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DECLARATION

   I *GURUSHIYA SP* hereby declare that the project report entitled **"A STUDY ON FACTORS AFFECTING THE QUALTIY OF ONLINE LEARNING FROM THE PERSPECTIVE OF LEARNERS DURING THE COVID-19 PANDEMIC"**, submitted to Bharathiar University in partial fulfillment of the requirements for the award of the Degree of **B.Voc. BUSINESS PROCESS AND DATA ANALYTICS**, is a record of original an independent work done by me during December 2021-April 2021 under the supervision and guidance of M.Vennila, Phd, and Dr. J. Soonu Aravindhan Guest faculty, Department of Extension and career guidance Bharathiar University, and it has not formed the basis for the award of any Degree/Diploma/Associate ship/ Fellowship or similar other titles. IT has not been submitted to any other University or Institution for the award of any degree or diploma.

Signature of the Candidate

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CHAPTER I
INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

The COVID-19 altered everyday life and referred to as pandemic due to its severity and fierceness also declared as a national emergency in most of the countries in early 2020. This pandemic forced counties all over the world to adopt a sequence of emergency management mechanisms. Government of different countries-initiated measures such as lockdown of cities, shutting down of educational institutions as well as implementation of strict social distancing measures.

Education is the central concern of the individuals, institutions, and countries for their development. It is a system that helps to build a relationship between institutions and various countries. COVID -19 has changed the complete phase of the education sectors. Due to that educational institutions were shut down all over the world and shutting down of those caused a massive disruption to the education system.

The education system and educational institutions focus not only on education but also on involving the students in research, creativity, and innovation. UNESCO (2020) confirms that universities and schools closure have several adverse consequences on students such as interrupted learning which results in students and youth being deprived of opportunities for growth and development.

In order to mitigate the academic loss due to disease, a strategic move named as "Suspending Classes without Stopping Learning" was launched by the Ministry of Education of The Chinese Government and later followed by governments of other countries. "Suspending Classes Without Stopping Learning" aims to fight against the spread of the epidemic by suspending offline teaching and learning at educational institution and shifting to a large-scale Online Teaching and Learning (OTL) in colleges and universities across the globe.

According to the Chinese Ministry of Education (2020), the purpose of this policy is to "integrate national and local school teaching resources, provide rich, diverse, selectable, high-

quality online resources for all students across the country, and support teachers' online teaching and children's online learning". However, details about how the policy may be implemented and what effects it may cause are under fierce debate. For example, there are debates about whether online education can adequately replace the traditional offline education, whether the "epidemic" should be one of the educational topics, whether teachers and students may experience work overload, whether the home is a desirable learning environment, and to what extent students and teachers have access to the Internet and Chinese Ministry of Education attempted to respond to all these questions. It was argued that education in this time of emergency needed to be distinguished from that of a normal period. According to the government, "Suspending Classes Without Stopping Learning" reflected learning in a broad sense, which not only referred to the structured learning of the school curriculum, but covered the learning of a wide range of content. Such learning could be conducted in diverse ways, the aim of which was to support students' growth (Ministry of Education of the People's Republic of China 2020a).

Online education has been a pedagogical shift from traditional method to the modern approach of teaching-learning from classroom to Zoom, from personal to virtual and from seminars to webinars. In a short time period, millions of faculty members started to teach in front of a computer screen, and their students have to stay at home and take the courses through the internet. Teachers as well as students are exposed to new platforms such as Microsoft teams, Google hangouts, Zoom, Skype call and the other virtual classes. However, there is ambiguity and disagreement about what to teach, how to teach, the workload of teachers and students, the teaching environment, and the implications for education equity.

Previously, e-learning, distance education and correspondence courses were popularly considered as the part of non-formal education, but as of now, it seems that it would gradually replace the formal education system if the circumstances enduringly persist over the time.

In a total of 195 countries all over the world, 191 counties were affected by COVID-19. Around 429 universities across the world were shut down and started conducting online classes and e-learning. At this global pandemic time, administrators, teachers, and students had the dilemma of how to achieve the overall objectives of the institutions and individuals. In March 2020, the Centers for Disease Control and Prevention issued guidelines on the alternative teaching methods to communicate the class works and assignments to the students. The popular virtual

classroom applications such as ZOOM, Google Classroom, Moodle, and Blackboard play a vital role in the transition from face-to-face classes to online and Online-learning system.

