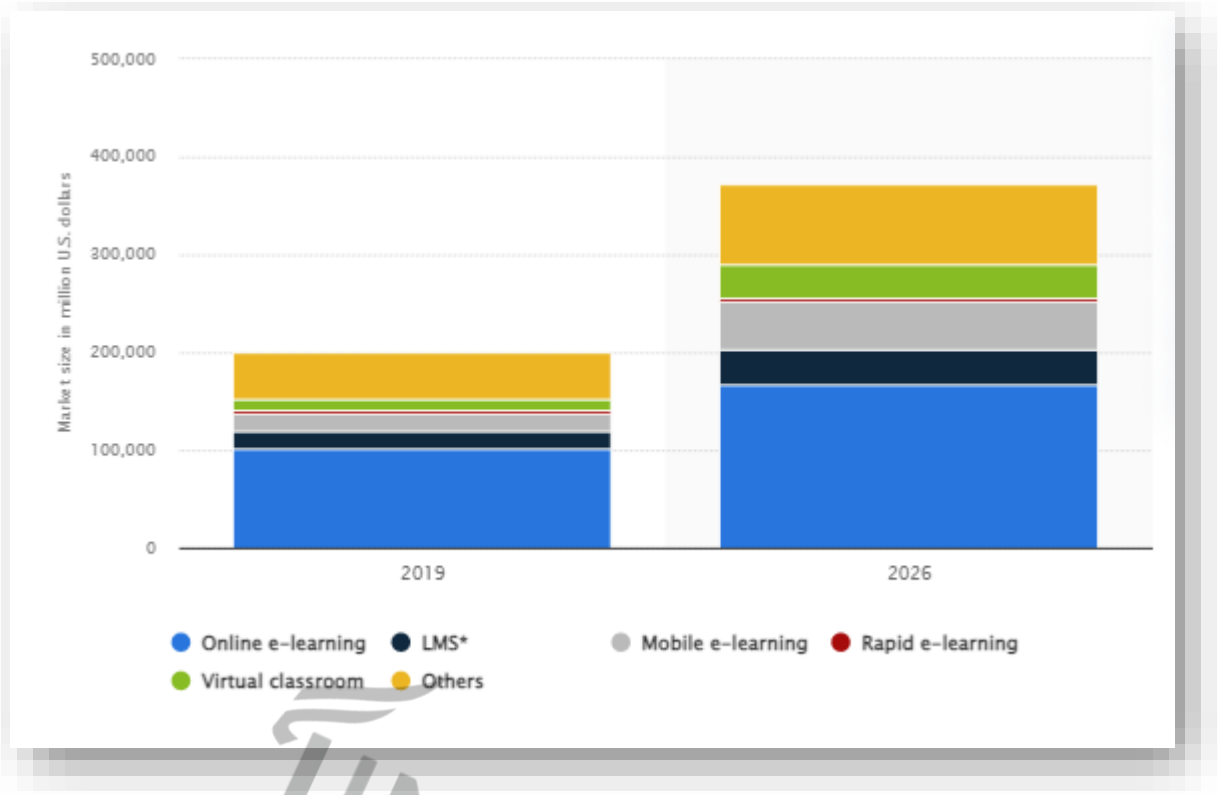

Figure 1: Global e-learning market size

(Source: Statista.com, 2022)

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Based on the above graph it can be said that there is increasing acceptance of r-learning even before the pandemic situation. It is evident from the above graph that globally the online e-learning process has been accepted by most the parents, students as well as teachers. However, it can be anticipated that by 2026 there will be a huge increase in every section of the e-learning procedure in the global context. From this scenario, it can be said that despite challenges e-learning can be accepted by a cluster of people leading to make it more appreciable. The following research proposal mainly helps in delivering this knowledge so that an insight on the e-learning procedure including challenges and opportunities can be established.

In the case of Malaysian students, they are also facing challenges in adopting e-learnings during the Covid-19 pandemics. It can be said that most of the students faced challenges by not having the chance to access hardware as well as software. In the views of Looi (2021), the highest penetration rate of e-learning procedure is in the capital of Malaysia Kuala Lumpur whereas there is the lowest penetration in the state of Kelantan. According to the authors in this article

belonging to a poor family as well as having a lack of access to hardware and software due to residing in the rural areas is being challenged for the students. However, the following research proposal mainly focuses on the factors that create challenges as well as opportunities in order to provide suitable recommendations for the improvement or acceptance of e-learning procedures.

1.2. Problem statement

Today's progressive digital world as well as the intention to use technological advancements in every aspect of life is driving people to adopt the e-learning procedure also. The major issue that forced the transformation from traditional learning to e-learning fully is the sudden outbreak of the Covid-19 pandemic. On the other hand, having restrictions in movement can play a role in enhancing the adaptation of e-learning procedures. As per the views of Sadeghi (2019), the e-learning procedure mainly allows students to access their learning materials on their own so that they can achieve self-learning. However, it can be challenging to arrange hardware as well as software needed for e-learning adaptation among the students.

From the findings of some studies, the major challenges of e-learning can be lack of access to appropriate devices, not having parenting learning support, and many more. As per the views of Pal and Srivastava (2021), the major challenges of e-learning are associated with the internet speed, the ability of participants to engage in the online learning procedure, and many more. It can be said that most of the students faced challenges in e-learning due to the internet issues as it can occur at any time. However, due to the pandemic situation, there is no way except to accept the online learning methods.

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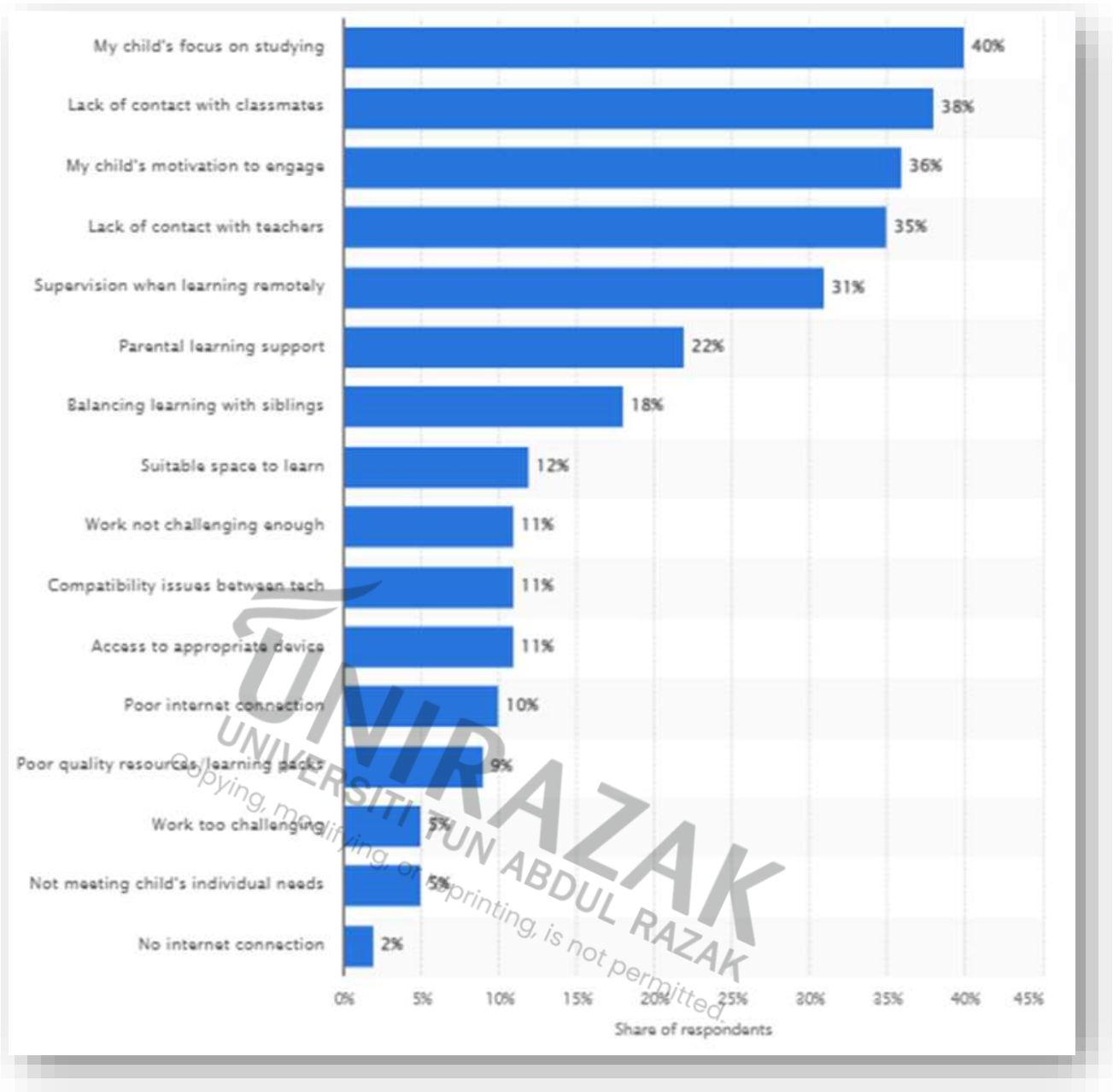

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Figure 2: Different challenges of e-learning faced by students

(Source: Clark, 2021)

Based on the above graph it can be said that most of the students are facing challenges with the lack of internet speed as well as lack of focus on study. However, from several studies, the supportive statements are evident regarding these challenges. Considering an instance, it can be said that in Malaysia there is less penetration of e-learning procedures in the rural areas. According to the support of Looi (2021), students belonging to the rural areas have less access

to the internet as well as e-learning procedures leading to an obstacle to adopting this procedure in an efficient way.

However, some of the authors have argued on the advantages of e-learning procedure that helps in making students more effective as well as active towards their learnings. In the views of Nandedkar (2019), e-learning mainly helps in providing access to the ample variety of courses mainly helps in achieving career goals. According to the author of this article, students are allowed to personalize especially their learning experiences. On the other hand, technology as well as the internet revolution mainly drive the intention to adopt e-learning procedures in an efficient way. However, it is evident that most of the authors have argued or stated about the challenges as well as advantages of e-learning among the students.

There are several impacts of challenges as well as good or bad experiences of e-learning on the parents and teachers. Teachers can also face challenges in making students understand about their lessons or learnings. They can have a lack of skills in communicating with all the students in an efficient way as a sudden transformation needs to be faced by them. In that case, a focus on having concern on the impact of challenges associated with e-learning on the parents will be discussed in this following research proposal.

Moreover, good, or bad experiences have not been discussed in the previous literature leading to the need for this research proposal. The following research proposal will also focus on the experiences that are helpful in accepting e-learning procedures so that the following research proposal can also deliver knowledge of the actual experience of e-learning. On the other hand, the following research proposal also delivers suitable recommendations in order to recover the challenges as well as gain opportunities in e-learning methods. Thus, it can be said that the following research proposal is enough rationale for the improvement of e-learning procedures in Malaysia.

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1.3. Research objectives

- *To identify the challenges and experiences associated with the acceptance of e-learning procedures among parents, teachers, and students*

It is important to establish a sense of the challenges as well as experiences of students in e-learning facilities. It can play an important role in delivering the importance of adopting e-

learning in a more efficient way. On the other hand, having experiences about the challenges in accepting this digitized facility among teachers and parents also, suitable recommendations can be delivered to the future students and teachers. It can also be helpful in making them more efficient in adopting this facility.

- *To recognize the relationship between challenges and the acceptance of e-learning*

Having knowledge about the relationship between e-learning challenges as well as acceptance can play a role in establishing an idea about the main reasons for not accepting this model among some people. On the other hand, recognizing the actual challenges associated with e-learning can be helpful in mitigating them in an efficient way so that they can be accepted by most people. Moreover, proving a strong relationship between e-learning acceptance and challenges associated with this can play a role in making people understand about the mitigation of challenges.

- *To establish an idea about the relationship between good or bad experiences of e-learning and its acceptance*

Establishing an idea about the relationship between experiences and acceptance of e-learning can play a role in making an understanding the importance of providing good experiences to drive people towards the e-learning procedures. It is evident that having good experiences in the case of learning can enhance people towards the acceptance of e-learning leading to make it more appreciable. Mitigating this objective mainly solves the understanding about how good experience about anything can change its acceptance level.

- *To communicate suitable recommendations in order to mitigate challenges associated with e-learning methods*

The following objective mainly helps in communicating the ways that can be helpful in making solutions for the challenges associated with the e-learning procedure. Establishing this objective is important so that suitable recommendations about the ways to improve the e-learning procedure can be provided. On the other hand, recommending the suitable ways for mitigating challenges with e-learning procedures can play a role in improving this facility leading to a sense about increasing the acceptance of these procedures.

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1.4. Research question

1. What are the challenges as well as experiences faced by teachers, students, and parents in e-learning facilities?

2. What is the relationship between the challenges and acceptance of e-learning facilities among the students?

3. What is the relationship between experiences and acceptance of e-learning facilities among the parents, teachers, and students?

4. What are the ways of mitigating challenges associated with e-learning facilities so that they can be accepted in an efficient way?

1.5. Significance of the study

The following research mainly helps in signifying the relationship between challenges as well as experiences to make e-learning procedures more appreciable. The following research proposal mainly aims to increase the knowledge about e-learning procedures as well as discuss the challenges and adaptation of this facility through the presentation of theoretical and conceptual approaches. The major outcome of this research proposal will help in establishing major ideas on the e-learning challenges and mitigation with the innovative opportunities.

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1.5.1. Significance for learning methods and teachers

The following research proposal will provide different types of knowledge about the advantages as well as disadvantages of the e-learning procedure. On the other hand, the following study also provides information about the major challenges faced by teachers regarding e-learning facilities. Thus, it can play an important role in making the following research more appreciable as it helps in catering to the importance of adopting e-learning procedures. Moreover, the following research proposal will also put focus on proving the improvement of learning methods and benefits of teachers by adopting e-learning procedures. It can be said that delivering knowledge about good experiences as well as information about challenges along with solutions can enhance the acceptance of this procedure.

1.5.2. Significance for students

Students will be catered with the facilities associated with the e-learning facilities leading to make them more engaged with these learning methods. It is evident from the above discussion that there are several negative factors such as not having enough structure for using this learning method in many students' homes, lack of engagement as well as concentration are the reasons for not accepting this learning method as an appropriate one. The following research proposal will make the way smooth also by providing solutions to solve issues associated with students and acceptance of this learning method. It can play an important role in making the students more efficient so that they can adopt this new learning system in an effective way. However, the following research proposal will deliver knowledge about the benefits of e-learning that can be helpful in attracting students to adopt the e-learning facilities.

1.5.3. Significance for future researchers

The following research mainly signifies several knowledge regarding facilities as well as opportunities for e-learning procedures in near future. In that case, future researchers will be benefited from this vast information about the advantages of e-learning, leading to a sense about the future improvement of the e-learning methods. It can be said that future researchers will already have several knowledge about this topic leading to them being able to conduct more advanced research on this topic. Moreover, the future researchers will also be provided with the chance to find out more ways to mitigate the e-learning challenges. For example, they can be able to communicate the mitigation process of internet issues in rural areas or can be able to cater the way of improving the lifestyle of rural people so that students belonging to those areas can get facilities of e-learning procedures.

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1.6. The organization of the study

1.6.1. Chapter 1

In the first chapter of this following research proposal, a discussion on the background of this study has been provided. It mainly includes the market position of e-learning facilities such as how people accepted this modern technique of learning. On the other hand, statistical evidence about the global presence of e-learning procedures has also been provided in this study. It has been noticed that most teachers or students prefer online learning facilities among all

techniques of e-learning. On the other hand, issues associated with the previous researchers have also been discussed in this chapter. It can play a role in making an understanding about the importance of conducting this following research proposal. Moreover, proper research objectives and questions have been provided along with the justification of choosing these research objectives. Apart from this, how this research will signify the future of learning methods, as well as the future of students' learning, have also been provided in this chapter. Along with these, the significance of this research in order to improve future research has also been discussed in this chapter.

1.6.2. Chapter 2

The following chapter mainly has a discussion on the concept of e-learning procedures or techniques in order to give an insight on the topic. In progression, the challenges, as well as opportunities faced by the students and teachers regarding online learning, have been discussed in this chapter. On the other hand, the relationship between the experiences and challenges with the acceptance of e-learning facilities among not only the students but also parents and teachers has also been discussed in this chapter. On the other hand, most of the increasing usage and adaptation of e-learning techniques especially during the Covid-19 pandemic has also been discussed in this chapter.

