# EXAMINE THE EFFECT OF E-LEARNING ON STUDENT ACHIEVEMENT IN COMPARISON TO A TRADITIONAL LEARNING APPROACH

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*Abstract: E-learning is a general concept that is used to represent a wide number of electronic means that offer access to education, as well as the act of learning itself. The manner in which information is transmitted from the teacher to the learner can be used to categorise different types of e-learning. Students in an informal transmission form of e-learning are trusted to read the accessible course material and are not tracked or tested to ensure course completion. Objective of study: (i) to study on comparison of e- learning and traditional learning, (ii) to study on type of e-learning, (iii) effect of e- learning on students achievement. Finding shows the use of online learning has a beneficial effect on students' academic performance in terms of their level of learning motivation, academic accomplishment, and overall level of education engagement.*

**Keywords:** *E- learning, academic accomplishment, education engagement*

## 1. INTRODUCTION

## 1.1 TRADITIONAL LEARNING

In a conventional classroom, the instructor oversees the distribution of information and understanding and acts as a moderator and regulator. Students are held to the expectation that they will continue expanding their understanding of a topic outside of the classroom through the completion of assigned homework. In this setting, the main resource available to students is their instructor, who solely instructs them in-person. Traditional teaching methods inspired greater levels of motivation in students than did the other approaches to education. (Çoban & Göktaş 2022) A traditional classroom follows a set curriculum that is presented verbally by an instructor to students in person. To evaluate the pupils' level of comprehension, standardised examinations are frequently given at predetermined intervals. Under this model, the time, location, and rate at which students study is all maintained at the same level. A conventional classroom is an educational setting in which instruction is provided to pupils directly by the instructor, without the use of any kind of intermediary medium. (Golmohammadi, 2022) knowledge, innovations, and practises of indigenous and local communities that exemplify traditional life-styles are regarded to be traditional knowledge. Traditional knowledge is the wisdom that has been developed through many generations. This is by far the most frequent approach to education used in countries around the world. The rate of education here is unaltered from that of other places. Traditional schools are set up so that younger generations can receive the skills, values, and information necessary for

socially and morally responsible behaviour. The typical classroom setting encourages a lot of participation from students. Primary education has been under a great deal of scrutiny and been at the centre of a contentious debate in recent years. The development of literacy and numeracy skills as foundations in primary schools is viewed as an essential necessity for eventual success both within and outside of the educational system. The teacher is responsible for passing on their expertise and information to their pupils, while the students are responsible for communicating any questions or challenges they may be having to the teacher. In these more traditional types of classrooms, the teacher performs the prescribed lessons that were laid out ahead of time. The students' knowledge of the material covered in class is evaluated on a consistent basis through the administration of examinations. E-learning is, at its core, a web-based programme that provides learners with knowledge or information in a prompt and timely manner, depending on time constraints or physical proximity to the learner's location.

## 1.2 E- LEARNING

E-learning refers to a type of education that follows the same curriculum as traditional schooling but is completed with the aid of digital resources. Although instruction can take place either within or outside of traditional classrooms, the primary focus of e-learning is on the utilisation of computers and the internet. The transmission of education is delivered to a large number of recipients at the same or various times, which may be referred to as another definition of e-learning. E-learning can also be defined as a network-enabled transfer of skills and knowledge. In the past, it was considered that this method lacked the human factor, which is essential for learning, and hence it was not adopted entirely. It is a method of instruction that adheres to the time-honoured practise of imparting knowledge to pupils in the form of a sequential series of lectures. The instructors decide what kind of information each learner will receive, and they share that information with everyone. Fixed online education is inflexible and does not take into account the preferences of the pupils because the educational materials are dependent on the teachers. The education of students in primary education places a significant emphasis on the use of e-learning (Harandi, 2015). Learning that takes place through the use of digital tools is known as "e-learning." Systems for the management of learning and education delivered remotely are two of the most common types of tools. On the other hand, hybrid experiences and collaborative efforts are transforming the nature of e-learning. Recent advancements include the emergence of online learning communities as well as social networking websites. (Wolfe & Cedillos 2015). The relationship between technology and instructor dimensions, levels of satisfaction with e-learning, and academic performance among students. (Bossman & Agyei 2022), (Park 2009) the rate of e-learning adoption is increasing at an increasing rate among both facilitators and students. E-learning is quickly becoming the standard by which contemporary education will be evaluated (Sun, 2008). Learning that takes place solely through the use of the internet is referred to as "online learning," and this definition is accurate. Students have the choice of choosing this approach, which is better for the environment because all reference materials are being digitised and made available as online educational textbooks and other online source links, rather than as traditional physical

copies. It is no longer necessary to acquire, for new subjects each term, another thousand-page textbook consisting of chapters that are unrelated to the subject matter; rather, students only need to download files and follow links. Students that would rather have their educational experiences centred online have benefited from the beneficial outcomes that e-Learning has brought forth. E-learning is not only simple to access, but it also features material that is simpler and more quickly digestible. In point of fact, studies have shown that the real amount of time pupils need to spend learning is cut down by as much as sixty percent in compared to the time required for traditional learning methods! This is due to a few different factors, including the following: One session of online learning can be used for both the beginning and the conclusion of a lesson. This makes it possible for them to roll out faster and sooner, which is beneficial for students who are interested in gaining knowledge about the specific subject at hand. The video can be played at a faster rate for the students if they feel it is necessary; they are not required to keep up with the same tempo as their classmates. Students no longer have to travel to school or classes in order to obtain an education, which means that the amount of time spent travelling, can be reduced or eliminated entirely. They are able to gain knowledge without having to leave the convenience of their own homes. When necessary, irrelevant material can be completely ignored and skipped through. If there is just one specific module that the student needs to complete, they can skip the others and go straight to it.

## 1.2.1 DIFFERENT KINDS OF E-LEARNING

### (i) Fixed eLearning

One of the more established forms of online education is known as fixed eLearning. It is a method of instruction that adheres to the time-honoured practise of imparting knowledge to pupils in the form of a sequential series of lectures. The instructors decide what kind of information each learner will receive, and they share that information with everyone. Fixed online education is inflexible and does not take into account the preferences of the pupils because the educational materials are dependent on the teachers. A method of this kind works well in settings in which students have timetables and abilities that are comparable to one another. For example, conventional grade school classes that want to implement eLearning can modify this kind of arrangement to meet their needs.