However, due to the sudden emergence, most faculty members are facing the challenges of lacking online teaching experience, early preparation, or support from educational technology teams. In addition to the challenges to the faculty, existing research indicates that more than 60% of Chinese college students have a tendency to have ambiguous future career goals, lack active academic involvement (the average total graduation credit requirement for Chinese universities is 163 credits) (Bao, 2019; Bao & Zhang, 2012). In addition, based on an analysis of students' responses in social media, for such a large-scale online teaching, the challenges for students did not come from technical operational obstacles rather they have difficulties due to the lack of good learning attitude. Students often had problems such as lack of self-discipline, suitable learning materials, or good learning environments when they are self-isolated at home.

Internet technologies and mobile applications have transformed the education system from the traditional structure to the modern method of teaching. Self-efficiency of the teachers in terms of technology, subject knowledge, and content developments reflect on the students' attitude towards the teachers. Also, the advancement in educational technology has crossed the classroom boundaries and ensures the learning available all the time and enables the teachers to access the students at any time across boundaries and vice versa.

But compared with traditional in-class lectures, faculty have less control over online teaching, and students are more likely to "skip the class". Therefore, the progress of online teaching and its learning effectiveness largely depend on students' high-level active learning outside of class. To this end, faculty should use various methods to moderately modify students' homework and reading requirements to strengthen students' active learning outside of class.

The result or outcome of the education system is the critical factor that determines the quality of education. Moreover, there should be clarity on the curriculum for an in-depth understanding of the course content. The quality of education must be evaluated from the students' perspective because they are the end-users of the product. High quality of higher education is a prerequisite component in delivering knowledge and skill development.

The quality of education comprises the visible (course materials) and invisible (delivery to the students) elements. The developing and developed countries need to ensure the quality of education to equip the students to face the competitive world.

Therefore, in this research study, we consider seven independent factors.

Construct	Authors
Course Content	Makokha & Mutisya, 2016
Course Design	Makokha & Mutisya, 2016
Social Support	Queiros & de Villiers, 2016
Instructor characteristics	Makokha & Mutisya, 2016
Learner characteristics	Makokha & Mutisya, 2016
Student's Activity	Makokha & Mutisya, 2016
Acceptance of E-Learning	Makokha & Mutisya, 2016

Each of these variables will be tested to find a relationship with the quality of e-learning. An extended relationship is measured with gender and the level of course.

The framework was developed from the high indexed journals, published data, and research discussed using the various definitions and on practical experience. The results were analyzed, interpreted in detail, based on the perspective of the students, and concluded with a view for future research. The purpose of the study is to bring out the importance of quality of e-learning in the higher educational instructions and its importance during the COVID-19 pandemic. Further, the study aimed to stress the use of technology in satisfying the needs of quality education and expectations of the students.

1.2 CONCEPTS RELATED TO ONLINE LEARNING

Online learning defined in simple terms, is the ability to learn on a virtual platform. The usual recognized method of learning involves a physical meeting with a teacher in the class where the teacher feeds you knowledge. This means that you have to physically go to campus and attend a class. Online learning courses are the same as other on-campus courses in every aspect, apart from the delivery of knowledge from the teacher to the student.

Main educational methodologies are:

1. The traditional classroom education, where books, blackboards are used by the teacher as a teaching aid
2. Modern classroom education, where the classrooms are equipped with whiteboards, projectors or audio-visual display equipment and digital boards
3. Online education, where the information technologies and communications are used to help in the development and acquisition of knowledge from the different remote locations. It uses the internet and video/audio and text communication and software to create the learning environment

There can be several types of online learning:

- **Knowledgebase**

Knowledgebase type is a set of lessons that are published on the website and have general instructions of learning that a student has to follow, with no support available.

- **Online support**

Online support type is a modified version of the knowledge base, where the support is available so there is a discussion board, web forum or another communication way available to get support on some topics.

- **Asynchronous training**

Asynchronous training is the one where the lessons do not take place in real-time, but the students are provided with content regularly. Instructors are assigned and provide support through email or other communication platforms.