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1.6.3. Chapter 3

The following chapter mainly puts its focus on stating the appropriate research methodology so that the following research proposal can be proved a reliable one to cater knowledge on this particular topic. It is evident that providing knowledge about the use of primary research methods in the following research proposal builds trust about the provided data to the future researchers. On the other hand, knowledge about the data analysis technique has been provided by analyzing the techniques associated with the primary data analysis methods. Thus, it can be said that the following research proposal is an appropriate one to cater knowledge about this particular topic.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The pandemic situation has imposed restrictions on movement, and this has resulted in the confinement of classrooms to e-learning. The acceptance of the model of learning, as well as the experiences, is different for every individual. The efficiency of the learning process can be assessed with the help of theories to provide a realistic scenario on the effects of e-learning on students. Teachers and parents play a pivotal role in the learning programs and their experience from e-learning is important to analyze the outcomes and success factors.

2.2. Theoretical foundation

2.2.1. Diffusion of innovation theory

Diffusion innovation theory demonstrates the generalization of innovation into the social structure and its impact. The theory was first developed in 1962 and it proposes that as a new theory gains momentum and success within a small group of a population, it diffuses through the population to be accepted widely. According to Min *et al.* (2019), an exemplification of the theory can be the acceptance of the user mobile application. The wide acceptance of the application was possible from its initial success among a small group of the population. The expected result of the theory is the introduction and acceptance of a new idea or technology by a large group of a specific population. A new concept or innovation adoption capability is different in a common group of population; therefore, the adopters of this theory can be classified into five categories (De Vries *et al.* 2018). These are the ‘innovators, early adopters, early majority, late adopters, late majority, and laggards.

The theory has a probable effect in the recent scenario developed due to the pandemic outbreak. Dependency on e-learning has made it compulsory to associate technology with the basic needs of education. The perception of the different recipients of the schooling system and their adaptability rate is very different from one another (Mohammadi *et al*. 2018). The diffusion of innovation theories highlights these categories with the students as the early adopters and the teachers as well as parents as the late adopters. The basic concept behind this difference is the generalization of technology among the younger generation and the slow rate of diffusion among the middle to older age groups. As the basis of e-learning is to provide a classroom-like

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environment for teaching and learning, the concept is gradually popularising. The issue is, however, the high dependency on strong internet access and many developing countries are facing issues with applying e-learning as an effective alternative in this compelling situation.

2.2.2 Technological Acceptance Model

The theory of technological acceptance emphasizes analyzing the probability and possibility of accepting a new system introduced into a population. The technology acceptance model or TAM is developed to predict the rate of acceptance of information technology. According to Anni (2018), the intention to use new technology is an important factor in assessing the success of the innovation. The intention depends on another very important factor, the accessibility of the technology. The ease of access to new technology can influence its popularity among a specific group of population. To exemplify the ease of access of a new mobile application or online website attracts customer attention to that business. Learning is a slow and steady process of getting accustomed to a newly introduced system. The difference in adaptability can be associated with various factors that affect the cognitive ability of a person (Scherer et al., 2019). There the technology acceptance model is one the important models in assessing the factors associated with an innovation acceptance.

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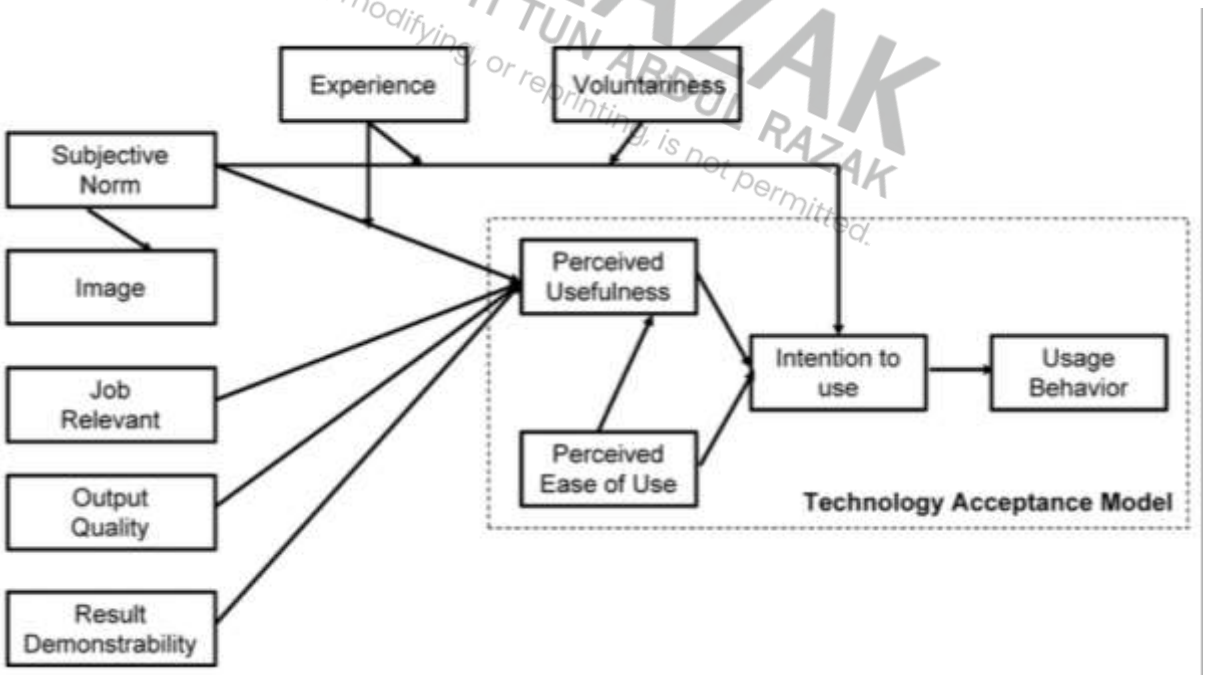

Figure 3: TAM model

(Source: Anni, 2018)

The current scenario has compelled the education system to adapt smart ways of approaching learning with the use of technology. New technologies are being developed every day as more companies innovate their tool to make online study effective and convenient. For example, google classroom was being developed with the aim to provide a systematic program for classroom lessons. The restrictions on real classrooms have enabled institutions to have an organized system as well as keep records of their daily tasks. The features of the platform are new, and its wide acceptance has promoted technology acceptance. According to Huang et al., (2021), the technology is now being used in different institutional sectors such as nursing schools which provides evidence to the successful technology acceptance. The ease of access as well as the intuitions of the users to adopt the technology has facilitated the popularisation process.

2.2.3. Behavioural theory

The behavioural theory focuses on motivating students to participate in a learning activity to ensure positive engagement. Behaviour is an attribute of all humans that are developed and acquired through observation of the surrounding. A classroom setting demands students to behave matters that might be stressful for them to cope up to and demotivate them in the process. The aim of this theory is to assess the factors that can develop the motivation of students to take interest in learning. According to Van Beveren et al. (2018), the behavioural pattern of an individual is the reflection of the acquired traits in the primary years of life. To exemplify, the persistent feeling of detachment from a classroom or demotivation from parents can negatively affect their mindset as well as performance in the later years of their academic life. Therefore, the theory suggests that positive reinforcement can be a technique to promote learning habits in students.

The situation of the pandemic has confined students to their homes, away from the freedom of schools and open classrooms. Psychological stress has resulted in the development of a challenging situation in the online learning mode. Demotivation and lack of concentration are some challenges being faced by students through e-learning. The theory explains how teachers and parents can act as motivators to channel the interests of the students towards this new mode of learning (Hagger and Weed, 2019). The aim is to understand the factors that can promote

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learning motives within the students and grow their interest in using technology to gain knowledge. As stated by Al-Hamad et al. (2021), students can be motivated to use their most accessed tool, mobile phones, to use as a medium for knowledge. Understanding the intentions of students to use technology for education can help develop e-learning methods, making them more interactive and credible.

2.2.4. Cognitive learning theory

The method of learning is different in every individual, so the thirty emphasizes the way the human mind works while learning. Learning is the outcome from the perceived information and processing in the brain aligning the related precarious. To exemplify, new technology can be understood through practical use as well as comparing the new features to a related existing system. The theory is important in understanding the internal and external factors that influence the learning process of an individual. According to Çeliköz et al. (2019), factors like latent learning and information processing play a pivotal role in assessing the cognitive learning traits of an individual. An extended latent learning period can imply that the method of learning is not suitable for a student. Latent learning is the knowledge that is acquired but might not show immediate effect. Information processing is an integral part of the latent learning process, whereby the cognitive ability of an individual can be assessed.

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The scope of e-learning can be related to the wide variety of information that is made accessible through the use of the internet as a source of knowledge. The issue is however in the process of delivering the knowledge which can be beneficial for a wide group of students. The theory emphasizes that the cognitive ability of individuals is indifferent and therefore the learning process requires considerations of these special cases (Hosseini 2019). Lessons taught in an easy and understandable manner can be processed by a majority of students. In the views of Tasheva and Bogdanov (2018), the input of audio and visual effects to topics can aid the learning process by enhancing clarity. The efficiency of a process can be understood through the evaluation of the successful outcomes as well as releasing the latency factor. The cognitive learning theory can therefore be implemented to facilitate understanding of n the factors enhancing student engagement in e-learning systems.

2.3. Empirical research

2.3.1 Concept of e-learning

E-learning refers to a system that is based on formal teaching methods, yet it is conducted with electronic sources. E-learning is also termed as a network that enables the transfer of knowledge and skills along with delivering education that is possible to a large number and group of students. According to Ayu (2020), the purpose of e-learning is to enable students to increase their knowledge and skills in different areas in order to earn a professional degree, regardless of physical attendance in traditional settings. E-learning is created through a virtual classroom in which online teaching and learning processes are carried out. Parents and teachers' meetings are also conducted through online mode. This method is highly cost-effective, and students do not need to visit their classes physically which is beneficial for saving time.

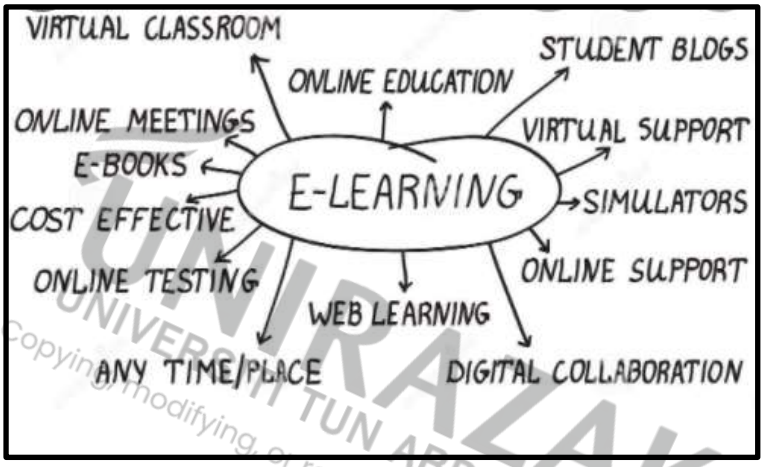

Figure 4: E-learning

(Source: Ayu, 2020)

E-learning can be created with the help of experts developing subject matters. E-learning has been found to be self-paced and connected to electronic media which reaches a wider range of students. The courses of e-learning have assessments and the development of this type, of course, follows streamlined processes. The e-learning utilises learning techniques involving electronic Technologies for accessing the educational curriculum. E-learning is the utilisation of Technology allowing people to learn anywhere and anytime. This kind of learning process is not limited to any place or time, and it includes learners from multiple backgrounds and age groups. This aspect has increased significantly after the covid-19 outbreak which was followed by the imposition of lockdown for a long period. E-Learning has increased usually due to the pandemic outbreak all around the world. It has been beneficial and effective for students to

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continue their education even during the lockdown phase. The covid-19 outbreak has been found to be describing education in around 150 countries along with affecting millions of students (Worldbank.org, 2022). In this context, various countries have implemented different types of learning processes to continue the education of children and during the early phase of the pandemic implementation of learning has been found to be an emergency response to the critical situation. Moreover, with the evolution of the span, they make the education responses have also been found to be evolving and the educational institutions have now been partially open and conducting the teaching and learning processes through the internet.

2.3.2. Challenges of e-learning

E-learning is considered an advanced process to improve the interest of students through the inclusion of audio-visual effects in theoretical topics. Although there are several positive aspects that make this mode of learning advantageous over traditional bookish knowledge, there are a number of challenges associated with e-learning.

Lack of engagement

Engagement is an important factor when it comes to learning as this improves the efficiency of the pace of learning. Classrooms demand the participation of all students in the learning process and therefore constant engagement can be ensured. The same is not true for the e-learning mode such as online classrooms as there are issues such as stability of network connection that hinder the constant engagement. A classroom allows learners to raise queries and resolve their doubts instantly, which might be hindered in the case of e-learning due to poor connectivity issues. Although the mode of learning is common in many countries for years, the lack of engagement has persisted to be an important issue. Commitment to learning is not the same for all learners which promotes a lack of engagement (Hagger and Weed, 2019). Students get easily distracted through a lack of supervision and then in a long run get demotivated. This negatively impacts their concentration and commitment, thereby affecting engagement.

Adjusting to the new technologies

The sudden shift from traditional classroom learning to an online mode is a challenge in itself as teachers face an issue adjusting to the new technology. This is also a new concept for students in their primary years of academic life as they are still a part of the acquired learning

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process. The online classrooms have advanced features that are meant to organize lessons as well as schedule assignments. The teachers who are habituated with the offline mode of teaching are facing problems with understanding the working of these online portals. According to Wang *et al.* (2018), teachers face major issues with managing classrooms as there are constraints in face-to-face interaction. Physical presence in classrooms plays an important psychological role in mediating the teacher-student relationship, thereby developing an understanding between the two groups. The students also feel motivated associating with their peers whereby they develop communication and leadership skills. Therefore, adjustment to new technologies remains to be an issue in the online mode of learning.

Lack of classroom experience

Schools play an important role in mediating a learner's mindset on education through a classroom setting. Classrooms play a vital role in developing integrity and engagement among students through active interaction as well as participation. As stated by Alzahrani (2020), online classrooms have limitations in shaping the unique personalities of learners, developed through perception and experience. E-learning platforms allow the interaction of learners through chat boxes or video interfaces, whereby they feel disconnected from the classroom setting. A lack of interest is developed as a result, which hampers the learning efficiency. The teachers have to interact with students through video calling and therefore they feel the pressure of engaging the whole class and enhancing participation. Altogether e-learning lacks the integrating factor that is possible through direct communication in classrooms.

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Lack of knowledge retention

The e-learning courses are designed to provide clarifications on lengthy topics through concise modules to decrease the latency in learning. Each module is made up of subtopics from an overall concept that gives a basic understanding of the discussed topic. According to Almaiah *et al.* (2020), the lack of micro information to evoke the interest of students in a discussion is a major drawback of e-learning methods. Detailed insights on topics allow students to retain information more precisely and make knowledge more usable. The lack of detailing in the e-learning processes is an important factor that impacts the learning outcomes.

2.3.3. Experiences of e-learning

The experiences of varied groups of people on the e-learning methods lead to differences in opinions. The experiences can sometimes be related to real-time use or an inclination towards the myths that persist regarding the mode of learning. The efficiency of e-learning methods to successfully promote knowledge gain differs from person to person, that is also an aspect of learning to differences inexperience.

Internet accessibility

Learning is a process of developing perception and understanding about topics through practice as well as research. The e-learning course promotes the learners to stay updated on the latest information available on the internet. The credible sources of scholarly articles like Google Scholar contain genuine information. The assortment of the journals according to date allows the learner to access the files efficiently. Courses include the video format of the theoretical topics from different internet sources, facilitating the interest of students. The doubt cleaning from mentors as well as the references from the internet helps the student to clear their doubts on topics.

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Online libraries

The accessibility of a wide range of information such as journals and articles from credible sources is an important aspect of e-learning. Knowledge can be acquired on a variety of related topics through the ease of just a few clicks on these online sites. Unlike physical libraries, online libraries allow resource searching with the help of keywords. This is beneficial especially in the development of a research article as the information is readily available for use. In the views of Venkatesh *et al.* (2020), a primary aspect in developing interest in a subject is to access related journals that provide insight on different associated factors. The e-learning courses encourage journal researching for assignments to evoke the interest of learners towards a topic.

Student-cantered approach

The e-learning courses are developed to provide students with courses, assignments, and self-evaluative tests. This is a holistic approach to enhance the interest in knowledge gained by the students. Learning can be a monotonous task when performed in a basic methodological way including books and exams. The e-learning courses are designed to provide a practical experience of the learned topics through the inclusion of audio-visual effects (Alzahrani 2020). The learner is able to perceive the topic with all the senses which encourages knowledge retention alongside enhancing their interest. This student-centric approach of e-learning methods is an important factor promoting the popularisation of this mode of education.