### (ii) Adaptive eLearning

Adaptive eLearning is a subcategory of online learning that can also be done. The adaptability of the learner is put front and centre in adaptive eLearning, in contrast to the initial delivery method. Every piece of educational content offered here is tailored to your own tastes as a learner. This takes into account elements such as a person's talents, abilities, and performance levels individually. When you use such criteria to adapt your learning needs, it means that you may change things up if you get the sense that you are falling behind, or you can adjust things based on the goals you have for completing the course. Adaptive e-learning is useful in situations in which

students would rather learn at their own pace. To maintain your speed while engaging in adaptive e-learning, you will, nevertheless, require a high level of self-discipline.

### (iii) Asynchronous eLearning

Students engage in autonomous study at their own pace and from their own locations in asynchronous online learning. Learners have the opportunity to study at their own pace and according to their own schedules here. User-generated content may be included in this scenario if it were handled in an interesting manner. Learners could, as an alternative to taking tests consisting of multiple-choice questions, submit videos of themselves demonstrating their newly acquired skills.

### (iv) Interactive eLearning

Teachers and students can freely communicate with one another through the use of interactive eLearning, which enables both groups to make modifications to the teaching materials as they see fit. If there are any questions, having an open channel of communication makes it easier to communicate with others, which in turn leads to a more effective learning process. The use of interactive e-learning is most successful in settings that feature small, tight-knit groups and provide room for flexibility.

## 1.3 BENEFITS OF E- LEARNING TO STUDENTS

### (i) E- Learning meets the demands of all students.

With the availability of online learning as an option, the educational experience and the chance to learn may be made accessible to everybody, regardless of location, and in real time. The rise of digital technology has given rise to an entirely new world in which billions of hours of information covering virtually any subject imaginable can now be accessed by anyone, at any time, and consumed by them. Only an internet connection is required to complete this task. Because of this, online students are not restricted to the predetermined terms of online education programmes such as semesters.

### (ii) If necessary, classes can be repeated

It is easy to feel intimidated and just not ask for help when you are falling behind on a subject or if a device in terms is puzzling and requires to be further explained. When your active learning is a location-based classroom, however, it is possible to bypass these feelings and ask for assistance. Students who experience feelings of anxiety and embarrassment at the prospect of asking for additional assistance frequently find themselves slipping further behind on their academic work as a result.

### (iii) The content is easily updatable

Because both technology and the business are always developing in new directions, it is essential that the instructional materials you use continue to develop and demonstrate continued

applicability. Imagine for a moment that you are leading a class on how to successfully manage ads on Facebook, and that Facebook suddenly makes some adjustments or updates to its ad manager. You pupils will need to be familiar with the most recent and upcoming UX trends in order to maintain your relevance. You can easily include any new knowledge into the existing curriculum in a short amount of time and then post it online so that your students can continue their education.

## (iv) Quick Delivery of lesson

One session of online learning can be used for both the beginning and the conclusion of a lesson. This makes it possible for them to roll out faster and sooner, which is beneficial for those students who are interested in gaining knowledge about the specific subject at hand. The video can be played at a faster rate for the students if they feel it is necessary; they are not required to keep up with the same tempo as their classmates. Through the use of video recordings, tests, online live tutorials, and gamification, teachers were able to provide their students a consistent set of learning tools and experiences thanks to the advent of e-Learning. Even though there was a change in the method of delivery, the consistency was kept extremely well, and it is continuing to get better as the e-Learning industry grows.

## 1.4 DIFFERENCES BETWEEN E- LEARNING AND TRADITIONAL LEARNING

| Basis | E- learning | Traditional learning |
|---|---|---|
| 1. Mode | It happens online | It happens offline |
| 2. Pace | Flexible pace | Imposed pace |
| 3. Collaboration | Alone | collaboratively with your colleagues |
| 4. Supports | Supports an independent method of learning | Learning with and from one another |
| 5. Source of information | The primary source of information is online content. | The trainer is the major source of information. |
| 6. Interaction | limited interaction | Extensive interaction between the trainers and the other participants. |

## 1.5 EFFECT OF E-LEARNING ON STUDENT ACHIEVEMENT

(Evendi et al., 2022) the ongoing process of digitalization has resulted in changes to the educational system, one of which is the substitution of an online system for traditional face-to-face instruction. Despite the fact that e-learning is a more compact concept; it is frequently referred to as independent training because it was originally conceived of as an emotionally supportive network for independent learning. This is the primary reason why e-learning is commonly referred to as separate training. (Sinaga & Setiawan 2022) electronic interactive teaching materials (EITMs) were handed by students and could be operated on their cell phones. E-learning is utilised to deliver preparation, training, and cooperation utilising a variety of electronic media; however, the Internet, whose devices have overwhelmingly comprised the principal driver of e-learning. (Bismala et al., (2022) E-learning has an impact on students' perceived notion, critical thinking, and other considerations. There was an effect of self-efficacy and e-learning quality on the satisfaction of e-learning users, where the conceptual and institutional ramifications for e-learning in primary education were concerned. Because it plays such an important part in mediating the drivers toward goal achievement, the usage of e-learning is a good indicator of the success of creating settings for e-learning. Creating efficient procedures for e-learning can have a significant impact on students desire to participate in this type of education (Wu et al., 2022). Self-directed learning is an essential component in effective learning, and in order to improve the quality of students' education through e-learning, students' self-direction programmes should be strengthened. These programmes can be strengthened through the use of techniques such as self-management training and self-control. It is possible to draw the conclusion that students have a favourable attitude toward e-activities and that e-activities have a positive impact on the students' overall academic experience. This provides an answer to the research question, and it is possible to draw the conclusion that participation in academic e-activities leads to greater levels of satisfaction (Candrlic et al., 2020). Students' perspectives were significantly impacted more by the e-learning system at the school than by their individual background variables. (Keller & Cernerud 2002). Even while it is widely acknowledged that e-learning have a number of advantages over traditional "face-to-face" education (Kotoua et al., 2015). E-learning has the potential to play a big part in the answer to educate a sizable proportion of the people in countries that are historically significant. According to a number of studies, the performance of online students might be impacted by their cultural backgrounds (Cidral et al., 2020). Because of their apparent ease of use and comfort with digital technology, the present generation of students has been dubbed "digital natives." This moniker comes from the fact that they were raised with technology. However, there are still concerns over the level of preparedness of students for the online learning environments of schools (Parkes et al., 2015). Nevertheless, because of the quick development of technology and the advances made in educational systems, it is now widely accepted by the school. The introduction of personal computers served as the catalyst for this revolution. As time has progressed and our dependence on mobile devices such as Smartphone, tablets, and other similar products has grown, educators have recognised the value of incorporating these kinds of tools into the educational process. Electronic instructional materials such as optical discs and pen drives are

gradually taking the role of printed educational materials like books. Sharing information is also possible through the use of the Internet, which is available around the clock and in any location.