- **Synchronous training**

Synchronous training is done in real-time with a live instructor and optional moderator. There is a pre-set time to log-in to the online education environment and participants can communicate directly with the teacher and other group members.

- **Hybrid training.**

Hybrid training is a combination of online and in-person interaction

Teaching and learning during Online Learning

In an Online class both the instructor or the teacher and the listener or the student will be on-line rather offline. Using any one of the software that is meant for conducting webinars they both transfer their communication. A person can login to the webinar using the meeting link. When it comes to school, colleges and universities usually the instructor or the teacher teaches the course content to the listeners or the students at the other end. The software is designed in such a way that every person who logged in can have access to their individual mic and video camera. The user or the person who logged in can either turn on or off their mic and camera based on their requirements an interest. There will be a common chat box through which the people in the meeting can send text messages. Even recording the entire session or the webinar is even possible while conducting the classes over online.

1.3 NEED OF THE STUDY

Online education system has developed rapidly around the world during the COVID-19 pandemic and has gradually become an important category of education. The developing and developed countries need to ensure the quality of education to equip the students to face the competitive world. The result or outcome of such online education system is the critical factor that determines the quality of the education. The quality of education must be evaluated from the students' perspective because they are the end-users of the product. And with that regard, the study has been undertaken to study the factors affecting the quality of online learning among the students.

1.4 OBJECTIVES OF THE STUDY

1. To study the demographic profile of the learners.

2. To find out the significant difference of opinion in the factors of online learning based on the demographic classification of learners.

3. To find out the relationship between factors of online learning among the learners

4. To find out the impact of online learning factors on the quality of online-learning among of learners.

1.5 SCOPE OF THE STUDY

The study will be beneficial for academic researchers from different countries and regions with a different set of students and framework to comprehend the perception of the leaners regarding the quality of the online-leaning so that sufficient efforts could be undertaken by the policy makers to improve delivery, evaluation and interaction among students and the teachers which brings a healthier teaching-learning atmosphere.

1.6 LIMITATION OF THE STUDY

This study has some limitations. The study draws sample from the Undergraduate and Post-graduate students under the arts and science stream especially in Tamilnadu, future studies may replicate the study in various other remaining areas as well in different parts of country. And as the study was carried out in arts and science stream generalization of the results to other streams such as engineering and technology would be hardly possible. Apart from this, the travel restrictions and closed-down of universities and colleges are one of the limitations of the study.

1.7 CHAPTER SCHEME

This research is organized into five chapters as follows,

Chapter I _ Introduction

The chapter deals with the introduction of the study, Concepts related to online learning, objectives, scope of the study and the chapter scheme.

Chapter II – Review of literature

The various concepts and definitions of the study area are defined and the related review of the previous studies is presented.

Chapter III – Methodology

A description of the entire study, sampling techniques and instruments of data collections and statistical tool for analyzing the data are presented.

Chapter IV – Data Analysis and Interpretation

Presents an analysis of the data collected from the Under graduate and Post graduate students of the arts and science on the various aspects of quality of online learning.

Chapter V – Finding, suggestions and conclusion

An objective summary of work done and the findings are presented. Suggestions and conclusions were drawn.

CHAPTER II

REVIEW OF LITERATURE

2.1 INTRODUCTION

In this chapter, the most relevant research and theories related to online learning and the quality of online learning were discussed. The Literature Review will provide a theoretical knowledge related to the factors affecting the quality of online learning among the learners during the COVID-19 pandemic.

2.2 RELATED RESEARCH AND THEORIES

Elumalai, Sankar, John, Menon, Alqahtani, & Abumelha (2020) Studied the relationship of seven independent factors: administrative support, course content, course design, instructor characteristics, learner characteristics, social support, and technical support on quality of e-learning in higher education during the COVID-19 pandemic. They aimed at pointing out the variables that influence the quality of e-learning. The findings revealed that there is a positive relationship between the set of variables and the quality of e-learning and also, there is a significant difference in the perception of the students between gender, level of the course, and quality of e-learning. From the results we can understand that there should be a difference in the procedure of providing e-learning and there is a need for improvement in these areas to enhance the quality of e-learning. Further, there should be some improvisation in the course content and the extent of the administrative support to enhance the quality of e-learning. Moreover, it is proved that the systematic approach of e-learning is an appropriate tool to educate the students during COVID-19.