Time flexibility

E-learning courses are often considered time flexible and allow learning irrespective of location or situation. Courses can be available both by being physically present in the classroom or through virtual online classes. The time flexibility makes learning accessible even overseas with a major difference in time zones. According to Shafiei Sarvestani *et al*, (2019), the accessibility of e-learning sources provides opportunities even to the working professionals to gain knowledge adjusting to their time availability. Therefore, individuals who have time constraints can easily access these online learning courses on their topic of choice.

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2.3.4 The acceptance of e-learning

E-learning courses and programs had been available for individuals who had been ready mentally and economically for that type of learning. Studies reveal that all the factors had been influencing positively to the behavioural intention to utilise and accept new systems of e-learning (Adams *et al.* 2018). The severity of covid-19 derived students to learn in this new environment and their acceptance of this new teaching and learning model is being explored.

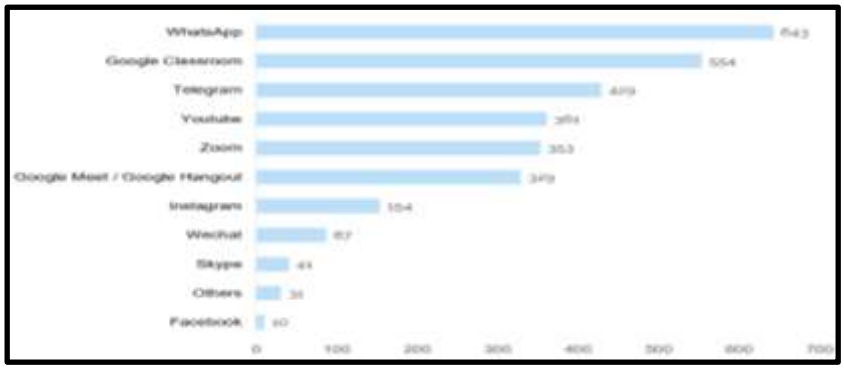

Figure 5: Different online platforms for online learning

(Source: Tan, 2020)

The above figure represents that WhatsApp has been used mostly in Malaysia for online teaching and learning processes. Google Classroom is the second-largest platform in the country for e-learning. Google Meet, Zoom, Telegram and many other social media platforms have also been found to be used for teaching and learning as an e-learning tool (Tan. K, 2020). WhatsApp Google classroom and telegram have been observed to be the most viable options for teachers and educators to teach in a remote environment especially to the students having a poor internet connection as these channels do not need high-speed internet or large data volume.

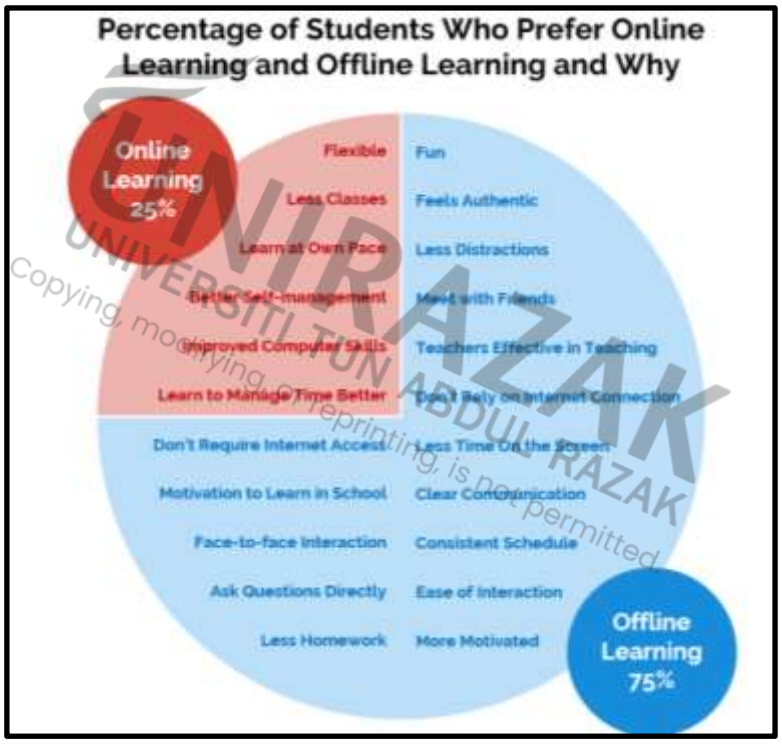

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Figure 6: Percentage of Students preferring online and offline learning

(Source: Tan, 2020)

The above figure demonstrates that only 25% of students prefer online learning methods as they have to attend less classes and it is flexible to them along with allowing them to learn at their own pace. On the contrary, 75% of the students prefer offline learning as an offline learning method that brings more fun to them (Tan, 2020). The students believe that offline

classes create less distraction and they do not need any kind of internet access. Moreover, their level of motivation while learning in school is high as they are able to interact face to face with their teachers and friends (Salloum *et al.* 2019). The exposure of students to the mobile and computer screen is also lesser along with consistent schedule and clear communication which allows them to learn in an uninterrupted environment and they do not need to rely on internet connection.

Various students have found it effective and useful as the e-learning environment has allowed them to improve their technical skills and they are able to learn at their own pace and also in a flexible manner. Moreover, studies reveal that students find it interesting as they are able to interact effectively with their peers and teachers to get better insights regarding the subject matter (Taat and Francis, 2020). The study revealed that the students were ready to accept the new method and approach of learning and they had accepted e-learning effectively. According to the survey conducted by Chegg.org, 78% of students in Malaysia preferred online learning due to the lower cost and fee's structure (Nst.com.my, 2022). Moreover, around 60% of students want to further study through online mode rather than visiting schools and colleges physically (Nst.com.my, 2022).

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Students have been found to be happy with this new approach of teaching and learning as during the critical period of covid-19, students have been able to continue their education effectively. Moreover, the parents have also been found to be happy with this online teaching and learning method as the pandemic outbreak and lockdown situation has affected the lives of people hugely, yet this tool has played a significant role in the uninterrupted education of children. According to Weerathunga *et al.* (2021), there is another group of students and parents who would not accept this learning approach and find it critical and difficult to adopt. This is due to the fact that the lack of interaction and technical knowledge have caused students to retard their learning. Moreover, the mental health of students has also been found to be affected due to e-learning approaches as the students need to stay in a confined area and are unable to meet with their teachers and friends which is creating a feeling of isolation among them.

2.3.5 Usages of e-learning during covid-19

The covid-19 spread has posed a threat to people as the pandemic has forced several activities to cease along with educational activities. As per the views of Almaiah *et al.* (2020), to reduce

the spread of this virus, educational institutions had been forced to transform to e-learning by utilising different educational platforms regardless of challenges of sudden transformation. During the covid-19 situation, teachers are required to acquire knowledge to effectively use online platforms for teaching along with making their lessons more attractive and influential so that students can grab the information more quickly. Adoption of technology has been a significant issue for everyone, and teachers are required to make extra efforts to make their lesson plan suitable for the situation and help students acquire knowledge in an efficient manner.

The traditional educational methods had been replaced by "e-learning" due to the covid-19 outbreak, as social gathering institutions were considered to be providing the chance for spreading the virus. In this context, e-learning has been the best option to continue the education of students to ensure the epidemics are not spread. As mentioned by Alqahtani and Rajkhan (2020), ICT has been used effectively for sharing knowledge and information with students. ICT has been found to be effective and helpful for offering unique training as well as educational opportunities. This is because the aspect has the potential to improve teaching and learning processes by integrating innovation and creativity for students and organisations.

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Online learning approaches have caused the utilisation of technological devices and tools by the students that have created significant challenges for students due to a lack of technical knowledge. However, a wide range of schools and colleges had started online teaching approaches with the help of different software and mobile apps (Radha *et al.* 2020). Moreover, utilisation of social media channels has also been visualised in this scenario as these have been the easiest method to educate children according to the availability of strength of the internet and easily accessible platforms. Furthermore, in Malaysia, the utilisation of WhatsApp has been most popular for online education and learning. As stated by Ebner *et al.* (2020), Telegram, Google Classroom and other social media platforms have also been found to be used in this country for teaching and learning processes as these have been helpful in the areas where internet connection is poor.

2.3.6 The experiences of teachers, students, and parents regarding using e-learning during covid-19

The adoption of e-learning has been Highly Effective and beneficial for teachers as well as the students to conduct the educational process is given during the lockdown phase. Electronic learning has benefited students due to its unique feature which is flexibility regarding place and time. Content for teaching has been found to be student-centred and the availability of the content has been made a short module so that it can be paused anytime (Zhao *et al.* 2021). Moreover, teachers have played a crucial role in online teaching and learning methods in this context they have critically supported the development of logical tools for teaching students in remote environments. The interaction between teacher and students has also been improved significantly during the online teaching-learning courses.

E-learning tools have been effective and beneficial for teachers to deliver lessons to the students in an influential manner. According to Mseleku (2020), this type of learning method is significant for teachers and students through different attractive methods by including PDF podcasts as well as videos and the teachers have been utilising these tools as a crucial part of the teaching plan. By expanding the lesson plan beyond traditional methods such as textbooks and notebooks teachers have been including online resources and these have been helpful for teachers to become effective and efficient educators (Zhao *et al.* 2021). E-learning has been Highly Effective and beneficial for students as it has included flexibility in teaching and learning processes. The students are able to learn and review the study materials provided by their teachers according to their convenience of time and location. In this regard, they only need to enrol on their online classes and continue to learn according to their preference.

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The traditional classes and schools use a teacher-centred approach for teaching students, and it has been found that students cannot learn properly, and they are also unable to find the appropriate and correct information to discover more knowledge and information by using their thinking skills for instance synthesis evaluation and analysis for disseminating information (Deng *et al.* 2020). On the other hand, a learner-centred approach focuses on making students an active part in the teaching and learning processes by helping them participate along with constructing their knowledge with the help of interaction with teachers, students and the available information. This kind of approach is beneficial and effective for Irene the brains of students by sculpting new information and connection (Liu *et al.* 2022). In a student-centred approach, teachers act as facilitators and mentors to help them access, construct and organise information to solve critical problems. Student-centred learning is helpful for students to work

in groups as well as individually to explore challenges along with becoming active knowledge workers instead of being a positive knowledge recipient.

E-learning has been conducted through various devices such as laptops, computers, mobile phones and others. It has become an effective and crucial tool that makes educational processes student-centred. Studies reveal that e-learning tools have been significant for fulfilling educational requirements, more specifically in developing nations. Education has been found to be improved significantly with the help of utilising e-learning as an important tool (Maphosa, 2021). The interaction between the teachers and students have improved with the help of e-learning and the teachers have been paying huge attention to male classes that are more interesting and attractive for students so that they can learn in an attractive environment and acquire knowledge. The inclusion of videos, PDFs and others has made the learning environment more influential that helps students learn.

2.3.7 The challenges faced by the teacher, students, and parents regarding using e-learning during covid-19

E-learning challenges for Teachers

Teachers have been facing several challenges during teaching online and these are in terms of ***transforming dull subject matters into interesting ones*** to help students grab knowledge and experience effectively. In this context, teachers are required to be innovatively and creative through different sources. As mentioned by Irfan *et al.* (2020), handling control over learners along with encouraging them for generating their learning content has been found to be a major shift of mindset, yet, it has also been found to be effective and beneficial for producing valuable results. Moreover, the adoption of advanced technologies is also a significant challenge for teachers as technological devices and tools are ever-changing and evolving which is required to enhance the teaching methods and make the subject matter more interesting.

The E-learning environment requires teachers as well as students to deal with unrealistic deadlines for completion of syllabus and learn the same effectively. Apart from these, finding the best and most effective tube technological devices and tools for teaching students and making the learning environment more productive is another substantial challenge for teachers (Lukas and Yunus, 2021). There are various tools and gadgets available in the market for e-learning, yet the selection of the best ones is crucial for teachers. In this regard, teachers are

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required to develop the list of requirements that needs to be present in the tools prior to selecting the same.

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E-learning challenges for students

The utilisation of digital tools for learning management systems without special training and education regarding the same has been a significant challenge for students during pandemic situations. According to Aboagye *et al.* (2021), humans are social animals which mean children are used to community and social groups in their learning environment, however, a lack of the same has been found to be a significant problem and challenge for students. Classroom environments are designed appropriately to support learning which is not developed at home. This creates issues for the students to learn. Additionally, the motivational levels of students have also been found to be decreased significantly during the pandemic situation and staying at home for a long period. In the virtual learning environment, students are unable to stick to the ongoing classes and it is also an issue for students.

E-learning has been creating a feeling of isolation among children as the students have a habit of meeting their peers and friends and carrying out daily activities of the school which is not possible in online classes. Time management is another crucial issue faced by students during the online learning environment. Traditional classes and schools drive students to visit schools and carry out multiple activities in the school and classes (Aini *et al.* 2020). On the other hand, in the virtual classes' students are not able to manage their time properly for different tasks and activities.

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E-learning challenges for parents during covid-19

During the time of covid-19 and official government restorations school, lockdown parents also faced several challenges to adopting electronic learning systems to their children's education.

Unsupported nature towards technology adoption is one of the major challenges faced by parents. Parents are sceptical of the effects of learning through technology adoption as there remains a myth associated with the issue. Technology is often associated with a distraction that promotes the demotivation of students. The issue can also be related to the unfamiliarity of the majority of parents with modern technology. A lack of understanding about the new technologies of e-learning adopted by schools is a contributing factor in this regard. In the views of Tajuddin *et al.* (2022), the traditional model of classroom-based study is preferred by

most parents as an efficient learning environment. The unsupported nature towards technical adoption of parents is hindering the e-learning experience of the students.

Major problems to keep children's effective educational focus in e-learning have raised concerns among teachers and parents simultaneous*ly.* A major issue addressed by parents and teachers is the lack of focus on children. Through e-learning, it is impossible to concentrate on each child individually. A child is prone to get distracted in a familiar setting and therefore their efficiency in learning is depleting. According to Situmorang and Purba (2018), it is essential to interact with small children to keep them focused on a particular subject. Learning is a development process that requires coordination, interaction, and perception building, which is quite impossible in online classrooms. The monotonous nature of online classes is another factor contributing to distractions and loss of interest in the child.

2.3.8 Acceptance of e-learning for teaching during C 19 among teacher, parent, and student

Online learning is considered as a form of distance method education which includes electronic media and technologies. The teacher will deliver their knowledge or experience about the e-learning program as they thought the body language of the students cannot be measured in the online classes. Teachers have also thought that the advancement of technology in terms of e-learning will help the students to obtain knowledge faster and learn effectively. The teachers have also shared their experience about online learning that they thought students from various countries or further distances can join the learning program (Rizun and Strzelecki, 2020). Therefore, it can be said when the teacher sees that students or parents accept the e-learning model and makes the total process successful.

Teachers have also delivered knowledge that a useful and modified e-learning platform will help the students to learn in a very rich pathway. It has been observed that the teachers have accepted the e-learning model effectively in Malaysia as it helped them to teach students from various parts of the country or from other countries. It has been observed that the given tasks, homework, assignments, or tests have been successfully completed by the students which encourage teachers to accept the online learning platform. The teacher has also accepted the online learning platform as they thought it can provide a greater amount of data to the students in a moment. As per the view of Aguilera-Hermida (2020), it can be said that the teachers have

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already accepted that e-learning has been a bridge between the student and learning with the help of technological advancement.

The online method of learning has been heavily accepted by the students as they think their requirements can be accomplished successfully. It has been observed that the students have heavily accepted online learning as it helped them to solve their queries instantly and allowed them to concentrate more on the classes. As per the view of Al Kurdi *et al.* (2020), the advancement of technology in the learning process has implemented various online platforms for learning such as zoom, google meet, and many more. It helped all the students from further distances or from different countries to join the classes (Khan and Khan, 2019). Therefore, it can be said that online learning platforms have increased the ease of use of technology by the students and thus, they heavily accepted the system.

The students have been heavily influenced by the online learning method as it delivered them a very rich platform of learning. It can also be said that online learning has created a greater number of resources for the student as it helped them to obtain knowledge from various sources. The students have also accepted the online learning as they thought it allowed them to connect to the teachers easily and smoothly and resolve the queries immediately (Garone *et al.* 2019). It has also been observed that the technology helped the students to facilitate their learning step by step with the help of a computer rather than the traditional method. The online learning platform has also helped the students to get data immediately and also be prepared instantly which influenced them to accept online learning.

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The online method of learning was also accepted by the parents as they thought that the overall development of their child has been done successfully. The parents have also accepted online learning for various other reasons such as it helped their child to obtain a better learning opportunity as well as it showed a positive result with respect to their development. As per the view of Nagy (2018), it can be said that online learning has heavily impacted the parents as they can see the progression of learning of their children. The students have secured better marks in their exams with the help of online learning and that influenced parents to accept the online learning method. Therefore, it can be said that the above-mentioned reasons have influenced the parents to accept the online learning method (Tulinayo *et al.* 2018).