## 2. REVIEW OF LITERATURE

**Nikou &.Maslov** **(2021)** studied on COVID-19 epidemic; many educational institutions were compelled to close their doors, which caused significant upheaval within the education sector. The purpose of this study is to identify the most important characteristics that influence a person's intention to participate in e-learning activities during COVID-19. 131 college students were polled in order to collect data, and a structural equation modelling approach called PLS-SEM was utilised in order to analyse the collected information. According to the findings, COVID-19-related factors like perceived difficulties and COVID-19 knowledge not only directly have an effect on students' intention, but such effects are also mediated through the usefulness and ease of usage of e-learning systems. However, the findings demonstrated that students' intentions to engage in e-learning during COVID-19 are not directly influenced by the preparedness of the educational institution in which they are enrolled. The findings also indicated that the gender of the student and the amount of time the student has spent using e-learning systems are factors that influence the use of e-learning systems by students.

**Adams** *et al.,* **(2021)** studied teaching and learning are undergoing a transformation as a result of the proliferation of digital technology, which has resulted in the current generation of students, known as millennial, being more competent with the increasingly digitalized environment in which we live. As a direct result of this, educators and educational institutions are adapting and embracing a model of learning known as blended learning across all fields of study, which now controls an entire area of research and implementation. However, there are still many unanswered questions regarding the level of readiness of pupils for a blended learning approach of instruction. The objective of this research is to determine whether or not students at a prestigious private higher education school in Malaysia are prepared to participate in blended learning. In this study, a design for quantitative research that did not involve experiments was used. With the use of the blended learning readiness engagement questionnaire, we were able to collect data from a representative sample of 274 pre-university and undergraduate students. In order to evaluate the instrument's accuracy and dependability, the WINSTEPS Rasch model measurement programme was utilised to conduct an analysis of the data. Examining students' readiness for a blended learning model of instruction required the use of descriptive statistics (mean and standard deviation) scores, the (logit) value of the item, and the (logit) value of a person. More specifically, students' readiness was evaluated in relation to factors such as gender, age, ethnic background, and field of study. According to the findings, the students were prepared to participate in blended learning. The results of further research showed that the readiness of students to participate in blended learning varied according to factors such as gender, age, nationality, and field of study.

**Taufiq** *et al.,* **(2020)** studied on COVID 19 pandemic situation arose, almost immediately all countries started applying what they had learned at home. Several of the structures that are used in

the education field need to be revised. Not all institutions or students are prepared to engage in distant learning. This is true in terms of the systems, methodologies, resources, and administration in place as well as the students themselves. But it was all compelled. One of the challenges is keeping track of the attendance of the students. This study examines the phenomenon of arranging lecture attendance, as well as the many methods for tracking student attendance during distant learning. A literature analysis and interviews with instructors from a variety of universities make up the methodology that is utilised. The findings of this research include different approaches of collecting student attendance, as well as applications, time logs, datasets, and report formats. The findings of this research provide one of the foundations for the development of eLearning systems, particularly for the purpose of recording student attendance, with particular relevance for university administration and application developers.

**Gunesekera et al., (2019)** studied on reviewing the effect of usability elements on e-learning user relationships—specifically, student–student interaction (SSI), student–instructor interaction (SII), and student–content interaction (SCI)—in the existing body of e-learning research is the goal of this study. In addition, the purpose of this research was to determine whether or not the ease of use has a role in the level of satisfaction experienced by online students. Within the scope of this investigation, a systematic review was carried out using the PRISMA technique to sift through the previous research in the field of e-learning, focusing on issues of usability, and six different databases were consulted. To evaluate the body of research against several characteristics of interactions and usability, a conceptual framework for conducting analysis has been developed. Findings The findings show that whereas SSI has captured 71.4% of study attention with respect to usability elements of e-learning systems, SCI has been given the least focus, which is represented by 26.6% of the research attention. According to the findings, usability concerns with e-learning systems effect the user connections and affect the student satisfaction, both of which would lead to a lack of user continuity if not addressed.

**Loh et al., (2016)** studied to meet the shifting demands of their student bodies; educational institutions in Australia are progressively adopting technologies such as social networking and Web 2.0 applications into their classroom instruction. Our "customers" are the students. In an educational setting that is becoming increasingly competitive, this will assist assess how effectively new technologies can be applied in classes and instructional programmes. Data were acquired using a mixed method approach, with 31 qualitative interviews and a survey of 231 university marketing students serving as primary sources of information. Quantitative methods consisted of procedures such as the t-test, factor analysis, and summary statistics. According to the findings, although students viewed e-learning as having positive aspects such as flexibility and improved learning outcomes, they had reservations about aspects such as the ability to learn at their own pace, problems with self-motivation, a lack of human interaction, and the ability to foster teamwork.

**Zhang et al., (2011)** studied on online discussion boards are becoming increasingly utilised as significant e-learning tools for the purpose of facilitating student learning in traditional classroom

settings. Nevertheless, the creation of an online forum is not a guarantee that students will participate in it. By investigating the part played by the communication environment, the objective of this work is to further our understanding of how to encourage student participation within the parameters of this setting. A survey was conducted at a university in Hong Kong, and the data acquired from it was used to test and validate the model. Findings The findings revealed that the psychological safety communication climate impacted the intention of learners to precede their involvement both directly and indirectly through perceived responsiveness and self-efficacy.

**Ali *et al.,* (2018)** studied on E-learning has received a lot of attention from educators and researchers recently, and many of them praise it as being superior to traditional learning. Despite the fact that this is a primary priority, the deployment of online learning systems frequently fails. Despite the fact that, to the best of the authors' knowledge, there is no conceptual framework that is able to unify previous research, the objective of this paper is to explore a variety of obstacles, which are having an impact on the success of e-learning implementations. This article presents the results of an in-depth literature review that focused on the challenges associated with the adoption of e-learning. The papers were collected from reputable journals that are reviewed by peers as well as open sources. Articles that did not relate in any way to the challenges of implementing e-learning were deleted. There were a total of 259 papers found, all of which were published between the years 1990 and 2016. Hermeneutics and data-driven qualitative content analysis were utilised in order to define 68 different kinds of obstacles. The 68 distinct obstacles were placed into one of four groups based on their commonality: technology (T), individuals (I), pedagogy (P), and enabling conditions (E) (EC). The identification of these four categories led to the development of the "TIPEC" framework, which focuses on the fundamental ideas that impede the delivery and implementation of e-learning. According to the findings, the majority of the articles merely consider a limited number of the obstacles to achievement.