Wei Bao (2020) presented five principles of high-impact teaching practice to effectively deliver large-scale online education, through the case analysis of Peking University's online education. First, the principle of appropriate relevance. The quantity, difficulty, and length of teaching content should match with the academic readiness and online learning behavior characteristics of students. Second, the principle of effective delivery. Due to students' characteristics of low concentration in online learning, it is essential to adjust the teaching speed in order to ensure the effective delivery of teaching information. Third, the principle of sufficient

support. Faculty and teaching assistants need to provide students with timely feedback, including online video tutoring and email guidance after class. Fourth, the principle of high-quality participation. It is necessary to adopt some measures to improve the degree and depth of students' class participation. Last, the principle of contingency plan preparation. In view of the extraordinarily large scale of online education, it is necessary to make contingency plans in advance for addressing possible problems such as the traffic overload issue of the online education platform. Furthermore, since this online teaching "migration" is implemented quickly during the outbreak of COVID-19, students' anxiety needs to be relieved in various ways to ensure that they can actively and effectively engage in online learning.

Longjun Zhou, Fangmei Li, Shanshan Wu, Ming Zhou (2020) conducted a study on the "School's Out, But Class's On" campaign launched by the Chinese government during the COVID-19 epidemic created a large-scale, normal online education application. They analyzed the background of this large-scale online education, clarified the foundation of large-scale online education, and revealed the impact of the largest online education activities on society and education. Due to the need to prevent and control the COVID-19 epidemic, schools postponed the start of 2020 spring semester, so students cannot study at school during normal school hours. The Ministry of Education requires local education departments and schools to do a good job of "School's Out, But Class's On" during the postponed period, to provide students with learning resources and learning support services to help solve practical difficulties. "School's Out, But Class's On" is not just a crisis response plan, it is more like an exploration of a new type of education and teaching model in the spirit of reform by using modern information technology Transforming student learning methods and teacher teaching methods has an impact on the reconstruction of ecological education models in China and even worldwide.

Giorgi Basilaia, David Kvavadze (2020) studied the capacities of the Georgia and its population to continue the education process at the schools in the online form, the study reviewed different available platforms and indicates the ones that were used by the support of the government, such as online portal, TV School and Microsoft teams, Zoom, Slack and Google Meet, Edu Page platform. Authors actually made a case study, where the Google Meet platform was implemented for online education in a private school with 950 students, shows the usage statistics generated by the system for the first week of the online education process. Results

confirmed that the quick transition to the online form of education went successful and gained useful experience. The experience and studies can be useful for other countries that have not found the ways of transition yet.

Wunong Zhang, Yuxin Wang, Lili Yang and Chuanyi Wang (2020) studied the emergency policy initiative called "Suspending Classes Without Stopping Learning" that was launched by the Chinese government during COVID-19 pandemic to continue teaching activities during the educational institutions were closed to control the spread of the disease. In general people say that the policy has been carried out in an orderly manner but specifically, the government primarily carried out five moves to implement the policy such as Integrating national resources and planning at the top-level, training teachers, enabling local authorities and schools to carry out online teaching in line with local conditions, formulating guidelines to prepare for smooth transition back to normal offline education after the epidemic, working out a plan for school reopening after the epidemic. And the possible difficulties that the policy faced include: the weakness of the online teaching infrastructure, the inexperience of teachers (including unequal learning outcomes caused by teachers' varied experience), the information gap, the complex environment at home, and so forth. To tackle the problems, they suggested that the government needs to further promote the construction of the educational information superhighway, consider equipping teachers and students with standardized home-based teaching/learning equipment, conduct online teacher training, include the development of massive online education in the national strategic plan, and support academic research into online education, especially education to help students with online learning difficulties.