2.4. Proposed conceptual framework

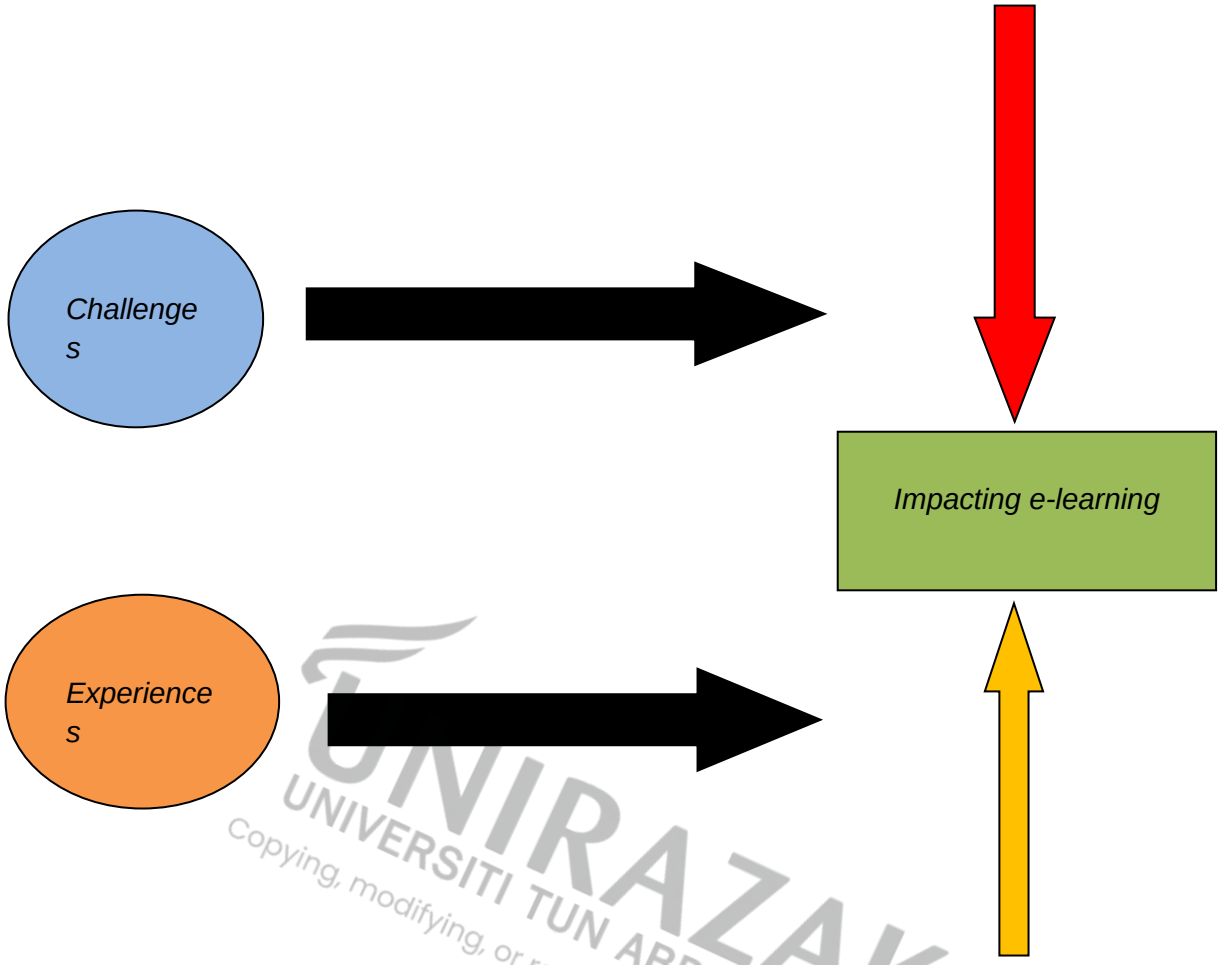

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Figure 7: Conceptual framework

(Source: Created by the Quirinus)

From the above figure, it is evident that there is an impact of experiences and issues associated with the e-learning procedure that can be engaged with the acceptance of this facility. It is evident in the above framework that having more challenges in handling the e-learning techniques can be harmful to acceptance. It can be a reason for decreasing interest in this procedure as well as decreasing the level of acceptance. On the other hand, providing good experiences regarding the e-learning techniques helps in improving the acceptance level. On the other hand, major factors such as any adverse condition can also have an impact on this particular thing. As shown in the above figure, movement control in the Covid-19 situation can increase the acceptance of this facility in an efficient way.

2.5 Hypothesis Development

IV1: Challenges

The method of online learning has helped the students, teachers, and parents in various ways such as it added flexibility to the schedule which perfectly fits the agenda of everyone. It allowed teachers as well as students to make a better balance of their studies and work according to their schedules. Online learning has helped teachers as well as students in other ways such as time management which made studies easier. It also allowed teachers to deliver a wider selection of different programs and influenced them to teach infinite subjects and skills. As per the view of Bao (2020), it can be said that it motivated teachers to accept various new responsibilities and allowed them to have greater autonomy.

Another benefit of online learning with respect to students is that it enables them to study from different parts of the world. Therefore, it can be said that the students did not need to commute from different places or to follow a strict schedule of classes. It also allowed students to obtain various certificates from the university or the colleges without setting their foot on the campus. The online learning also allowed students to make better interactions with their teachers instantly and solve queries immediately. The online learning method has also helped the parents in various ways such as it allowed them to create a clutter-free and quiet ambiance for the children (Neuwirth *et al.* 2021). It also motivated them to listen to their children with care and empathy as well as allowed them to offer better guidance to their children. Therefore, it can be said that online learning has no challenges for teachers, students, and parents as a teaching tool.

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H0: There are no challenges of online learning as a tool for teaching to teachers, students, and parents.

The online method of teaching has delivered various challenges to the teachers such as the teachers were unable to draw the proper attention of the students during class. It has been observed that in the conventional method of teaching teachers can observe the body language of the student which was not possible in the online method of teaching. The major challenges that the teachers faced during the online learning programs were the engagement of the students (Adnan and Anwar, 2020). The teachers were unable to make students attentive during the class and that has been considered as one of the important challenges faced by the teachers.

Technical issues have been considered as one of the major problems faced by the students during online classes as poor connectivity or blurred videos hampered their learning process. It has also been observed that self-motivation was a major challenge faced by the students during online classes as they were unable to complete their tasks in a given time (Ali, 2020). One of the major challenges that they have faced was the communication between them and the teachers. It has happened due to the poor knowledge of technical skills with apps or also due to the insufficiency in interests.

The online method of learning has also delivered challenges to the parents as they were unable to interact with teachers regarding the progression of their children in academics. As per the view of Adnan and Anwar (2020), it can also be said that parents also faced challenges in the online learning methods as they were sometimes unable to provide a noise-free ambiance for their child during online classes. Learning from home also disallowed parents to engage their child in the online classes effectively as the students can easily be distracted. Therefore, it can be said that there are various challenges of online learning present as a tool for teaching among teachers, students, and parents (Neuwirth *et al.* 2021).

H1: There are significant challenges of online learning as a tool for teaching on teachers. students, and parents.

IV2: Experiences

The teachers during the online learning have experienced various adverse effects such as disallowing them to observe the student's body language during the class properly. They were also unable to encourage the students who were lacking in interest in academic classes. The voice of the teacher or the personality, as well as the gestures of the teacher, cannot be understood by the student properly during online classes. As per the view of Redmond *et al.*(2018), it can be stated that the teachers were unable to explain the topic properly during the online classes which sometimes discourages the students.

The experience of the students was also not good during the online classes as it disallowed them to communicate with the teachers easily due to poor connectivity or technical glitch. It also created a lack in the motivation of the students in their academics and delivered negative results in the outcome. As per the views of Garcia *et al.* (2019), the experience of the parents was also not good during online learning classes as they have experienced a behavior of

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cheating in exams by the students to obtain the highest marks. Therefore, it can be said that there were no good experiences of online learning as a method of teaching among parents, teachers, and students.

H0: There are no good experiences of online learning as a tool for teaching to teachers, students, and parents.

The experiences of the teachers during the online classes have been good as they can interact easily and effectively with the students with the help of technological advancement. It also allowed them to deliver a step-by-step learning process to the student which has been more attractive than the traditional methods of learning. As per the views of Shenoy*et al.* (2020), it can also be said that online learning also allowed teachers to resolve the problem easily and established a positive experience.

H2: There are good experiences of online learning as a tool for teaching to teachers, students, and parents.

The students have also gained a positive experience during the online classes as it helped them concentrate more on their studies and achieve better marks in the exams. It also helped students to join the classes from various countries or from further distances that established a positive experience in online learning. The parents have also gained a positive experience from the online learning method that they can observe and monitor the academic progress of their child immediately (Viberg *et al.* 2018). Therefore, it can be said that there is a significant number of good experiences of online learning as a teaching tool for students, teachers, and parents.

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2.6 Summary

The above analysis has critically found out the experiences, acceptances, and challenges of the online learning methods as a teaching tool among the students, teachers, and parents. In the above section, there has been an eventual realization of the various impacts of online learning in the total education system. Hence, it can be said that the target of this chapter has been met successfully and established a definite knowledge about the experiences, acceptances, and challenges of online learning with the help of an extensive amount of informative data.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The research methodology chapter discusses the different methods that are used to understand the challenges, acceptances, and experiences of online learning as a teaching tool. This chapter will also shed light on the positivism research philosophy, deductive approach, and correlational research design with respect to the various implications of online learning as a teaching tool. This chapter will also perform operationalization, measurement, data collection, and data analysis to understand the various factors of online teaching and how it is accepted by society or how it delivers challenges.

3.2 Research Design

A ***positivism research philosophy*** has been used in the research works to gather a substantial amount of quantitative data with respect to the acceptances, experiences, and challenges of online learning as a teaching tool. The positivism research philosophy will be used in this research work as it will allow the researcher to validate the collected data (Alharahsheh *et al.* 2020). The research philosophy will help the researcher in various other ways such as it will help them to draw generalized conclusions on the basis of conclusive evidence. As per the views of Marsonet (2019), it can be stated that the positivism research philosophy is mainly based on the various numerical data and statistical analyses which improved the accuracy and precision of the research work. Therefore, it can be said that the positivism research philosophy will be used in this course study as it takes a lesser amount of time for the conduction of the research.

Figure 8: Research philosophy

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(Source: Ryan, 2018)

The positivism research philosophy will be used in this research work as it will help the researcher to find out the impact and numerous significances of the variables on each other. As per the views of Ryan (2018), it can be stated that the positivism research philosophy mainly reduced the extent of error and made the research work valid and reliable. Therefore, it can be said that the positivism research philosophy will be used by the researcher in this research work as it depends on inferential or descriptive data analysis techniques. One of the major advantages of using positivism research philosophy in this research work is it depends on the quantitative method of data collection and delivers a greater scientific approach. As per the view of Marsonet (2019), the realism or interpretivism research philosophy will not be used in this research work as it is time-consuming and not cost-effective also. Social constructivism and phenomenology have given preferences in the realism or interpretivism research philosophy which will not be beneficial for the research work.

A deductive method of research approach will be used in this research work as it helps the researcher to establish a proper interconnection among the variables and concepts. As per the views of Wardani and Kusuma (2020), it can be said that the deductive method of research approach properly evaluates and examines the hypothesis with the help of definite observations. Therefore, it can be said that the ***deductive research approach*** will be used by the researcher in this research work as it helps to draw a generalized conclusion. The deductive research approach will allow the researcher to develop a definite research strategy on the basis of the existing hypothesis.

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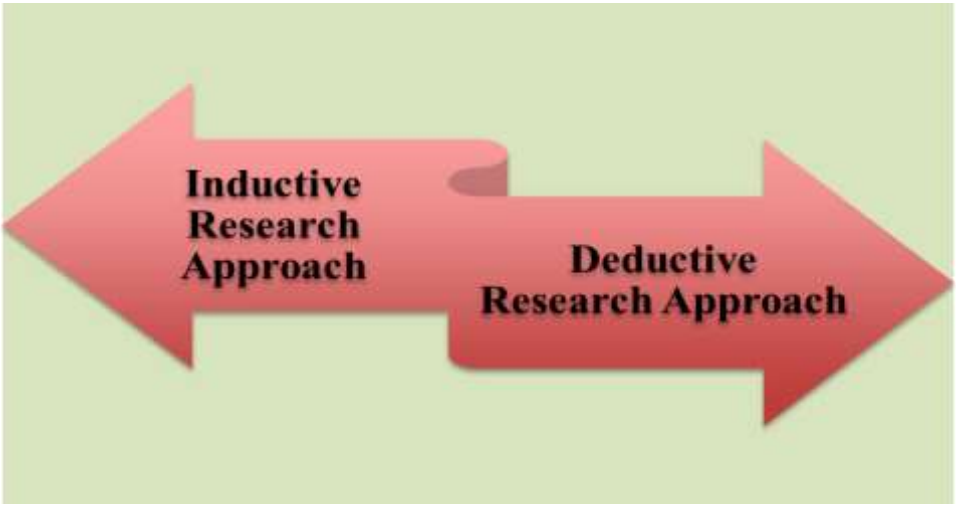

Figure 9: Research approach

(Source: Kim, 2021)

The inductive or abductive method of research approach will not be used in this research work by the researcher as it causes insufficiency or shortage of resources. As per the views of Kim (2021), it can also be stated that the inductive or abductive method of research approach has been costly and time consuming which can decrease the progression of the research work. Therefore, it can be said that the deductive method of research approach will be used in this course study as it allows the researcher to develop conclusive results on the basis of inferential or descriptive data analysis.

Research design: The research design has been referring to the entire strategies that are chosen to integrate the different elements of the research topic in a coherent as well as logical manner. Thereby, to ensure effective research-oriented issues, the research design has been helpful in constituting the blueprint for the data collection, information measurement, and analyzing the information in an efficient manner (Kumar *et al.* 2019; Subia *et al.* 2018). In qualitative research, research design will be required to be more existing information findings-based whereas, in quantitative research, design of research will be required to find out data based on the statistical phenomenon from survey-related matters.

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There are 5 types of research design present that have been approached as per the qualitative-quantitative or mixed methods. The five categories of research designs are- ***descriptive, experimental, correlational, diagnostics***, and ***explanatory research design***. According to Sovacool *et al.* (2018), in descriptive research design, the studies are solely willing to describe the situation or events under the study of research. It is a theory and themes-based research design. On the other hand, in experimental research design, establishing connections between the causes and effects takes place to justify the research topics in an efficient manner. As per the views of Flynn *et al.* (2018), in correlational research design, research has been closely connected with variables and helps in evaluating correlation coefficient determinants together with independent and dependent variables.

Based on diagnosis research design research has been performed to create situations in some orientation such as inception of the issues, diagnosis of the issues, and solution of issues. In contrast, explanatory research design has been activated to estimate ideas and thoughts on a

particular subject to again explore their theories and concerts in an elaborate manner (Sovacool *et al.* 2018; Flynn *et al.* 2018). The present study will be performed under a primary survey-based data collection and analysis method; thus, ***correlational research design*** will be followed efficiently. In correlational methods, correlation coefficients will be required to estimate through statistically measuring the independent and dependent variables in an accurate manner.

The range of values between -1 and +1 will be estimated and measured in the context of correlational research design (Kumar *et al.* 2019; Subia *et al.* 2018). In case the correlation coefficient will be showcasing prone towards +1, it will be indicating a positive relationship between independent and dependent variables (Subia *et al.* 2018). On the other hand, in case the range of value is estimated towards -1 therefore, it will denote a negative relationship between the independent and dependent variables (Kumar *et al.* 2019; Subia *et al.* 2018). Due to SPSS-based survey will be conducted, therefrom, others research designs will be not followed since correlational helps in detecting the relationship between variables statistically.

3.3. Study population and sampling procedure

This research proposal will use an appreciable sampling process in order to gather a large group of objects, people, and selected information from the sampling population that generalizes expected and predicted research findings. In addition, adopting a sampling process can be helpful in gathering multiple articles, journals, and experiences as well as knowledgeable populations that incorporate statistical and theoretical interference towards research variables. Probability, as well as non-probability sampling, are the major classification that can be used in research quantitative methods. This present research proposal will use probability sampling that will involve ***simple random sampling***. As per the view of Mahmud *et al.* (2020), simple random sampling is beneficial for continually selecting population samples in a random manner.