**Tsai (2012)** studied on titled "Applied Information Technology: Networking" and implemented online collaborative learning (CL) with initiation and self-regulated learning (SRL) to improve students' involvement in this class in a surroundings that is full of free online games, shopping websites, and social networking websites. The goal of the author's efforts was to increase the number of students who successfully completed the course. The goal of this research is to investigate the potential impacts of online CL with initiation and SRL on the level of involvement demonstrated by the students. The purpose of this research was to investigate the effects of implementing an intervention consisting of online CL with initiation and SRL on students' involvement and learning in a mixed course. It is felt that this paper is essential to the subject of computers and could assist teachers with insights that could be useful when designing their online courses and their methods of instruction. The author of this study studied the effects of using SRL in the deployment of online CL with initiation, with the goal of increasing student involvement. According to the findings of this empirical study, the combination of online collaborative learning with self-directed learning (SRL) and initiation led to favourable impacts, which in turn led to the highest level of involvement in the blended course of the three classes.

**Jose & Jose (2022)** studied evaluating the achievements and shortcomings of eLearning have taken up a significant portion of the exploratory research that has been done. The objective of the integrated review is to gain a better understanding of the effect that eLearning has on the learning outcomes of students in higher education. It is essential to gain a better understanding of the student learning outcomes from their points of view in order to enhance the quality of the eLearning platform and increase the satisfaction of the students. As a result of COVID-19 affecting every country and region and causing a lockdown, each one has been making every effort to avoid interfering with the quality of education that is being impacted by integrating a variety of e-learning platforms, and the need for stakeholders to have a better understanding of e-learning for the purpose of meeting the learning needs of students has become of the utmost importance. Based on a number of articles that have been analysed by researchers, the purpose of this paper is to attempt to provide a summary of the findings regarding the impact that e-Learning has on the learning outcomes of students at a time when educational institutions around the world are rushing to switch to an online or electronic mode of learning. Ten articles were chosen for analysis, conclusion, and recommendations after being chosen from a pool of one hundred articles discovered through the use of various databases. E-learning is unavoidable for students in higher education if they are to effectively achieve their learning outcomes because it presents enormous opportunities for them to improve their learning performance. Despite the challenges that it presents, it has been found that e-learning has a positive impact on learners overall.

**Farhan & Razmak (2022)** studied using a human-computer interaction (HCI) approach, the current study proposes a new e-learning interface with interactional features that can be utilised by students with a variety of different visual and auditory requirements. Several screens have been used to present prototypes of these newly added features, one of which is an interaction panel that enables the use of button voice, tab voice, text speech, and sign language. The teachers and students, some of whom had visual and some of whom had hearing impairments, were the ones who tested and evaluated the interactive features. The evaluation of the interface was carried out using a design that included both quantitative and qualitative approaches; the satisfaction of students with the features was measured quantitatively, and the perspectives of teachers regarding the practical issues associated with implementation were explored qualitatively through interviews. All of the students, regardless of their level of visual or auditory acuity, expressed a high level of satisfaction with the new interactive features that were included in the proposed user interface, as indicated by the results.

**Mansur *et al.,* (2022)** studied on e-learning requires readiness from the school in addition to that of its students in order to be implemented successfully. The most fundamental impediment is the absence of communication media used by students and the limited signals that affect students' preconceptions of physical education learning during in the Covid-19 pandemic. During the COVID-19 pandemic, the purpose of this study is to determine how significant the students of class VIII SMPN 2 Cariu perceive the importance of receiving physical education. The research being presented here is a quantitative descriptive research, and the methodology being applied is

a survey. Techniques for collecting data in the form of a questionnaire, with the evaluation based on a Likert scale. The class VIII students from SMPN 2 Cariu were used as the population for this study. There were a total of 97 students in the class, with 50 male students and 47 female students. In this particular research project, the sample size was determined to be 97 students using both a non-probability sampling method and a saturation sampling method. The results of the study were broken down using descriptive statistics and percentages to do the analysis. The findings indicated that the students of class VIII SMPN 2 Cariu had an overall perception that fell into the "Medium" category regarding learning physical education in the new normal era. There were a total of 42 students, and the percentage of those students who held this perception was (43 percent). This indicates that students have a sufficient level of understanding to participate in physical education learning within the context of the new normal era. During the pandemic caused by the Covid-19 virus, students who make use of E-Learning have a significant advantage in terms of their ability to participate in materials for physical education.

**Umar & Ko (2022)** studied the direct effects of project-based learning, team cohesion, and flipped learning on student learning effectiveness and engagement, as well as the effects of student engagement on student learning effectiveness, were investigated in order to gain insight into the cross-impact of these three instructional approaches. The results of testing the hypotheses were achieved through the use of hierarchical regression analysis in conjunction with SPSS-25 statistical packages for the purpose of data analysis. The research model was empirically verified with the help of quantitative data collected from 247 graduate and undergraduate business students based on their own experiences, findings, and engagement in the subject matter. According to the findings of the research, project-based learning (PBL) and team cohesion raise positive direct effects in student learning effectiveness as well as engagement. However, flipped classrooms showed decreased levels of student engagement and increased levels of positive direct effects on the effectiveness of student learning. In addition to this, the engagement activity itself had a positive direct effect on the efficiency with which the students learned. The proposed research was carried out with the goal of providing useful information to practitioners in the areas of boosting student retention rates and improving the quality of instruction and student learning respectively.

**Bettivia & Davis (2022)** studied on e-learning has become increasingly more prevalent in MLIS programmes over the course of the years, a trend that has only accelerated since the COVID-19 pandemic began. The pandemic has forced some students to take their classes online, while others have made the decision to do so on their own. This begs the question: are students ready to learn in an online environment in the appropriate manner? E-learning resources and helpful hints were compiled in a guide that the researchers developed specifically for this study. During the orientation that was held for new graduate students enrolling in a Library and Information Science programme in the north-eastern United States, there were several sessions that were offered. The researchers went over the E-Learning Guide while they were participating in these sessions. A survey was given to the students not only right after the sessions, but also at the end of the semester, in order to find out which, if any, resources were helpful. According to the findings, students

valued having access to specific resources to use for e-learning and having access to a guide that contained resources for e-learning. Students also appreciated having a synchronous session during which the researchers reviewed the E-Learning Guide.