Sahar Abbasi, Tahera Ayoob, Abdul Malik, Shabnam Iqbal Memon (2020) The purpose of this study was to determine the perceptions of students towards e-learning during the lock down. A descriptive cross-sectional study was conducted at Liaquat College of Medicine and Dentistry. MBBS and BDS students of all levels participated in the study with a sample size calculated as 377. The results revealed that students did not prefer e-teaching over face-to-face teaching during the lock down situation. Majority of the students preferred face to face teaching over e-teaching and the students are not yet ready for e-learning. Students are still more inclined towards face-to-face teaching rather than e-teaching. Administration and faculty members should take necessary

measures for improving e-teaching quality to help with better learning of students during lock down.

Michael P. A. Murphy (2020) stated that the COVID-19 pandemic quickly led to the closure of universities and colleges around the world, in hopes that public health officials' advice of social distancing could help to flatten the infection curve and reduce total fatalities from the disease. Drawing on Copenhagen school securitization theory and analyzing 25 declarations of emergency e-Learning at American universities, they argue that in addition to COVID-19 being framed as a general threat, face-to-face schooling was also presented as a threat through these policies. A review of securitization theory—with particular attention to the question of advocacy and the relationship of DE securitization to emancipation—grounds the investigation theoretically. It has been argued that securitization theory is an important tool for educators not only for observing (and understanding) the phenomenon of emergency e-Learning, but also for advocating the DE securitization of schooling after the COVID-19 crisis passes.

Zienab Alrefaie, Mohammed Hassanien, Abdulmonem AlHayani (2020) stated that under the unprecedented circumstances of COVID-19 pandemic and as a part of the social distancing measures taken to minimize the spread of the coronavirus SARS-CoV-2, suspension of in-campus activities was declared in all educational institutions in almost all countries all over the world. Distance learning through different learning management systems and platforms totally replaced face-to-face learning, and tremendous efforts are being offered by all faculty to continue teaching and assessment of their courses. This opinion aimed to highlight the importance of creating a monitoring portfolio that contains appropriate indicators, both quantitative and qualitative, to address the strengths and weaknesses of technology dependent learning from an educational and not only a technical perspective. Measures and indicators to be considered for monitoring online education include Monitoring Technology tool used/ LMS, Monitoring Faculty performance and satisfaction Self-perceived proficiency, Monitoring Student engagement, Monitoring Student Satisfaction, Monitoring Student achievement. The information extracted from these portfolios would probably improve the efforts currently being carried out in online teaching and assessment. It would ultimately help educational institutions to define the pros and cons of technology-dependent learning over technology-blended learning to reach a reasonable consensus on the use of technology in education after we recover the COVID-19 pandemic.

Ammar Y. Alqahtani & Albraa A. Rajkhan (2020) identified that the critical success factors for E-learning during COVID-19 using the multi-criteria Analytic Hierarchy Process (AHP) and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) techniques to enhance the educational process. Data were generated by interviewing 69 E-learning managers in educational institutions during COVID-19 based on defined evaluation criteria and E-learning approaches through several channels. We found that technology management, support from management, increased student awareness to use E-learning systems, and demanding a high level of information technology from instructors, students, and universities were the most influential factors for E-learning during COVID-19. Among the five learning systems, blended learning was the most suitable learning system to practice. These results demonstrated that, regardless of how extraordinary the technology is in an educational institution, the readiness of E-learning execution played a large role in boosting the educational process during the COVID-19 pandemic.

Mohammed Amin Almaiah, Ahmad Al-Khasawneh & Ahmad Althunibat (2020) stated that the provision and usage of online and e-learning system is becoming the main challenge for many universities during COVID-19 pandemic. E-learning system such as Blackboard has several fantastic features that would be valuable for use during this COVID-19 pandemic. However, the successful usage of e-learning system relies on understanding the adoption factors as well as the main challenges that face the current e-learning systems. There is lack of agreement about the critical challenges and factors that shape the successful usage of e-learning system during COVID-19 pandemic; hence, a clear gap has been identified in the knowledge on the critical challenges and factors of e-learning usage during this pandemic. Therefore, the study explored the critical challenges that face the current e-learning systems and investigate the main factors that support the usage of e-learning system during COVID-19 pandemic.