Moreover, the selection of random sampling will be helpful for this research to investigate a broad range of populations regarding the acceptance and challenges of electronic learning as a teaching tool during a covid-19 pandemic. This study will concern randomly selecting parents, students, and teachers at Malaysian schools which adopt electronic learning during the covid-19 and lockdown restrictions for determining their experience acceptance and challenges. In the opinion of Sarstedt *et al.* (2018), simple random sampling is a less complicated, simple,

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and time-saving method compared to stratified and cluster sampling. At the same time, the research will accurately accelerate and justify participants like teachers, parents, and students' responses regarding electronic learning system benefits and challenges with the help of randomly selecting a large population.

However, by selecting random sampling this research will be helpful to conduct quantitative analysis by delivering accurate survey questionnaires via Email to randomly selected respondents. The cluster sampling method has a tendency of involving irrelevant and non-subjective information so this research will reject the sampling method. At the same time, the stratified sampling technique has possibilities of determining inauthentic as well as biassed data interference and respondents' opinion Sarstedt (Adichwal *et al.* 2022).

3.3.1 Selection of sampling

This current research will be performed at the location of Malaysia and the overall information and population will be chosen from Malaysian schools. In this context, this research will select students, teachers, and students' parents in an online survey session for collecting information regarding their challenges, acceptance, and experience in the electronic learning system.

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Number	Population classification	No. of Selected population
1	Teachers	65
2	High School Students	40
3	Parents of students	46
Total no. of selected teachers		**151**

Table 1: Number of selected Population

(Source: Created by Quirinus)

The above table shows that the present research will randomly select 65 experienced teachers, 46 parents, and a minimum of 40 high school students overall 151 selected samples for the online survey.

3.3.2 Sample size calculations

An effective formulation of sample size calculation will be used in this particular research that was established through Cochran in the era of 1977. Cochran has established a computation formula or method for Sequencing selected data that is developed below.

$$n = \frac{n_0}{\left(1 + \frac{n_0}{N}\right)}$$

Directions of used symbols,

n_0 = Sample size

$n_0 = \frac{t^2 pq}{d^2}$

t = According to (), for 0.05 of alpha level t refers to 1.96 and in exceeding 120 sample sizes, t indicates the high risk of using the adequate marginal error that offers to meet appropriate margin.

s= depicts the standard deviations in the study population.

d= Marginal errors received in purposes of budgeting.

N= Population

Thus, calculations using the formula found that t = 1.96 (Bartlett, Kotrlik& Higgins, 2001) for the appropriate alpha level is 0.05 and sample size ≥ 120

Value of n_0

$$n_0 = \frac{t^2(p)(q)}{d^2}$$

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$n_0 = \frac{(1.96)^2(0.5)(0{\cdot}5)}{(0.05)^2} = \frac{(3.84)(0.25)}{0.0025} =$ $n_0 = 384.1$

N = Population

N = 737

$$n = \frac{n_0}{\left(1 + \frac{n_0}{N}\right)}$$

$$n = \frac{384 \cdot 16}{1 + \frac{384.16}{151}}$$

$$n = \frac{384.16}{1 + 2.54}$$

$$n = \frac{384.16}{3.54}$$

$n = 108.51$ (Sample size) = 109 approximately

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The above sample size calculation is reported that this present research will randomly select 109 populations such as the overall number of selected teachers, parents, and students sample size. Moreover, these 109 online survey participants such as high school students, schoolteachers, and parents indicate a strong sample population to collect responses based on survey questionnaires regarding experience acceptance and challenges of the electronic learning system.

3.3.3 Technique of Sampling

This research proposal will separate the sample ratio based on the sampling percentage of respondents such as teachers, students, and parents in order to represent a particular population of the study.

Number	Population Classification	Research Population size (N)	Sample (%)	Sample size (n)
1	Teachers	65	43%	47
2	High School Students	40	27%	29
3	Parents	46	30%	33
Total		**151**	**100**	**109**

Table 2: Sample size ratio Distribution

(Source: Created by Quirinus)

From the above table can be defined that the present research will finally randomly select 47 teachers, 29 high school students, and 33 parents of overall 109 online survey participants.

3.4. Data collection method

The data collection method has been essential for any research in order to select, collect the exact information to establish the concepts of research-based topics in an effective way. According to the views of Xu *et al.* (2020), data is an asset to completing the research in a better way and it has been observed that without presentable and enough data any research topic cannot be fruitfully established. Therefore, data collection has been essential for the

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research topic in order to establish the justification for the research topic better. Data collection has been divided into two categories ***primary data collection*** and ***secondary data collection*** (Moser and Korstjens, 2018; Xu *et al.* 2020). Furthermore, in case any research must count both primary and secondary research data collection methods, the combination of both data collection processes has been known as ***mixed data collection processes***.

In the primary data collection process, the information has been collected from real-life experiences, and context whereas in this case secondary sources are used which contain existing pieces of literature, theoretical approaches, and others. As per the discussion of Stieglitz *et al.* (2018), primary data collection methods are established through ***surveys, interviews, experiments, techniques, focus groups, polls,*** and others whereas, for the case of secondary data collection, sales reports, annual reports, governmental reports, vision statements, internet, databases, and others are utilized. Both the data collection manner has been performed through qualitative and quantitative manners. As explored by Assarroudi *et al.* (2018), in qualitative data collection non-statistical data are collected from primary and secondary sources whereas, in quantitative data collection, primary and secondary data manners are followed by statistical variations.

In primary qualitative data collection interviews, polls, and other parameters are approached with non-statistical data whereas, in primary quantitative data collection, statistical data are collected from surveys and others (Jameel and Majid, 2018). On the other hand, secondary data collection has been based on secondary sources gathering such as data from ***Google Scholar, ProQuest, PubMed, NCBI,*** and other sources journals and articles. Some newspapers such as T***he Guardian, The BBC, The New York Times, The Malaymail, The Economics Times, The Wall Street Journals***, and others are also followed. In the current study, the Primary data collection process will be followed to gather data on the topic of e-learning experiences, challenges, and acceptances among teachers, students, and parents of Malaysian territory.

Primary data collection has been advantageous for the research because it helps in gathering data from real-life contexts. As per the opinion of Jameel and Majid (2018), the primary data collection process can benefit the research in many ways such as it helps in gathering better accuracy of information. Moreover, resolving specific issues that are not accessible or available in the secondary medium, primary data collection helps to do that in an efficient manner. A higher level of control can be taken forwards by the application of the primary data collection

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process (Xu *et al.* 2020). Since in primary data ethical consideration has been required to fulfill the research as per ethical and legal ways. In primary data collection, human interference is required which helps to understand the views, opinions, and thoughts of real-life context by their interaction.

Therefore, it has a possibility of gathering data from emerging real-life contexts which is as accurate as of the words of interacting respondents' words. In such a manner, research can be benefited from the application of primary data collection since it has elongated real-life words interfaces so that anyone will not be able to claim patent or ownership of any words of real-life context-based humans anymore; therefore, the research will be fruitfully conducted. However, in secondary data collection possibility of facing patent or ownership claims is arisen since the entire data are gathered from secondary sources which are not owned by the researchers (Xu *et al.* 2020). Based on others' research, secondary data collection and conducting research will gather the information, because of this, secondary media can claim ownership of patents of their works.

Therefore, it is effective to avoid the secondary data collection process in the context of e-learning where primary data collection will be beneficial. As mentioned by Moser and Korstjens (2018), in primary data collection real-life contexts can be conducted to showcase the existing situation faced by real-life people and their experiences. Through primary data collection, real-life experiences of teachers, students and parents regarding the mechanism of e-learning can be gathered accurately. On the other hand, how they are overcoming challenges and how they are accepting the e-learning mechanism during the sudden outbreak of the Covid-19 pandemic situation can also be gathered exactly. In such a manner, a secondary data collection process will not benefit the research since it has the ability to execute existing data. Therefore, the primary data collection process will be advantageous for this current study.

In order to conduct the primary data collection process, surveys will be followed to collect and gather data from real-life contexts. In the survey, the SPSS process is followed which will be helpful for gathering data based on real-life context. Survey respondents and their views, opinions along thoughts will be collected for further data analysis process.

3.5. Operationalisation and measurement

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Questionnaires will be utilized to gather data from survey responses. The questionnaires will be prepared through a five-point Likert scale, and it has been observed that the five-point Likert scale is one of the psychometric response scales in which survey respondents are going to specify their level of agreement based on certain particular and typical statements (Taherdoost, 2019). The statements will be presented through Google online survey form in which survey respondents will put their views and level of agreement based on statements. In each of the statements, five points will be presented such as: strongly agree, agree, neutral, disagree and strongly disagree.

Strongly Agree	**Agree**	**Neutral**	**Agree**	**Strongly Disagree**
1	2	3	4	5

Table 3: Five Point Likert Scale

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The five-point Likert scale has been calculated as simple understandable and usable survey determination tools and respondent's alike scale. The five-point scale has taken less time and effort to entirely complete the survey than the high-point scale. As per the views of Taherdoost (2019), the five-point Likert scale has been efficiently fit the mobile devices aligned with desktop and other devices so survey respondents will be effortlessly able to get attached with the survey precisely. On a five-point Likert scale, psychometric-based scales have been presented which is efficient enough to describe the thoughts and opinions or views of survey respondents (Taherdoost, 2019; Freifeld *et al.* 2019). In such a manner, the current research topic under this study will be followed by a five-point Likert scale to establish efficient SPSS techniques.

The main advantage of the five-point Likert scale is that it is a universal method for collecting information from survey-based processes and surveys-respondents are not required to put much effort to answer the statements-based question (Freifeld *et al.* 2019). In such a manner, the present study will incorporate quantities by presenting five-point Likert scale-based survey responses. The questionnaire will be prepared in three sections- the first section will contain demographic and nominal surveys questions. In the second section, questioners will contain independent variable-based questions while the third section will contain dependent variable-based questions. In demographic questions, age, gender, employment status, residential

location, and kind of these will be asked appropriately. These demography-based questions will be essential to know the survey respondents' present age, the status of activities whether they are students, teachers or parents, employee status, and others.

In the second section where independent variables-based questions will be asked, there independent variables-based questions will be linked with dependent variables to justify the topic of this research perfectly. On the other hand, the third section containing dependent variables-based questions will be linked with independent variables' hints to just the relations between independent and dependent variables in a prominent manner.

Part and description	Scale
Section 1: ***Demographic characteristics:*** age, gender, the status of activities, employment status	Nominal
Section 2: ***Independent variables-based questions will be linked with:*** Experiences based on e-learning Challenges in e-learning	1- Strongly agree 2- Agree 3- Neutral 4- Disagree 5- Strongly Disagree
Section 3: ***Dependent variables-based questions will be linked with:*** Acceptance of e-learning	1- Strongly agree 2- Agree 3- Neutral 4- Disagree 5- Strongly Disagree

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Table 4: Measurements of Variables (Questionnaires)

(Source: Created by Quirinus)

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3.5.1. Independent variables

- **Mediating Variable:**
    - ***Experiences based on e-learning***: Practical seen and observation of certain facts or events are known as experiences. In the current research topic-based context, experiences have indicated the matter of the e-learning process. As opined by Al Zahrani *et al.* (2021), an e-learning process was required during the Covid-19 pandemic outbreak since the closure of education systems was mandatory for avoiding the virus from the transmission. Therefore, teachers, students, and parents are experiencing learning mechanisms to conduct education learning harmlessly.
    - ***Challenges in e-learning***: Challenges have referred to situation that is difficult to cope with. In the context of the current study, challenges are faced by the teacher, students, and parents while conducting an a-learning process to provide educational lessons to teach students. Challenges such as digital literacy and there are highly notable from the e-learning context (Maatuk *et a.* 2021).
- **Dependent Variable:**
    - ***Acceptances of e-learning***: Acceptances are addressing the action of consenting to undertake or receive certain things that are offered. Acceptance of the e-learning process has been required since the panic era closed the physical education systems for avoiding virus spreading (Weerathunga *et al.* 2021). In such a manner, the teacher, students, and parents are required to accept the e-learning mechanism for hazardously conducting education lessons. Acceptances are acquired from actions of experiences and coping with challenges.

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3.6 Data analysis techniques

Data analysis has referred to the process where gathered information is analysed and interpreted effectively to justify the research topic better. As per the explanation of Assarroudi *et al.* (2018), the data analysis process has been addressing the systematically applying strategical or non-statistical logical mechanisms in order to explain and illustrate, candles and recap the data

for further evaluation. The data analysis process has been critically classified into two types such as qualitative and quantitative data analysis measurements. Based on primary and secondary data collection forms and processes, data analysis mechanisms have taken place within the research. As discussed by Tsang *et al.* (2018) in case the data collection has used qualitative primary data collection, the gathered data analysis will take place through a non-statical analysis method. On the other hand, primary quantitative data collection methods, SPSS, ANOVA, and other statistical measurements have taken place within the research.

In a contradictory manner, secondary qualitative data collection will be followed by non-statical data analysis measurements based on mathematics and case study discussion. Additionally, the secondary quantitative data analysis process will be followed by the discussion of statistical data solely (Tian *et al.* 2019; Tahir *et al.* 2019). The current study will prepare the primary data collection process containing quantitative data analysis measurements. Therefore, ***SPSS (Statistical Package for the Social Sciences)*** mechanism will be followed to analyze the data in an efficient manner. SPSS mechanism has been useful for statistical measurements to explain the survey responses and their opinions efficiently and potentially.

SPSS has been addressed as a Revolutionary software utilized by the researchers in which they are getting help and benefits from the process of critical data in simple stages. Actively performed data analysis is a complex and complicated as well as time-consuming matter, however, utilizing SPSS software the entire process of getting analysis and evaluation of the data is effortless enough. As per Aziz and Aftab (2021), it is efficiently operating the information with the help of certain techniques such as regression, descriptive, multiple regression, linear regression, demographic, ANOVA, Coefficient, and other processes. SPSS has taken information from almost any kind of file and utilized themes for generating tabulated reports, charts, plots, and other functions of distribution of data. It is beneficial for getting descriptive data evaluation and it can be conducted through complex statistical analysis.

In order to perform current topic-based research, this research will follow primary ***quantitative data analysis*** measurements under ***the SPSS mechanism***. Since the topic of this study revolves around the e-learning process and its experiences, challenges, and acceptance by the teachers, students and parents, the study will follow primary data by observing the opinions, views, thoughts, and other psychometric results of teachers, students and parents' points of views.

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Therefore, SPSS techniques will be beneficial for analyzing the data effectively as SPSS will allow executing the data analysis process related to coefficient, ANOVA, multiple regression, regression, demographic, descriptive along with other measurements.

No.	Objective	Analysis techniques
1	To identify the challenges and experiences associated with the acceptance of e-learning procedures among parents, teachers, and students	**Descriptive Statistics**
2	To establish an idea about the relationship between good or bad experiences of e-learning and its acceptance	**Pearson Correlation**
3	To communicate suitable recommendations to mitigate challenges associated with e-learning methods	**Descriptive Statistics**
4.	To recognize the relationship between challenges and the acceptance of e-learning	**Multiple Regression analysis**

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Table 5: Data Analysis methods for a particular objective

(Source: Created by Quirinus)

3.6.1 Reliability Analysis

Reliability analysis is the test of measuring the reliable level of research instruments and internal consistency between variables of a particular study. This analysis technique involves Cronbach Alpha is considered as the scale of Reliability measurement and the functional item that help to indicate forage internal correlation and consistency of research items. The quantitative analysis with the help of SPSS software will allow this research to conduct reliability analysis for measuring internal consistency of electronic learning challenges,

experiences as well as acceptance among teachers, students, and parents. Moreover, the selection of Reliability analysis will help to deliver Cronbach's Alpha value that will be beneficial to determine reliability of Survey questionnaires. As per the view of Chen *et al.* (2018), Reliability analysis indicates the value of Cronbach Alpha that evaluates and defines the effective reliable measurement of research instrumentation.

Cronbach Alpha Value	**Scale of Reliability**
0.6 to 0.7	Moderate reliability
0.7 to 0.8	Good reliability
0.8 to 0.9	Very Good reliability
Above 0.9	Excellent reliability

Table 6: Reliability Scale Analysis

(Source: Created by Quirinus)

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The main purpose of contacting reliability analysis will be to properties the composition scale of research items and measure the scale of reliability and consistency of individual variables. In the consideration of Gao and Zhang (2019), Reliability analysis is a calculation technique that helps to provide relevant information regarding the relationship between research and valuable items such as variables on the reliable scale. The above-mentioned table denotes that the Cronbach Alpha value between 0.6 to 0.7 indicates moderate reliability and internal consistency of research items and a value between 0.7 to 0.8 refers to good research reliability. In this context, this table shows that Cronbach Alpha value between 0.8 to 0.9 will refer to a very good research reliability of instruments and effective internal consistency but Cronbach Alpha value above 0.9 indicates excellent reliability and consistency.