**Fattah *et al.*, (2022)** studied students have the ability to access, repeat, and use the scientific materials whenever and wherever the users want with the help of e-learning. In the process of learning, the leading and most important actors are the academics as well as the learners themselves. In addition, the acceptance of a technology can be defined as the favourable response that users have when utilising that technology. E-learning has been made mandatory all over the world as a result of the COVID-19 pandemic. As a result, there is a necessity to investigate the predictors of e-learning adoption in higher education institutions (HEIs) in Iraq. As a result, the purpose of this paper is to research the adoption of e-learning and determine the factors that influence the use of e-learning in HEIs. An instrument comprising eight dimensions based on technology organisation and environmental (TOE) factors was designed and developed. The sample consisted of 580 college students and 130 university professors from a variety of colleges. In the process of sampling and selection, a method called clustering sampling was used. Using the paired T-test as a tool, several hypotheses were developed and examined. A regression analysis was carried out so that the relationship between the variables of the TOE and the adoption of e-learning could be evaluated. The findings of the study can be broken down into two distinct categories. To begin, it provides insight into the degree to which organisations should implement e-learning. Second, it supplies higher education institutions with meaningful guidance that they are required to follow as a prerequisite prior to the implementation of e-learning.

**Yang *et al.*, (2022)** studied the significance of the characteristics of students' personalities in their willingness to use e-learning services. However, there is a lack of studies investigating the impact of students' personality characteristics on their academic performance and long-term stickiness in the usage of e-learning, as well as how these impacts are moderated by their students' engagement in the learning process. This study establishes a theoretical framework for trying to investigate how students' personal qualities impact their students' learning, academic performance, and stickiness in e-learning environments. The research was conducted by the authors of this study. This study will provide a scientifically valid model for examining the impact of students' personality traits on their own academic performance and their long-term stickiness in the usage of e-learning in order to achieve better student learning outcomes and a commitment to life-long learning. The research model will be based on a theoretical perspective and will be provided by this study. This study would provide informative research findings that can assist in the creation of customised strategies for the growth of e-learning platforms for the promotion of the provision of high-quality education. This study will look at the topic from a practical perspective.

## 3. Research methodology

The term "research methodology" refers to the specific methods or techniques that are utilised in order to locate, select, process, and evaluate material pertaining to a subject. When writing a

research paper, including a part on the technique gives the reader the opportunity to critically analyse the effective methodology and dependability of a study. The proposed research will be descriptive research. Variables have been developed from available literature. To make the findings of this study more reliable and valid, primary Data will be collected by use questionnaire method from the selected sample. Expected sample size will be close to 503 students of school. For selecting the sample from the universe study will focus on the probability sampling. Then analysis by using statistical tools will be done to draw inferences, results, and conclusions of the research. Analysis tool is to be decided.

**3.1 Sample size:** our study is conducted on 503 wards

**3.2 Objective of study**

- ➢ To study on comparison of e- learning and traditional learning,
- ➢ The influence of e - learning on the academic performance of pupils
- ➢ Study on the importance of online learning

**3.2 Hypothesis**

**H1:** If there is significant relationship between online learning and excitement of student

**H2:** There is significant difference between achievement of student who use online learning and traditional learning.

**H3**: There is significant relationship between online learning and achievement of student

**4. DATA ANALYSIS AND RESULT**

**Table 4.1 Gender of respondent**

| Gender | Frequency | Percentage |
|--------|-----------|------------|
| Male | 307 | 61.00% |
| Female | 196 | 39.00% |
| Total | 503 | 100.00% |

Gender of respondent
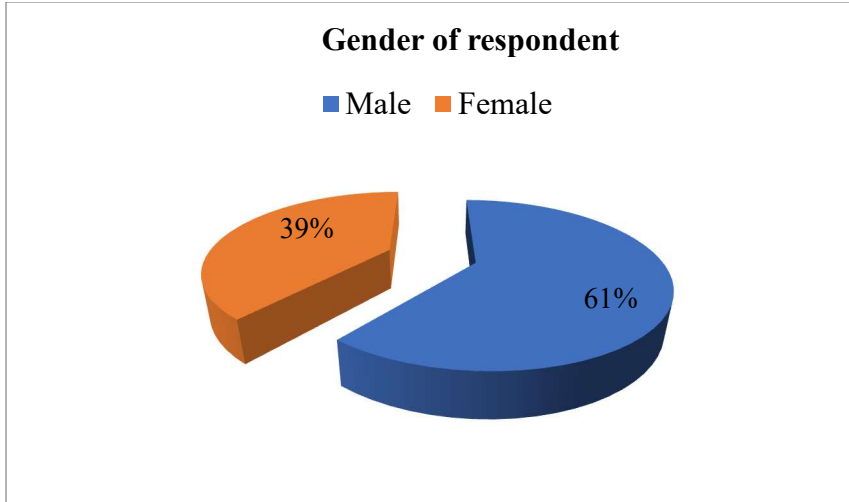
**RESULT:** The results of our study are presented in Table 4.1, which includes 307 male and 196 female children. There are 61% male students, making up the majority of the student body, while there are 39% female students, making up a smaller number.

**Table 4.2 Age of respondent**

| Age | Frequency | Percentage |
| --- | --- | --- |
| 4 year | 51 | 10.1% |
| 4-6 year | 92 | 18.3% |
| 6-8 year | 144 | 28.6% |
| Above 10 | 216 | 42.9% |
| Total | 503 | 100.0% |