Ozlem Cakir (2014) stated that in distance learning systems, students' satisfaction is a significant issue in terms of student attendance and not feeling lonely. The author analyzed the relationship between online students' satisfaction and their demographic characteristics. Whether satisfaction levels of students who are continuing in the program in which various information and midterm examinations were given online significantly differ in terms of age, computer literacy levels, internet accessibility and computer experience intended to be examined. Besides, whether there is a relationship between student achievement levels and satisfaction scores was tested. As a

result of the statistical analysis of student data, which was obtained from an online program, it was found out that while online students' satisfaction levels did not significantly differ in terms of age, computer literacy levels and internet accessibility, it significantly differs in terms of internet experience.

Lokanath Mishraa, Tushar Gupta & Abha Shree (2020) stated that the whole educational system from elementary to tertiary level has been collapsed during the COVID-19 lockdown period. The study portrays the online teaching-learning modes adopted by the Mizoram University for the teaching-learning process and subsequent semester examinations. The paper employs both quantitative and qualitative approach to study the perceptions of teachers and students on online teaching-learning modes and also highlighted the implementation process of online teaching-learning modes. During the COVID-19 phase, this mode of education is useful, and thus it can be managed as a transition mechanism. Majorities of teachers opined that faculty might be better motivated only if they can be convinced that the online method of teaching has more advantages, especially during the lockdown period. As far as students' perception on online teaching-learning, they opined that online learning process during the time of COVID-19 had helped them in touch with their lessons outside the four walls of the classroom that has been prohibited the gathering of crowds in the classroom and created an alternative for completion of the syllabus.

Ronny Scherer, Sarah K. Howard, Jo Tondeur & Fazilat Siddiq (2020) stated that the COVID-19 pandemic has forced a shift to online teaching and learning (OTL) in colleges and universities across the globe, requiring teachers to adapt their teaching in a very short time—independent of whether they were prepared. Overall, the results of the study suggested that teachers in higher education are not a homogeneous group with respect to their reported readiness for OTL—yet, different subgroups of teachers exist which may require different approaches for support. Identifying such profiles is key to making visible the heterogeneity between teachers and, ultimately, facilitate tailored support for implementing OTL. In sum, teachers' readiness for OTL goes beyond their self-efficacy and teaching presence and depends on the institutional, cultural, and innovation context.

Sangeeta & Urvashi Tandon (2020) Studied the factors which encourage adoption of online teaching at the time of COVID-19 pandemic induced lockdown. Empirical data was gathered from 643 school teachers by means of an online survey. This research thus provides useful information

to the school administrators to implement hassle-free online teaching at this phase of lockdown. In addition, the study has been undertaken to comprehend the perception of school teachers so that sufficient efforts could be undertaken to improve delivery, evaluation and interaction among students and teachers. Results revealed that in-house training programs and proper equipment helps in familiarization of faculty members with novel technologies thereby facilitating their adoption and the teaching fraternity is influenced with experiences of peers who are performing some activity on a particular technology.

Pimtong Tavitiyaman, Lianping Ren & Chloe Fung (2021) stated that the recent COVID-19 pandemic has forced all teaching and learning activities to shift to online platforms. Hospitality students are not exempted from that transition even though they are used to offline learning environment and often take a blended learning of theoretical and practical components. The sudden change has caused disruptions in their learning process and created all kinds of anxieties. Thus, the study was aimed to explore how the personality traits of hospitality students are associated with their level of anxieties and how their learning experience is affected. A survey was conducted in Hong Kong shortly after the affected semester ended. Results showed that students with high levels of agreeableness and openness to experience perceive a high degree of learning, technical, and financial anxiety. By contrast, students with high levels of scrupulousness, extraversion, and neuroticism partially sense a low degree of these anxieties. Results also revealed that a low degree of learning and financial anxiety can enhance students perceived online learning and consequently improve student satisfaction.