3.6.2 Descriptive Statistical Analysis

Descriptive statistical analysis is a quantitative analytical test of gathered information such as responses of participants that will help to describe, justify, and summarise different viewpoints. In the opinion of Atmowardoyo (2018), descriptive analysis helps to describe, clarify, and summarise several information points constructively including emerging patterns and several circumstances. This research will be helpful with the conduction of descriptive statistics analysis for identifying experiences and challenges that are related to acceptance of e-learning procedures among parents, teachers, and students. The present research will be helpful to describe and justify teachers, students, and parents' opinions and experiences regarding the challenges and benefits of the electronic learning system based on research questionnaires with descriptive analysis.

Descriptive mean Value	The scale of value score
1.00 to 2.33	low score
2.34 to 3.64	moderate value score
3.67 to 5.00	high-value score

Table 7: Scale of value score

(Source: Created by Quirinus)

Descriptive analysis will be helpful to determine potential recommendations for mitigating the critical challenges of adopting electronic learning systems. The consideration of descriptive statistical analysis helps to characterize collected information responses or phenomenon based on the topic of a research study in quantitative method (Assarroudi *et al.* 2018). The above table indicates that the mean value between 1.00 to 2.33 refers to a low score and 2.34 to 3.64

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mean value indicates moderate score but the mean value between 3.67 to 5.00 refers to a high score value.

3.6.3 Person's Correlation Coefficient

The Pearson correlation statistical analysis will be conducted in this research study to determine the effective relationship between variables such as the experience of the electronic learning system and its acceptance among parents, teachers, and students. In the opinion of Jang *et al.* (2021), Pearson correlation analysis of directing and identifying the magnitude of an effective relationship between two separate research variables. The value of *r* indicates the Pearson correlation coefficient value of correlation analysis that can be positive or negative to help define the relationship strength between research variables.

(*r*) Correlation value	**Strength of variable relationship**
0.10 to 0.29	Weak relationship
0.30 to 0.49	Moderate relationship
0.30 to 0.49	Strong relationship

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Table 8: Relationship strength of research variables

(Source: Created by Quirinus)

The correlation values have been reached between 0.1 to 0.49 in which each of the rages is carried weak, moderate, and strong relationship quadrants. In case the value of the correlation matrix has ranged between 0.10 to 0.29, therefore the strength variables' relationship will be weak. On the other hand, in case, the correlational value has ranged between 0.30 to 0.49, therefore, the relationship strength between variables will indicate a moderate relationship matrix. In contrast, manner, if the correlation value has ranged between 0.30 to 0.49 so the

strength of variable realisations will indicate a strong of realistic-based factors (Makowski *et al.* 2020).

3.6.4 Multiple Regression Analysis

Multiple regression is an effective statistical method that helps to analyze and identify relationships between several Independent and single dependent variables of a research study. In this context, this research will be helpful to analyze the relationship of acceptance of electronic learning and their challenges among parents, students, and teachers. Multiple regression analysis has been e referred to as the statistical mechanism that has been used for analyzing the connection between a single dependent variable along with several independent variables (Astivia and Zumbo, 2019). Usually, the objective of multiple regression analysis has been used for justifying the independent variables in which values are understandable and prediction of values can be revolved around a single dependent value (Wathan *et al.* 2019).

3.7. Summary

To sum up the entire discussion, it can be summarised that the research methodology chapter has been beneficial for selecting, collecting, measuring, interpreting the data to justify the research topic effectively. Present study has followed positivism research philosophy along with deductive research approach. Since both the research mechanism has been fruitful for gathering primary data and analyzing them effectively. On the other hand, correlational research design will be followed within the research to efficiently conduct a survey-based research design.

The data collection process has followed primary survey-related quantitative data collection. Simple random sampling methods will be followed within the study from the teachers, students, and parents' responses as well as they will be used as the target population for the research topic. The study will gather information from 109 sample sizes to analyze their views on the current study's topic. The data analysis process will follow SPSS techniques effectively to measure regression, multiple regression, correlational, demographic, descriptive, and other measurements.

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3.8 Timeline

Activities	Timeline
Introduction	Week 1 to week 2
Literature Review	Week 3 to week 7
Research Methodology	Week 8 to week 11
Results And Discussion	Week 12 to week 15
Conclusion And Recommendation	Week 15 to week 16

Table 9: Timeline for the Gantt chart

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CHAPTER 4: FINDINGS AND DISCUSSIONS

4.1. Introduction

This chapter presented the findings from descriptive statistics, Pearson's correlational test, and multiple regression test to understand the challenges, acceptance, and experiences of online learning among students, teachers, and parents. From the findings obtained, it further reveals the potential ways to overcome the challenges and increase the acceptance rate of online learning among students, teachers, and parents. Furthermore, the findings are also discussed and supported by previous research.

4.2. Descriptive Statistics

Using simple random sampling approach, data was gathered using a survey. Respondents who have experienced in e-learning during C-19 pandemic received surveys through Google Docs, e-mails, e-Learning forums, and paper copies. A total of 200 completed questionnaires were received. After deleting invalid responses - the same answer for all questions, there are 109 valid responses remaining. The proportion of verified samples collected by teachers, students, and parents are shown in Table 10.

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Sample	Count	Percentage (%)
Teachers	47	43%
High School Students	29	27%
Parents	33	30%
Total	109	100%

Table 10: Percentage of validated responses

A total of 49.5% of the study sample were males and the rest were females. As many as 27% of the sample were aged between 15 and 18, 3.9% aged between 19 to 23, 30.4% of the sample aged between 24 to 26 while the rest were above 26 years old. Data also showed that 26.6% of the sample were below graduate in which this group referred to the high school students, 17.4% were diploma graduates, 46.8% of the sample were graduated from degree programs, while 0.09% of the sample were postgraduates. The descriptive statistics of samples according to demographic factors are given in Table 11.

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Factors	Values	Frequency	Percentage (%)
Gender	Male	54	49.5
	Female	55	50.5
Age	15-18 years old	29	27.0
	19-23 years old	5	3.9
	24-26 years old	33	30.4
	Above 26 years old	42	38.7
Class	Below graduate	29	26.6
	Diploma	19	17.4
	Graduate	51	46.8
	Postgraduate	10	0.09

Table 11: The descriptive statistics of samples according to demographic factors

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The descriptive statistics of each factor were also presented in Table 12. The factor of experiences recorded a mean value of 3.51 and a standard deviation value of 0.79. Likewise, the factor of acceptance recorded a mean value of 3.52. However, it had a higher standard deviation value of 0.59 than of experiences. The highest mean value of 3.93 was recorded for the factor of challenges with a standard deviation value of 0.63.

The descriptive statistics of samples by the variables are reported in Table 12.

Factors	N	Min	Max	Mean	SD
Experiences	109	1.00	5.00	3.51	0.79
Challenges	109	1.00	5.00	3.93	0.63
Acceptance	109	1.00	5.00	3.52	0.59

Table 12: Descriptive statistics of samples by the variables

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4.3. Cronbach's Alpha analysis

Validity and reliability of the construct have been evaluated to guarantee that the findings are consistent and dependable. The reliability study assessed the internal validity and consistency of each construct's items. Calculating Cronbach's alpha coefficient assessed the dependability of the factor. This metric assesses internal consistency by displaying how closely connected a collection of things are (Chen et al.. 2018). Nunnally (1967) believes that a Cronbach alpha value of 0.7 is appropriate, while a little lower value may also be acceptable in certain instances. All Cronbach's alpha values are more than 0.70 (see Table 13), suggesting that the internal consistency of all measures utilised in this research is good. Consequently, the questionnaire is regarded as a valid measuring tool.

Factors	Cronbach's Alpha
Experiences	0.876
Challenges	0.735
Acceptance	0.785

Table 13: Cronbach's Alpha analysis on each factor

4.4. What are the challenges as well as experiences faced by teachers, students, and parents in e-learning facilities?

Experiences								
	Items	**Reponses (%)**					**Mean**	**Interpretation**
		1	**2**	**3**	**4**	**5**		
B1	A good learning experience can be gained	0.0	3.1	43.8	46.9	6.2	3.9	High
B2	E-learning is less time consuming	0.0	3.1	34.4	46.9	15.6	3.75	High
B3	E-learning allow to access more learning materials	0.0	0.0	37.5	46.9	15.6	3.78	High
B4	E-learning have some internet issues	0.0	3.1	31.	50.0	15.6	3.78	High
Challenges								

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	Items	Responses (%)					Mean	Interpretation
		1	2	3	4	5		
C1	Facing challenges as having lack of online communication skills	0.0	0.0	31.2	50.0	18.8	3.88	High
C2	Facing challenges to adopt the learning method	0.0	3.1	46.9	40.6	9.7	3.56	Moderate
C3	Challenges related with accessing learning materials in rural areas	0.0	6.2	43.8	46.9	3.1	3.47	Moderate
C4	Challenges to interact with teachers	0.0	9.4	43.8	43.8	3.1	3.41	Moderate

Table 14: Descriptive statistics of samples by the variables of experiences and challenges

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Based on the questionnaire that scrutinized the 4 items about experiences faced by teachers, students, and parents in e-learning facilities, it is found that item B2 recorded the lowest mean value of 3.75 although it is strongly agreed that e-learning is less time consuming. Items B3 and B4 recorded the same mean value of 3.78, in which although e-learning allows to access more learning materials, it has some internet issues. Lastly, item B1 that states about a good experience gained from the e-learning recorded the highest mean value of 3.9.

On the other hand, challenges were also studied in influencing the acceptance of e-learning among teachers, students, and parents. Table 14 shows the descriptive analysis of the challenges faced in e-learning acceptance. There were four statements used to test the challenges variable in e-learning acceptance among teachers, students, and parents. it is found that item C4 recorded the lowest mean value of 3.41, a moderate value, as challenges to interact with teachers were mostly responded by students. Items C3 and C4 were also recorded a moderate mean value of 3.56 and 3.47 respectively, in which facing challenges to adopt learning method and its relationship with accessing learning materials in rural areas. Lastly,

item B1 that states about facing challenges as having lack of online communication skills recorded the highest mean value of 3.88.

4.5. What is the relationship between the challenges and acceptance of e-learning facilities among the students?

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760[a]	.577	.559	5.69097

a. Predictors: (Constant), lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, interact with teachers

Table 15: Model Summary

As shown in Table 15, the value of R represents the multiple correlation coefficient to measure the quality of the prediction of the acceptance of e-learning among the students. A value of 0.760 indicates a good level of prediction. The "R Square" value shows the coefficient of determination. Based on this table, the value of 0.577 tells that the independent variables, lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, and interact with teachers, explain 57.7% of the variability of the dependent variable, the acceptance of e-learning among the students.

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Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4196.483	4	32.393	.000[b]
	Residual	3076.778	95		
	Total	7273.261	99		

a. Dependent Variable: the acceptance of e-learning among the students
b. Predictors: (Constant), lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, interact with teachers

Table 16: ANOVA table

Based on Table 16, it shows that lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, and interact with teachers statistically significantly predict the acceptance of e-learning among the students, F (4, 95) = 32.393, p < .0005. Therefore, the regression model is a good fit of the data.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% of Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	87.830	6.385		13.756	.000	75.155	100.506
Communication	-.165	.063	-.176	-2.633	.010	-.290	-0.41
Method	-.395	.043	-.677	-8.877	.000	-.471	-.299
Materials	-.118	.032	-.252	-3.667	.000	-.182	-.054
Interact	13.208	1.344	.748	9.842	.000	10.539	15.877

a. Dependent Variable: the acceptance of e-learning among the students

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Table 17: Coefficients

A multiple regression was run to predict the acceptance of e-learning among the students from lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, and interact with teachers. These four challenges statistically significantly predicted the acceptance of e-learning among the students, F (4, 95) = 32.393, p < .0005, R^2 = .577. All four variables added statistically significantly to the prediction, p < .05.

4.6. What is the relationship between experiences and acceptance of e-learning facilities among the parents, teachers, and students?

Variables	D1	D2	D3	D4
B1	0.686**	0.681**	0.882**	0.879**
B2	0.637**	0.734**	0.894**	0.684**
B3	0.675**	0.612**	0.806**	0.945**
B4	0.734**	0.894**	0.684**	0.654**

**. Correlation is significant at the 0.01 level (2-tailed).

Table 18: Pearson's correlation between experiences and acceptance of e-learning

From table 18 above, it is found that there is a significant relationship between all variables with a moderate relationship (0.637) to a very strong relationship (0.945). All the items in the experience's variable were then correlated with another four items in the challenges variable. There is a significant, moderate, and positive correlation between B1 and D1 (rs = .686, p = .000). This indicates that a good learning experience can be gained when teachers perceive e-learning as a comfortable tool. Also, there is a significant, moderate, and positive correlation between B1 and D2 (r = .681, p = .000), stating that the better the learning experience, the more engaging students are in e-learning. Surprisingly, there is a significant, strong and positive correlation between B1 and D3 (r = .882, p = .000), indicating that the better the learning experience, the more the parents accept e-learning as a tool to improve studies. Likewise, there is a significant, strong, and positive correlation between B1 and D4 (r = .879, p = .000), indicating that the better the learning experience, the lower the time consumption when using e-learning system.

Besides, there is a significant, moderate, and positive correlation between B2 and D1 (r = .637, p = .000), indicating that the lower the time consumption when using e-learning system, the more the teachers perceive e-learning as a comfortable tool. Also, there is a significant, strong,

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and positive correlation between B2 and D2 (r = .734, p = .000), stating that the lower the time consumption when using e-learning system, the more engaging students are in e-learning. Likewise, there is a significant, strong, and positive correlation between B2 and D3 (r = .894, p = .000), stating that the lower the time consumption when using e-learning system, the more the parents accept e-learning as a tool to improve studies. However, there is a significant, moderate, and positive correlation between B2 and D4 (r = .684, p = .000), stating that the lower the time consumption when using e-learning system, the higher the money consumption when using e-learning system.

Besides, there is a significant, moderate, and positive correlation between B3 and D1 (r = .675, p = .000), indicating that the more accessible learning materials through e-learning, the more the teachers perceive e-learning as a comfortable tool. Also, there is a significant, moderate, and positive correlation between B3 and D2 (r = .612, p = .000), stating the more accessible learning materials through e-learning, the more engaging students are in e-learning. However, there is a significant, strong, and positive correlation between B3 and D3 (r = .806, p = .000), stating that the more accessible learning materials through e-learning, the more the parents accept e-learning as a tool to improve studies. Likewise, there is a significant, strong, and positive correlation between B3 and D4 (r = .945 p = .000), stating that the more accessible learning materials through e-learning, the higher the money consumption when using e-learning system.

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Besides, there is a significant, moderate, and positive correlation between B4 and D1 (r = .734, p = .000), indicating that the lower the internet issues experienced from e-learning, the more the teachers perceive e-learning as a comfortable tool. Also, there is a significant, strong, and positive correlation between B4 and D2 (r = .894, p = .000), stating the lower the internet issues experienced from e-learning, the more engaging students are in e-learning. However, there is a significant, moderate, and positive correlation between B4 and D3 (r = .684, p = .000), stating that the lower the internet issues experienced from e-learning, the more the parents accept e-learning as a tool to improve studies. Likewise, there is a significant, moderate, and positive correlation between B4 and D4 (r = .645 p = .000), stating that the lower the internet issues experienced from e-learning, the higher the money consumption when using e-learning system.

4.7. What are the ways of mitigating challenges associated with e-learning facilities so that they can be accepted in an efficient way?

Analysing the raw data from the questionnaire led to the identification of the essential elements influencing the acceptance of e-learning system. Based on the findings, the important aspects that need to be addressed regarded e-learning implementation-related issue include technology, quality of the e-learning system, self-efficacy, trust, and culture.

4.7.1. Technology

Technical aspects assure effective deployment of e-learning systems. When using e-learning systems, technical considerations should be considered. For instance, schools and houses have the required gear and software as well as the necessary technological capabilities for implementing e-learning systems. Physical equipment such as computers, servers and communication networks must be accessible to implement e-learning. The availability of software applications and operating systems must be high. Moreover, technical skills and assistance via knowledge, comprehension, and talents are identified as a significant technological aspect that allow one to easily accept e-learning systems.

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4.7.2. Quality of the e-learning system

The present e-learning systems face potential accessibility, availability, and usability obstacles, particularly for individuals with less internet expertise. This situation might impede its deployment and widespread acceptance. The effectiveness of the e-learning system must be determined by students' ease of use and customization. The present e-learning system should be designed to be user-friendly, particularly for students with little computer abilities. The existing system is not user-friendly for those without PC expertise; this results in system failure because the design of the existing e-learning system is not adaptable. There should be a considerable association between ease of use and system adoption since students may lose faith in a difficult-to-use system.