Age of respondent
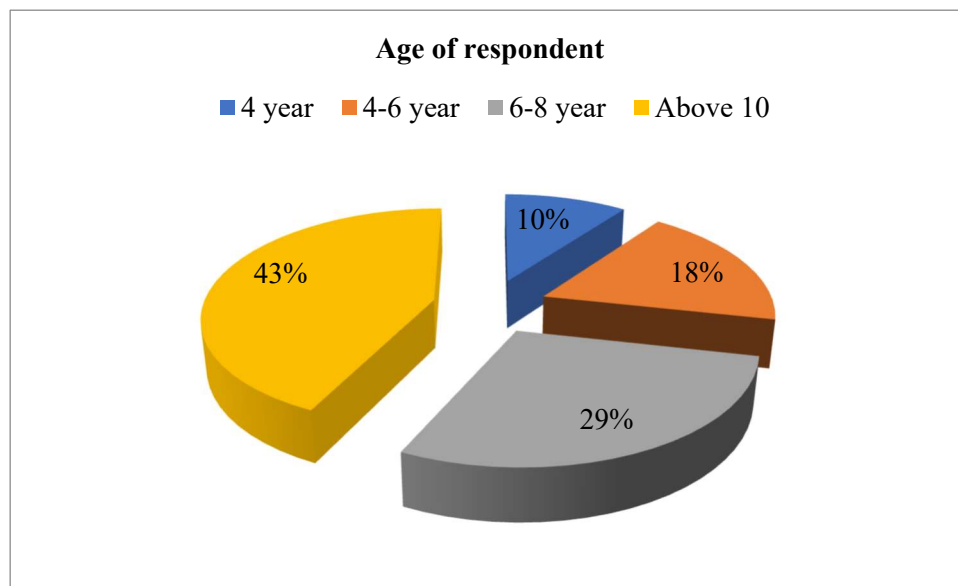
**RESULT:** Table 4.3 describes those students whose age is 4 year they are 51 in number and their percentage is 10.1%. Students whose age is 4-6 year is 92 and their percentage is 18.3%. The student whose age is 6-8 year is 144 and their percentage is 28.6%. Students who are above 10 are 216 and their percentage is 42.9%. It states that the vast majority of students are in the age category of 10 and older.

**Table 4.3 what are the types of learning environments you prefer for your ward in school?**

**Statistics**

Learning environments

| N | Valid | 503 |
|---|---|---|
| | Missing | 0 |
| Mean | | 2.21 |
| Std. Error of Mean | | .034 |
| Median | | 2.00 |
| Mode | | 3 |
| Std. Deviation | | .773 |
| Variance | | .597 |
| Range | | 2 |
| Sum | | 1112 |

Mean of this is 2.21, SD is 0.77, and variance is 0.59.

**Learning environments**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Traditional learning | 108 | 21.5 | 21.5 | 21.5 |
| | Online learning | 181 | 36.0 | 36.0 | 57.5 |
| | Blended learning | 214 | 42.5 | 42.5 | 100.0 |
| | Total | 503 | 100.0 | 100.0 | |
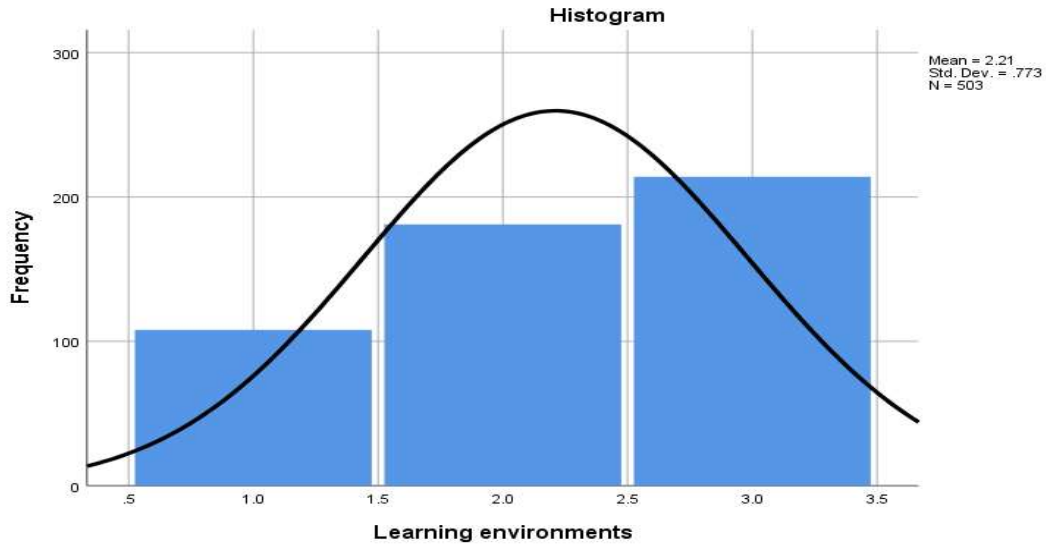
**RESULT:** The students who choose traditional learning style is 108 and people who chose online learning is 181. And the majority of them prefer hybrid learning. After that 36% pupils are those who choose the online learning environment should always be permitted at school. Mean score is 2.21 and SD is 0.77 according to the graph.

**Table 4.4 Online presentation is more interesting than book.**

**Statistics**

| N | Valid | 503 |
|---|---|---|
| | Missing | 0 |
| Mean | | 1.32 |
| Std. Error of Mean | | .021 |
| Median | | 1.00 |
| Mode | | 1 |
| Std. Deviation | | .467 |
| Variance | | .218 |
| Range | | 1 |
| Sum | | 664 |

The mean of these results is 1.32, the standard deviation is 0.46, the variance is 0.218, and the standard error of the mean is 0.021. It suggests that the claim that an online presentation is more entertaining than reading a book is accurate.

Table 4.4

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 342 | 68.0 | 68.0 | 68.0 |
|  | No | 161 | 32.0 | 32.0 | 100.0 |
|  | Total | 503 | 100.0 | 100.0 |  |
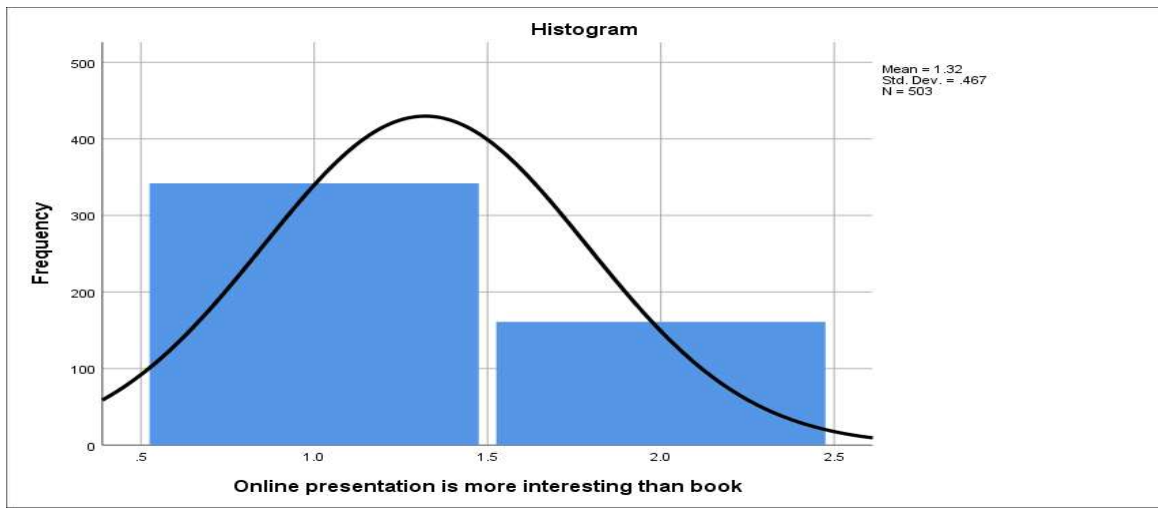


**RESULT:** According to the table, there are 342 individuals who agree with the assertion that an online presentation is more fascinating than reading a book. In response to the statement, 161 respondents gave a negative response. It suggests that the majority of responders, which amounts to 68%, are in agreement with the statement. A third of those who responded do not agree with the assertion. The mean of the statement is 1.32, and the standard deviation is 0.46, as the graph shows.