The utility of a system is contingent on the user's perception of its usability. With many IT programmes out there, usefulness and user-friendliness cannot be separated. For the user to be inspired to utilise the system, he or she must first perceive that it requires no effort. Then he or she will attempt to utilise it to evaluate its utility. The existing approach may be deemed

beneficial if students discover that it serves its intended goal. Users will be encouraged to utilise the e-learning system in the future if it performs the necessary learning activities, since they will feel more competent utilising it. The system's effectiveness must thus be evaluated based on the student's anticipations and level of fulfilment. If the e-learning system is configured to be suitable with the demands of students, it might be deemed valuable and hence efficiently accepted and used.

The dependability of the existing e-learning system should be analysed in terms of its efficacy, performance, and security. Much effort is required to guarantee that the existing e-learning system operates well. An e-learning system may be relied on and trusted provided it fits the needs of the students and they perceive it to be risk-free. Reliability is connected to the system's friendliness and utility from the user's viewpoint, and it is crucial to note that the present system may be considered trustworthy when it achieves maturity in terms of usefulness and lack of dangers.

4.7.3. Culture

Culture is a crucial component for increasing the rate of student acceptance of e-learning systems. One of the essential variables that must be addressed to guarantee that all students utilise the e-learning system extensively is cultural diversity. ICT literacy is one of the most important criteria considered by the Minister of Education. Therefore, one of the variables that should be addressed to expand the usage of e-learning systems is to improve the ICT literacy and abilities of e-learning users. If the government can reduce the illiteracy rate, it would ease the attainment of the strategic objectives for e-learning system implementation. To achieve that, e-society should be created in the first place. E-society should consolidate all educational institutions to create a single entity operating via an e-learning system.

Furthermore, it is essential to communicate with students via various social media platforms since they are the most popular platforms and applications. Social media is the most effective approach to contact students and encourage them to use the e-learning system, as well as allow them to use the e-learning system straight from the social media apps. Social media may help colleges better respond to students, enhance student involvement, and finally improve the e-learning system.

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4.7.4. Self-efficacy

Self-efficacy is a key factor in deciding the acceptance of e-learning systems in educational institutions. At order to expand the acceptance of e-learning systems in schools, it is essential that students have strong self-efficacy to fulfil the intended functions; otherwise, it would be difficult to accomplish the learning activities using e-learning systems. In addition, self-efficacy is a crucial aspect that must be included into the aspirations set by the Minister of Education. By the end of 2025, all the schools should guarantee that all students and teachers utilise the e-learning system with total self-efficacy and proficiency.

To achieve that, training programmes play a big role in assuring high levels of self-efficacy for both students and teachers; thus, the government should offer training programmes for them to improve their IT abilities and become more willing to embrace an e-learning system. On the other hand, awareness is another crucial factor in encouraging students and teachers to use the e-learning system. This aspect contributes to the improvement of user self-efficacy. The adoption of e-learning systems cannot be carried out without frequent awareness seminars so that students feel competent and motivated while utilising the system.

4.7.5. Trust

Trust is crucial to increase the acceptance rate of e-learning systems among students, teachers, and parents. Schools should be always working to ensure the integrity of the e-learning system. The trust factor encompasses system security, information privacy, and system dependability. In order to increase the adoption of e-learning systems among these three parties, it is crucial that schools continually update their security systems to protect the system from all types of viruses and to ensure that all learning activities are conducted in accordance with the applicable policies and privacy laws.

The Internet's trustworthiness is identified as a vital factor in assuring consumers' high levels of trust. The use of e-learning systems is contingent on software firms having the resources to deploy electronic services successfully and the ability to secure such systems. Loss of trust would inevitably raise reluctance to use e-learning systems. Besides, the provision of efficient, effective, and transparent methods of e-learning activities via the e-learning system project, which may be assuredly safe and free of threats, is one of the most significant trust elements that contribute to a rise in students' usage of e-learning systems.

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4.8. Discussions

E-learning is not a new phenomenon; nonetheless, there has been an expanding worldwide trend of employing electronic learning or e-learning during the last decade, and several higher education institutions in underdeveloped nations have lately embraced this approach. Nonetheless, this technology has not been distributed uniformly across all countries and civilizations. Since the World Health Organization declared COVID-19 a pandemic more than nine months ago, there has been a sudden shift to online education and electronic learning. Moreover, the unpredictability of returning to normal life and halting these epidemic leads in a reliance on e-learning, particularly in higher education.

Egypt, like other nations, was confronted with substantial issues in higher education and converted to a virtual learning system. Online delivery of face-to-face university courses was a particularly pressing issue. In this research, the challenges, experiences, and acceptance of e-learning among students, parents, and teachers as a means of instruction during the COVID-19 epidemic were studied.

Most respondents agreed that the educational value of the teachers' expertise is enhanced by their technology abilities to conduct online classes. Similarly, the findings of this study complement the findings of prior studies (Alzahrani, 2020; Shafiei Sarvestani et al., 2019; Venkatesh et al., 2020). Most of the participants felt that one of the benefits of e-learning systems is the time flexibility. In contrast, prior research showed that teachers perceived e-learning as time-consuming (Almaiah et al., 2020), as a source of student monitoring challenges, and as a deterrent to the interest in conventional direct instruction.

These diverse perspectives may be attributable to participants' unfamiliarity with the e-learning medium, their varying technical knowledge and abilities, and the need for formal training and workshops on the use of various technology approaches and platforms for enhancing e-learning activities. The present research revealed that 70.5% of participants agreed that teachers may teach at their own speed using an online class. Similarly, prior research (Rizun & Strzelecki, 2020) praised the self-paced nature of online learning.

In addition, most of the respondents strongly disagreed that online examinations are more difficult for students. This image may be because most of online examinations are based on multiple-choice questions, which permit assessing many students rapidly and over a broader

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scope of topic than essay questions. In addition, the automatic marking of exams saves teacher time and effort (Mseleku, 2020). In contrast, Zhao et al. (2021) found that many observational and participatory assessments of distance education were challenging. Similarly, Deng et al. (2020) observed that the absence of face-to-face contact makes informal evaluation difficult for online educators. However, there are best practises and approaches for performing assessments in a safe manner using some type of online security system.

In the current study, the participants revealed that the perceived usefulness of e-learning, indicating that teachers agree that e-learning is beneficial for enhancing and advancing the teaching and learning process. Wang et al. (2018) reported that participants at several schools were not completely comfortable with e-learning as a teaching tool and attributed this perception to several factors, including technological challenges, difficult interactions and discussions with students, lack of adequate internet connectivity, and personal learning preference.

In contrast Aini et al.'s research (2020), the findings of this study reveal that the majority of respondents agreed on the simplicity of use of e-learning, indicating that personnel evaluate e-learning systems as being very easy to use and run. This could be attributed to the fact that schools began their hybrid learning method (i.e., the combination of e-learning technology with traditional face-to-face teaching) just prior to the COVID-19 pandemic, with intensive training for teachers on the online classes, planning and designing the teaching materials prior to its formal implementation for students.

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Through e-learning systems, both synchronous (live or in real-time) and asynchronous (recorded or self-paced) e-learning methodologies were adopted in schools (e.g., Google Meet and Zoom). Small and large groups of interactive discussions are provided for synchronous e-learning. Asynchronous e-learning include the creation of learning materials prior to students' access (e.g., recorded teachings, supportive videos, external links for recommended websites, and additional resources such as electronic books). These promote the teacher acceptance and integration of the new technology into their instructional activities (Tajuddin et al., 2022).

This research also demonstrated that the e-learning system was deployed with a high degree of acceptability. Multiple international studies (Alzahrani, 2020; Shafiei Sarvestani et al., 2019; Situmorang & Purba, 2018; Venkatesh et al., 2020) found that the user adoption and acceptance

of e-learning was influenced by a variety of individual (e.g. readiness to use e-learning), social (e.g. interpersonal and instructor influence), and organisational (e.g. technological facilities, financial and infrastructure) factors within a particular culture, in addition to the perceived benefit and ease of use of e-learning systems.

Inadequate/unstable internet access, inadequate computer laboratories, a shortage of computers/laptops, and technical issues posed the greatest hurdle to adjusting to e-learning, as exemplified by the findings of this study. In accordance with these results, recent study by Nguyen et al. (2021) proved that the primary impediments to e-learning are based on many stakeholder viewpoints of infrastructure, technology, management, support, implementation, and pedagogical factors. Similarly, another research shown that e-learning systems must match the needs of its users to acquire their confidence and increase their adoption of e-learning (Tulinayo et al., 2018). Additional research has categorised e-learning obstacles into learners, instructors, curriculum, organisational, and structural problems whose resolutions need more teamwork (Aini et al., 20120).

In terms of the predictors of the acceptance of e-learning, the multiple regression analysis revealed that lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, interact with teachers are the most influential variables. This might be explained by the fact that teachers who can access to learning materials and communicate more via online medium are more likely to utilise technology in general, which would boost their skills, willingness, and acceptance of e-learning systems. In addition, this conclusion is consistent with Wang et al.'s (2018) assertion that teachers who do not communicate online often have minimal involvement with technology and lack the requisite abilities.

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4.9. Summary

To summarize, the findings of this study were gathered using a survey. Respondents who have experienced in e-learning during C-19 pandemic received surveys through Google Docs, e-mails, or e-Learning forums. A total of 49.5% of the study sample were males and the rest were females. Validity and reliability of the construct have been evaluated to guarantee that the findings are consistent and dependable. Calculating Cronbach's Alpha coefficient assessed the dependability of the factor. This metric assesses internal consistency by displaying how closely

connected a collection of things are. On the other hand, challenges were also studied in influencing the acceptance of e-learning among teachers, students, and parents. Lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, and interact with teachers, explain 57.7% of the variability of the dependent variable, the acceptance among the students. A multiple regression was run to predict the acceptance of e-learning among students from lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, and interact with teachers. All four variables added statistically significantly to the prediction, $p < .05$. To mitigate the challenges faced, the key elements that need to be addressed are technology, quality, self-efficacy, trust, and culture. The effectiveness of the e-learning system must be determined by students' ease of use and customization. The existing system is not user-friendly for those without PC expertise.

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CHAPTER 5: CONCLUSION

5.1. Introduction

This chapter is divided in four sections. The first section states practical implications of this study followed by the proposal of E-learning Acceptance Model (ELAM) in getting a more thorough finding. Consequently, limitations and recommendations are made for future studies.

5.2. Practical Implications

This study contributes to the current body of knowledge by identifying challenges that inhibit the acceptance use of e-learning systems during the COVID-19 pandemic as well as its experience. This research offers significant insights on the use and uptake of e-learning systems. In addition to the infrastructure issues mentioned in previous studies (Almaiah & Almulhem 2018; Eltahir 2019; Chen & Tseng 2012), challenges of accepting e-learning systems also include e-learning system technical issues, financial support issues, change management issues, course design issues, and computer self-efficacy issues. Therefore, the results of this study provide important recommendations for designers, developers, policymakers, and researchers, allowing them to get more familiar with the main challenges of acceptance of an e-learning system among students, teachers, and parents.

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First, school administration and technical support must provide the necessary technical resources to conduct constant technical maintenance for the e-learning system, as increasing the acceptance of the e-learning system is strongly correlated with the availability of e-learning materials without any technical problems or delays. Second, the school administration must supply the appropriate hardware, software, and internet connection since teachers and students will be able to successfully use e-learning if schools regularly upgrade their technical resources. Thirdly, the developers and designers of the e-learning system must make it user-friendly, simple, and easy to use, since if students and teachers perceive the e-learning system to be simple to use, they will be able to apply it successfully.

Fourthly, policymakers must implement new laws and regulations to encourage the use of an e-learning system by students and teachers. Teachers have been used to conventional methods of instruction in the form of face-to-face lectures; hence, they are resistant to change. But in the middle of this crisis, they have no choice but to adapt to the dynamic circumstances and

embrace the change. It will be advantageous for the education industry and may result in several unanticipated breakthroughs. For example, teachers have to neglect or disregard the pupils who lack access to all IT skills. These students are less wealthy, come from less tech-savvy families, and have limited financial means; as a result, they may suffer when programmes are offered online. They may be disadvantaged by the high expenses of digital equipment and internet data plans. This digital divide may exacerbate existing inequalities. Consequently. they must also modify their educational policies to facilitate the transition from conventional learning to e-learning. This may be accomplished via top-level management support, training programmes, and teachers' adherence to school regulations on the usage of the e-learning system in the classroom. Fifthly, the results can direct policymakers to focus on increasing the awareness and knowledge of teachers by conducting training programmes on how to use the e-learning system. This is because teachers play a crucial role in encouraging students to use the e-learning system, which in turn affects teaching performance and student efficiency. Sixth, schools must concentrate on establishing a culture of e-learning systems in students via IT training courses that emphasise the utility of e-learning systems. It is undeniable that technology assist students and teachers in overcoming obstacles during those trying times. However, a solid IT infrastructure is required for online education. The infrastructure must be robust enough to deliver uninterrupted services during and after a catastrophe. If students have enough computer abilities and a favourable attitude toward interacting with the e-learning system, this will facilitate the acceptance of the e-learning system. The findings of this research provide fresh insights and recommendations for decision makers to support the effective use and uptake of e-learning systems during the COVID-19 pandemic.

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5.2.1. Embrace the change

The most important lesson for others may be to use e-learning systems prior to a catastrophe (Todorova & Bjorn-Andersen, 2011). Today, students are required to engage in online learning; if students had previously mastered it, the situation would be different. Students could have created more material with the time we wasted while studying the modes. However, late is better than never. This pandemic has undoubtedly accelerated online education. For example, Zoom is generating a great deal of press due to its useful features. It permits live online instruction, web-conferencing, webinars, video chats, and live meetings. As most schools, colleges, universities, and businesses are closed owing to lockdowns and curfews, and most people are working from home, this software assisted in keeping people linked via video

conferencing. People are engaging in social isolation; this application yet provided a breath of relief.

There will continue to be disasters, and technology will likely help deal with all the unforeseen challenges (Meyer & Wilson, 2011). The desire of postsecondary institutions to engage and create chances for these individuals will never exceed the need. To even make a dent in this problem, people must learn to communicate and cooperate across institutions and beyond time and space. The only way to achieve this objective is to depend on technology to facilitate collaboration.

In times of pandemics like as Covid-19, all parties need a high degree of preparation so that we can swiftly react to environmental changes and to alternative delivery modalities, such as remote learning or online learning. Institutions and organisations must develop contingency plans to address threats like pandemics and natural catastrophes (Seville et al., 2012). In such dire circumstances, the dependability and availability of Information and Communication Technology infrastructure, learning tools, and digital learning materials in the form of Massive Open Online Courses, and e-books are of the highest significance (Huang et al., 2020). Instruction, content, motivation, connections, and mental health are the five essential considerations an online educator must keep in mind (Martin, 2020). Teachers and students should be supplied with the appropriate techniques and learning assistance, and government backing is also vital at this point. The pedagogical and technological skills of online instructors are of the highest significance. For online learning to be successful and for individuals to be prepared for any crisis, rigorous quality management procedures and continual improvement are needed.

Natural catastrophes may motivate the deployment of cutting-edge communication technologies and e-learning systems (Tull et al., 2017). To make e-learning successful in such challenging circumstances, schools must prioritise the efficient use of technology (i.e., the use of technology with the lowest acquisition and maintenance costs) may nevertheless effectively aid educational processes. Before introducing and using any e-learning system, its advantages and disadvantages must be evaluated. Schools/teachers should perform extensive study before using the appropriate technology for various educational activities. The intent and context of technology adoption should be made very clear. As several elements, such as security features, availability and condition of labs, internet speed, internet access, digital literacy levels of the

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beneficiaries, and so on, influence the selection of a certain technology. Even in times of crisis, e-learning may be used to provide inclusive education. Educational institutions must build such methods to ensure that no student is deprived of an education owing to their location, socioeconomic class, and ethnicity. Online teaching approaches help and facilitate learning–teaching activities, but it is urgently necessary to balance the benefits and disadvantages of technology and use its potentials.

5.3. E-learning Acceptance Model (ELAM)

E-learning is described as the facilitation and support of learning using information and communication technology (Jenkins & Hanson 2003). Consequently, e-learning encompasses the use of ICT tools (e.g., Internet, computer) and technologically produced material (e.g., animations, videos) to assist teaching and learning activities. Acceptance of e-learning includes acceptance of technology but varies in essential ways since pedagogical considerations must be considered. Studies of e-learning technology acceptability have tested TAM or UTAUT on either teachers (Nanayakkara, 2007; Yuen & Ma, 2008) or students (Keller et al., 2008; Masrom, 2007). These studies give evidence for the significance of attitudes in e-learning acceptability. It has been determined that perceived ease of use or effort expectation is the most significant aspect for teachers, but perceived usefulness or performance expectation is the most essential one for students (Jung et al., 2008; Raaij & Schepers, 2008). There is no model that examines the opinions of both students and teachers towards the acceptability of e-learning.