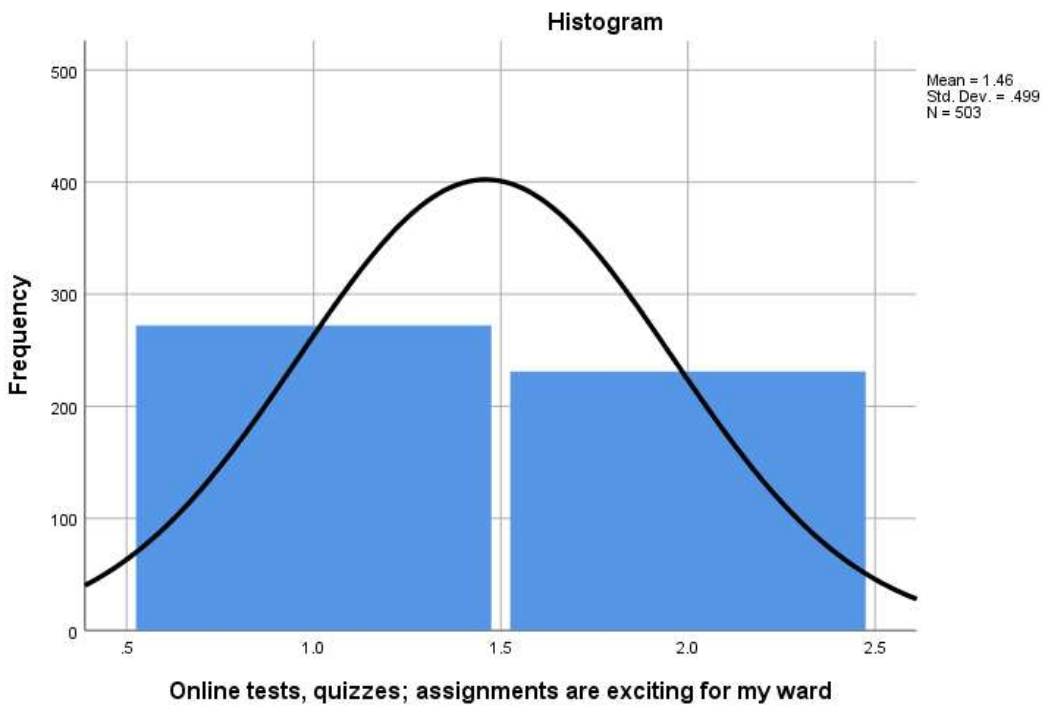**Table 4.5 Online tests, quizzes; assignments are exciting for my ward**

**Statistics**

| N | Valid | 503 |
|---|---|---|
|  | Missing | 0 |
| Mean |  | 1.46 |
| Std. Error of Mean |  | .022 |
| Median |  | 1.00 |
| Mode |  | 1 |
| Std. Deviation |  | .499 |
| Variance |  | .249 |
| Range |  | 1 |

| Sum | 734 |
|-----|-----|

The table shows that the mean score for this is 1.46, the standard deviation is 0.49, the standard error of the mean is 0.022, and the variance is 0.249. It appears that my son enjoys taking quizzes and tests online, as well as completing his tasks.

Table 4.5

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|-------------------|
| Valid | Yes | 272 | 54.1 | 54.1 | 54.1 |
| | No | 231 | 45.9 | 45.9 | 100.0 |
| | Total | 503 | 100.0 | 100.0 | |



Histogram

Mean = 1.46
Std. Dev. = .499
N = 503

Online tests, quizzes; assignments are exciting for my ward

According to the table, there were a total of 272 respondents who claimed that my ward finds excitement in online tests, quizzes, and assignments. There were 231 people who responded with a negative opinion in reaction to the message. It would appear that the vast majority of respondents, which accounts for 54.1% of the total, agree with the statement. 45.9% of people who participated in the survey have a negative opinion towards the assertion. The graph demonstrates that the average value of the statement is 1.46, and the standard deviation is 0.49.

## Table 4.6 Exploratory Factor Analysis

Factor Loadings

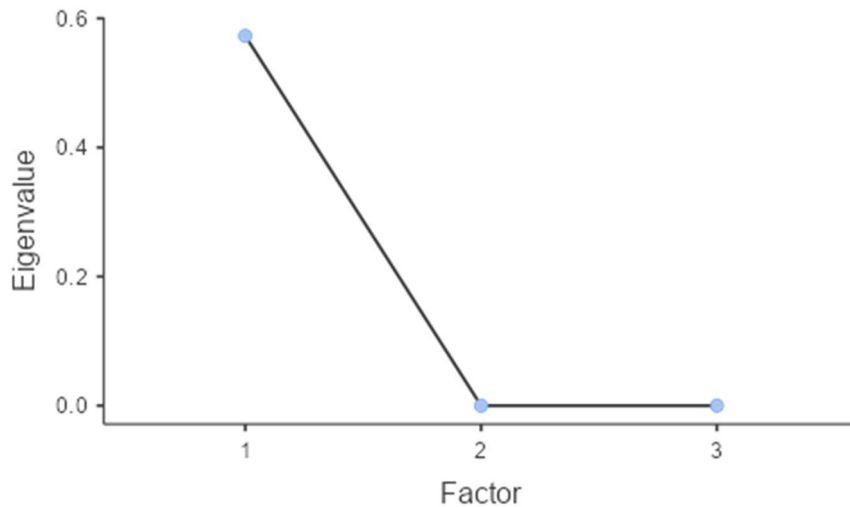| | Factor | |
| --- | --- | --- |
| | **1** | **Uniqueness** |
| Traditional learning | | |
| TL 1 | 0.0665 | 0.996 |
| TL 2 | 0.7490 | 0.439 |
| TL 3 | 0.0863 | 0.993 |

Note. 'Minimum residual' extraction method was used in combination with a 'none' rotation

### Factor Statistics

Summary

| Factor | SS Loadings | % of Variance | Cumulative % |
| --- | --- | --- | --- |
| 1 | 0.573 | 19.1 | 19.1 |

Scree Plot

**Result** tells us that by conducting exploratory factor analysis we find uniqueness of factors from 0.996 to 0.439. The lower the uniqueness more it fit to internal consistency. TL2 has lower uniqueness. It justifies the statement that traditional method follows fix time table for students. The variation percentage is the proportion (expressed in percentages) of the total variance that can be attributed to a certain element. This fraction is attributable to a certain component. The cumulative percentage represents the proportion of variance that can be attributed to both the current component as well as any previous elements. It represents the proportion of variance that may be traced towards the current component. During first row, the number 19.1 is displayed for your review. This indicates that the first component accounts for 19.1% of the overall variation in the data. The SS loadings have been computed to be 0.573.

**Table 4.7 Exploratory Factor Analysis**

Factor Loadings

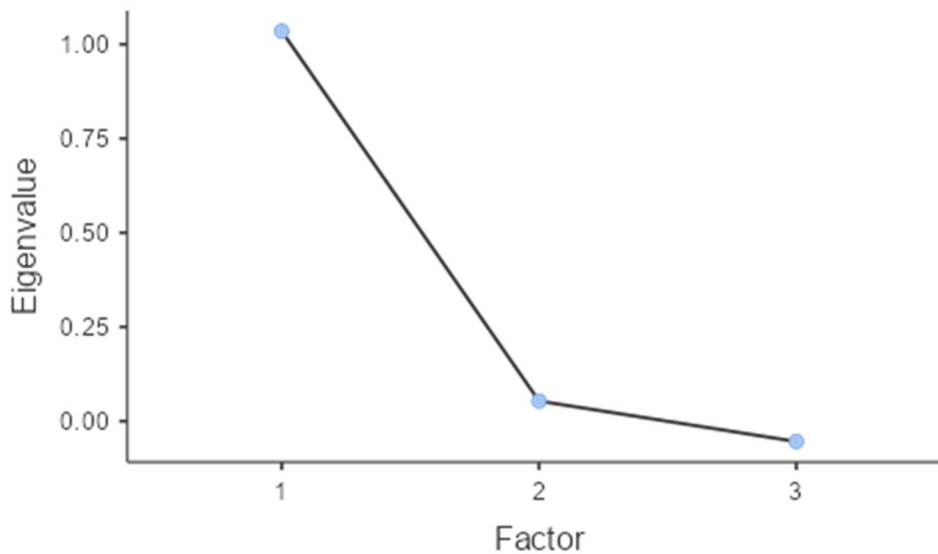| | Factor | |
|---|---|---|
| | **1** | **Uniqueness** |
| **Online learning** | | |
| OL1 | 0.9979 | 0.00419 |
| OL2 | 0.1911 | 0.96346 |
| OL3 | 0.0398 | 0.99842 |

Note. 'Minimum residual' extraction method was used in combination with a 'none' rotation

Factor Statistics

Summary

| Factor | SS Loadings | % of Variance | Cumulative % |
|---|---|---|---|
| 1 | 1.03 | 34.5 | 34.5 |

Scree Plot



**Result** tells us that by conducting exploratory factor analysis we find uniqueness of factors from 0.998 to 0.0419. The lower the uniqueness more it fit to internal consistency. OL1 has lower uniqueness. This is 0.04. It justifies the statement with online learning, topics are more or less unlimited. The variation percentage is the proportion (expressed in percentages) of the total variance that can be attributed to a certain element. This fraction is attributable to a certain component. The cumulative percentage represents the proportion of variance that can be attributed to both the current component as well as any previous elements. It represents the proportion of variance that may be traced towards the current component. During first row, the number 34.5 is displayed for your review. This indicates that the first component accounts for 34.5% of the overall variation in the data. The SS loadings have been computed to be 1.03.

## 5. DISCUSSION

Communications and information technology has changed our life in one way or another. With the development of information and communications technology, the term E-learning, which is the acquisition, use, distribution, and facilitation of knowledge in the first place by electronic means, has emerged. This type of learning depends on the Internet and computers. The adoption of E-learning in education, especially in the higher education institutions, has many benefits when it comes to its flexibility with time and space for the learners and institutions at the time of conducting meetings. This gives a greater chance to access enormous amount of information with less time and effort. E-learning is also a cost-effective method as the students do not need to travel and move every day, at the same time, the higher education institutions are less required to offer huge buildings and a large number of faculty members to keep on the progress of the educational process. On the other hand, E-learning may cause a decrease in the institutions and teachers' roles;

also, it may affect the values, the educational process and the social life of students negatively. In addition, unacceptable disciplinary actions of the students such as cheating could be hardly controlled, and the educational system is also likely to be not protected and may be a victim to piracy or plagiarism. Moreover, by using E-learning methods, it is not possible to study some scientific fields which require physical presence, for instance conducting experiments in laboratories or doing close training. The development of effective protocols for e-learning has the potential to have a sizeable influence on the degree to which students are interested in taking part in this form of instruction. Self-directed learning is an essential component in efficient learning, and in order to improve the quality of education that students receive through e-learning, student self-direction programmes ought to be strengthened. Self-directed learning is an essential component in efficient learning. These programmes may be improved by employing strategies such as self-management training and self-control, both of which are in the individual's control.

## 6. CONCLUSION

Students who wish to maintain their versatility while attending school can reap many benefits from participating in e- learning. Additionally, the COVID-19 has significantly altered the conversation surrounding education as a result of the fact that students can now locate their classes and books online, where they can also study according to their own timetables. However, students attending e- learning classes experience a variety of challenges and, as a result, search for online learning problems and possible solutions. Because more people around the world now have access to the internet, there has been an increase in demand for online education. It is common knowledge that e- learning educational environments have captured a lot of people's interest recently. However, a large number of them are confronted with some difficulties associated with online learning, such as obstructions to their all-encompassing learning experience and obstacles to the resolution of real-time uncertainties. We have provided in this article some of the challenges that are faced either by students and the professors, the effect that online classes have on students, and the recommendations regarding how to overcome the challenges that are presented by e- learning.

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