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To address this, the UTAUT is updated into model e-learning acceptance and subsequently, the e-learning acceptance model is developed (ELAM). The primary variables are identical: performance expectations, effort expectations, social influence, and conducive environment. However, the elements within each of these determinants change between the UTAUT and the variables. As acceptance of e-learning in the teaching-learning process is likely to be under volitional control, it is thought that an individual's desire to use the technology is the immediate determinant of the activity. Actual technology utilisation is determined by a combination of behavioural intent and enabling circumstances. As e-learning is related with the individualization of the teaching-learning process, the learning style of the student and the teaching style of teachers are significant factors that influence the adoption process. These variables are seen as mediators impacting the relationship between performance expectation views and behavioural intention to utilise e-learning.

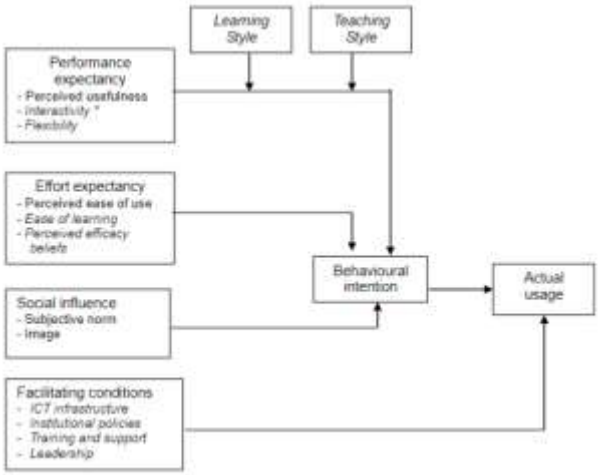

Figure 10: Theoretical Framework for the ELAM

The distinguishing characteristics of the ELAM include the examination of both student and teacher attitudes to explain acceptance of e-learning systems. Therefore, it is hypothesised that learning and teaching styles influence the relationship between performance expectations and behavioural intent to utilise e-learning systems. Considering this, the enabling condition variable of ELAM accounts for the real-world limits of underdeveloped nations, such as restricted access to technology. Technology acceptance is estimated based on a measure of behavioural intention and does not account for actual technology use. In the ELAM, both behavioural intention and actual use are indicators of e-learning adoption.

Based on Figure 10, many constructs and tools used to evaluate each of the ELAM's components. First, performance expectation (PE) is the degree to which the student and teacher feel that adopting the system would improve the teaching-learning process. There are three factors: perceived usefulness, interactivity, and flexibility.

i. Perceived utility defines the amount to which teachers and students feel that e-learning will improve their teaching and learning performance. Improved comprehension, greater success, more efficiency, and less study/teaching burden are tapped.

ii. Interactivity denotes the degree to which e-learning supports student-teacher and student-student interaction. Assessed aspects include asking students and instructors questions, collaborating, and using internet resources.

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iii. Flexibility subjects to the degree to which e-learning systems and their contents suit students' and teachers' preferences. Choose themes in the order of interest, self-paced learning or teaching, convenience (any time, any place), and suitability to the desired learning style of students or teaching style of teachers are evaluated.

Secondly, effort expectation (EE) is the degree to which the student and teacher perceive that the e-learning technology needs effort. There are three indicators under this component: perceived ease of use, ease of learning, and perceived efficacy beliefs.

i. Perceived ease of use refers to the extent to which the user anticipates the target system to be effortless. The factors considered are effort needed and system comprehension.

ii. Ease of learning to use the system denotes the degree to which the user finds the e-learning tool simple to master.

iii. Perceived effectiveness relates to the appraisal of e-learning proficiency includes the assessment of the other player's competency (i.e., students evaluate teachers' e-learning competence and vice versa).

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Thirdly, societal impact (SI) is the degree to which students and teachers sense social pressure to adopt e-learning. To measure this, there are two sub-components that should be considered: subjective norm, and image. Subjective norm assesses the opinion that influential individuals (teachers, students, colleagues, head of the department/institution) believe he should or should not utilise e-learning. On the other hand, image measures the extent to which the use of technology is regarded to improve a person's image or standing in a social environment.

Fourthly, facilitating conditions (FC) are the degree to which students and teachers perceive institutional support for the use of e-learning. ICT infrastructure, institutional policies, training and support, and leadership are under this component. ICT infrastructure refers to facility availability and dependability whereas institutional policies refer to possibilities and incentives for e-learning implementation. Moreover, training and support defines instruction to become an effective user of the technology and ongoing technical support. Leadership, on the other hand, displays a role model and assistance from the department head and institution director.

The other two components that stand alone themselves include behavioural intention (BI) that relates to an individual's future e-learning decisions and actual utilisation (AU) that measures the kind and frequency of technology application.

In the context of a developing nation, the aim to employ e-learning may not be realised owing to real-world obstacles. Teachers and students, for instance, may have good views about technology yet lack access to it. Therefore, it is important to consider both the attitude (BI) and the behaviour (AU) to gauge adoption of technology. In other words, PE, EE and SI determine BI which in turn determines AU. However, enabling circumstances have a direct impact on AU, since they measure the real-world restrictions and facilitators that influence the transformation of intent into action. In addition to the variables, learning and teaching styles mediate the relationship between perceived usefulness and behavioural intention to utilise e-learning.

The versatility of e-learning is one of its primary benefits. There is a scarcity of research on the effect of teaching style on acceptance of e-learning systems. Likewise, no research has evaluated learning style as a determinant in e-learning acceptability. However, Hu et al. (2007) and Rong and Min (2005) have emphasised the qualities necessary for a learning management system to adapt to the disposition of students. As such, it is hypothesised that teaching and learning styles will impact the perceived flexibility and interactivity of the system, hence altering views about performance expectations. Considering the above, the mediating components of the ELAM are learning style and teaching style.

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Learning style is the constant method that learners learn. E-learning systems that address learning styles are a subset of adaptive educational systems, which use the learning preferences of students as the adaptation criteria. The categorization of pupils' learning styles and the methods used to test them vary. The greatest scholarly attention has been paid to the Kolb Learning Style Inventory, the Grasha-Reichmann Learning Style Scale, and the Solomon-Felder Index of Learning Styles.

To develop the ELAM, a learning style index analogous to the teaching style index is required. Subsequently, the Grasha-Reichmann Learning Styles Scale is more suitable. There are three dimensions along which the major learning preferences of pupils vary: participant/avoidant, collaborative/competitive, and autonomous/dependent.

i. Avoidant students do not want to study the course material, do not like learning, and avoid participating in course activities. Participant-style students are more likely to succeed in e-learning, which demands more work than traditional classrooms. To engage students with an avoidant learning style, it is essential to illustrate the advantages of e-learning.

ii. Students with a collaborative learning style get along well with others and like cooperative learning and group work. Students with a competitive personality see the classroom as a zero-sum game in which they must win and love surpassing their peers. Collaborative-minded students will like e-learning that emphasises cooperative learning and group projects. Individual recognition possibilities should be included into e-learning delivery for students with a competitive nature. For example, competitive learners will enjoy instructional games and case study contests.

iii. Students with an independent learning style are inquisitive and self-confident. They like working alone on individual tasks. Dependent students see the instructor as a source of knowledge, want to be told what to do, and will only learn what is necessary. Autonomous students, on the other hand, need possibilities for independent study, self-paced work, or specific projects based on their own interests. Students with a dependent learning style will need greater instructor direction. E-learning that requires student initiative is better suitable for pupils with an autonomous learning style. Students with a dependent learning style must be addressed in an e-learning environment since they may struggle without clear teacher direction.

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In the context of e-learning, in addition to the learning styles, student preferences must also be addressed in the ELAM. Students with the individualist learning style prefer to study independently of professors and other students. A collectivist, on the other hand, wants to study in groups. This factor is like collaborative learning style. Individualists are attracted to e-learning that offers access to all materials and enables students to submit individual assignments. Students with a collectivist mentality will benefit from group discussions and collaborative activities.

Teaching style: is the consistent method of instruction used by teachers. It depends on students' learning methods, students' skills to meet course requirements, the necessity for teachers to directly oversee classroom duties, and teacher desire to establish and sustain connections. There is currently no study on the effect of teaching style on acceptance of e-learning systems.

Expert (displays detailed knowledge), formal authority (establishes learning goals and rules of conduct), personal model (demonstrates how to do things), facilitator (encourages students to make informed decisions), and delegator are the five teaching styles identified by Grasha (1996) as typical orientations and strategies to make students work independently on projects or as teams. These approaches merge into four distinct clusters that constitute the distinctive ways in which teachers build educational situations.

i. Expert-formal authority refers to the method based on teachers in which information is provided and pupils acquire knowledge. Teachers seek to exert control over the classroom setting. This technique is most effective with pupils who have weaker topic knowledge and dependent learning styles. A teacher who adopts this teaching style will benefit from e-learning resources, such as video recordings, that gives him control and need little cooperation amongst students.

ii. Personal model-expert-formal authority refers to a teacher-cantered methodology that stresses modelling and demonstration. Teachers encourage pupils to observe both procedures and content. This technique is most effective for students with active learning styles and participation learning types. This teaching approach is compatible with e-learning systems that enable a teacher to communicate with students in real time, such as two-way video conferencing.

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iii. Facilitator-personal model-expert authority is a paradigm for the classroom that is student-centered. Teachers provide activities, social interactions, and problem-solving settings that enable students to practise applying course material. They do not want to regulate the particulars of the information that students absorb. This technique is most effective when students are both initiative-taking and collaborative. Using a learning management system, e-learning technologies allow teachers to give students with specified materials and well-structured activities, such as discussions.

iv. Delegator-facilitator-expert authority is a student-cantered paradigm that lays the majority of the responsibility of learning on the students. Teacher delivers difficult tasks requiring student initiative (sometimes group work) and relinquishes direct control over how students participate in different activities and their results. This technique is most effective when pupils have enough knowledge and autonomous learning tendencies.

E-learning platforms that allow teachers to give students with chances for reciprocal conversation, as well as access to online resources, will be suitable for teachers using this instructional approach. The effectiveness of e-learning depends on learning and teaching styles, and the availability of materials. In a normal educational setting, the learning styles of students are uncontrollable, and the e-learning technologies are limited by their availability. In such a situation, it is a school's responsibility to refine teaching approaches to maximise the efficacy of learning.

Most of the extant e-learning research has explored either the viewpoint of teachers or that of students. The ELAM gives a more complete perspective since it considers elements pertinent to each important stakeholder in the education process. This model has policy implications on the use of ICT in schools. An empirical evaluation of ELAM will provide light on the country-specific elements that assist teachers' and students' optimal usage of e-learning materials. This will allow relevant parties to note the important variables for e-learning acceptability are addressed throughout the implementation phase.

5.2.2. Limitations and recommendations

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This study has some potential limitations. Being a quasi-experimental study, the participants' perceptions may change over time. Therefore, a further longitudinal study is required to enhance the understanding of critical determinants to the acceptance of e-learning systems among students, teachers, and parents. Also, the present study was conducted online. So, in the future, additional studies need to be done using subjects from other schools to assess the acceptance of e-learning systems.

Future studies are recommended to focus on improvement in terms of study methods, additional variables, and respondents in a broader scope to be able to produce the conclusions of a study better. This study only used students as respondents, then recommendations for future studies involve policymakers with more comprehensive and robust information and insights. In terms of research methods, the study was only approached quantitatively. Based on the study conducted quantitatively, the respondents could not provide their views because the questions were structured. Therefore, in addition to questionnaires, respondents can be interviewed to give more insights about their responses – a mixed-methods approach is suggested. Lastly, the school needs to take appropriate measures to implement the e-learning

system thoroughly and neatly. Therefore, assessment and usage monitoring should be studied so that all students and teachers who use existing e-learning systems could be understood well.

5.2. Conclusions

The e-learning approach is very important as a method in diversifying teaching and learning methods among lecturers and students. The findings of the study found that the level of acceptance of e-learning among students is moderate and influenced by factors such as lack of online communication skills, adopt the learning method, accessing learning materials in rural areas, interact with teachers.

Online delivery of face-to-face classes was a particularly pressing issue. Most participants agreed that one of the benefits of e-learning systems is the time flexibility and self-paced nature of online learning. Teachers agree that e-learning is beneficial for enhancing and advancing the teaching and learning process. Most of respondents strongly disagreed that online examinations are more difficult for students. There are best practises and approaches for performing assessments in a safe manner using some type of online security system. Inadequate/unstable internet access, inadequate computer laboratories, a shortage of computers/laptops, and technical issues posed the greatest hurdle to adjusting to e-learning.

Studies can add knowledge researchers in the field of e-learning are primarily concerned with the acceptance of e-learning systems. E-learning systems help facilitate learning and teaching because it can be implemented anywhere and on at any time if the Internet access is made available. This study also gives a clear picture to stakeholders on issues related to learning so that steps can be taken accordingly. Besides, this study encourages teachers to use e-learning in helping to smooth their teaching process. In addition, this study as well further increase the number of studies in the field of e-learning and become reference sources for researchers to conduct further studies.

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APPENDICES

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Appendix 1: Questionnaires

Section A: Demographic questions

1. Gender

- Male
- Female

2. Age

- 15-18
- 19-23
- 24-26
- Above 26

3. Class

- Below graduate
- Graduate
- Postgraduate
- Diploma

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Section B: Experiences

Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	2	3	4	5

Experiences						
		1	**2**	**3**	**4**	**5**
B1	A good learning experience can be gained					
B2	E-learning is less time consuming					
B3	E-learning allow to access more learning materials					
B4	E-learning have some internet issues					

Section C: Challenges

Challenges						
		1	**2**	**3**	**4**	**5**
C1	Facing challenges as having lack of online communication skills					
C2	Facing challenges to adopt the learning method					
C3	Challenges related with accessing learning materials in rural areas					
C4	Challenges to interact with teachers					

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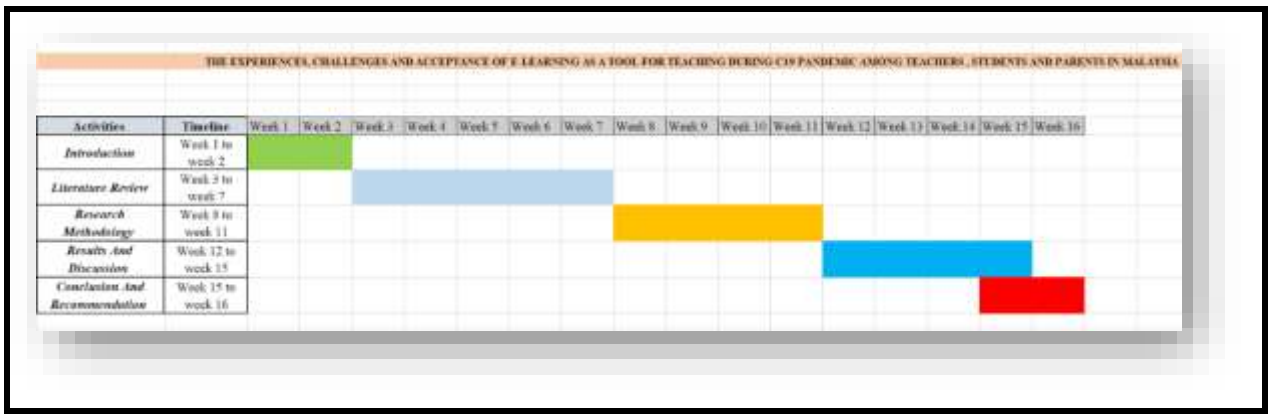
Section D: Acceptance

Acceptance						
		1	**2**	**3**	**4**	**5**
D1	Teachers accepting this as it is comfortable					
D2	Students got engaged more in this system					
D3	Parents accepted this system as feeling improvement in studies					
D4	Being less time and money consumption, it is accepted					

Appendix 2: Gantt chart



(Source: MS Excel)

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APPROVAL PAGE

TITLE OF PROJECT PAPER: **THE ACCEPTANCE OF E-LEARNING AS A TOOL FOR TEACHING DURING COVID-19 PANDEMIC AMONG TEACHERS, STUDENTS AND PARENTS IN MALAYSIA**

NAME OF AUTHOR : QUIRINUS CHONG LAP GUI

The undersigned certify that the above candidate has fulfilled the conditions of the project paper prepared in partial fulfilment for the degree of Master in Management.

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SUPERVISOR

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Graduate School of Business