Elham Hussein, Sumaya Daoud, Hussam Alrabaiah & Rawand Badawi (2020) did a qualitative study that aimed to investigate the attitudes of undergraduate students towards their experience with emergency online learning during the first few weeks of the mandatory shift to online learning caused by COVID-19. Students from two general English courses at a university located in Abu Dhabi in United Arab Emirates were asked to write semi-guided essays during the week preceding the final exams of the second semester of the academic year 2019–20. A sample of these essays was analyzed using open coding. Findings revealed that cost and time-effectiveness, safety, convenience and improved participation were the most frequently cited positive aspects of the emergency online learning experience, while distraction and reduced focus, heavy workload, problems with technology and the internet, and insufficient support from

instructors and colleagues were the most recurrent negative aspects. The findings of the study helped instructors and institutions understand students' attitudes regarding online learning under abnormal circumstances. A number of recommendations informed by the interpretation of the participants' feedback are offered to assist instructors, administrators and policy makers improve future online learning experiences.

Md. Estiar Rahman, Md. Saiful Islam, Md. Sajan Bishwas, Mst. Sabrina Moonajilin & David Gozal (2020) did a study that aimed at determining the prevalence of physical inactivity and sedentary behaviors during the COVID-19 pandemic among Bangladeshi people. An online survey was conducted among 2,028 people over a period of 10 days on June, 2020 during the COVID-19 pandemic. Physical inactivity is prevalent among the Bangladeshi population during the COVID-19 pandemic, and appears to be largely impacted by socio-demographic factors. Moreover, one-fifth of the cohort reported high sedentary behaviors. The findings suggested that there is a need to promote regular physical exercise in the context of home quarantine measures and increase awareness to induce cogent avoidance of activities related to sedentary behaviors during the COVID-19 outbreak.

T. Muthuprasad, S. Aiswarya, K.S. Aditya & Girish K (2020) stated that the educational institutes across the world have closed due to the COVID-19 pandemic risking the academic calendars. Most educational institutes have shifted to online learning platforms to keep the academic activities going. However, the questions about the preparedness, designing and effectiveness of e-learning is still not clearly understood, particularly for a developing country like India, where the technical constraints like suitability of devices and bandwidth availability poses a serious challenge. The study focused on understanding Agricultural Student's perception and preference towards the online learning through an online survey of 307 students. They have also explored the student's preferences for various traits of online classes, which will be helpful to design effective online learning environment. The results indicated that majority of the respondents (70%) are ready to opt for online classes to manage the curriculum during this pandemic. Majority of the students preferred to use smart phone for online learning and they prefer recorded classes with quiz at the end of each class to improve the effectiveness of learning. The students opined that flexibility and convenience of online classes makes it attractive option, whereas broadband connectivity issues in rural areas makes it a challenge for students to make use of online learning

initiatives. However, in agricultural education system where many courses are practical oriented, shifting completely to online mode may not be possible and need to device a hybrid mode.

Amir Maroof Khan, Somdatta Patra, Neelam Vaney, Mohit Mehndiratta & Renu Chauhan (2020) detailed that COVID-19 pandemic compelled medical schools to opt for online mode in medical education. The competency-based curriculum started in India last year onwards allotted more hours to practical teaching than lectures. As the lockdown extended, there was a need to shift laboratory teaching to online mode. The authors shared their experiences of developing and implementing a framework to rapidly shift practical lab teaching of preclinical subjects to online mode. Results revealed that a Demonstrate-Engage-Assess framework for online Practical teaching of Preclinical subjects (DEAPP) was developed and implemented. Feedback was obtained from 103 first year students and six teachers from preclinical subjects. Around 62% - 80% students were satisfied with online practical teaching or agreed with benefits of various online tools used in the teaching sessions. Teachers found the framework more planned, and resource efficient, while students found it to be more engaging, enjoyable, and motivated for learning. No face-to-face interaction, non-experiential learning, and adaptation to newer technology were the main barriers perceived in online practical laboratory teaching. DEAPP framework was found to be feasible for rapid online transition of practical lab teaching and reported by the students and teachers as engaging, enjoyable and motivated learning.

Ghulam Murtaza Rafique, Khalid Mahmood, Nosheen Fatima Warraich & Shafiq Ur Rehman (2020) conducted a study to determine the perceived online learning readiness (OLR) of LIS (Library and Information Sciences) / IM (Information Management) students in Pakistan during COVID-19 pandemic. A quantitative approach based on survey method was used to collect data from 340 LIS students from nine public sector universities of Pakistan through an online questionnaire. The findings revealed that LIS students were not fully personalized and successful in decisions about their online educational activities during COVID-19 pandemic. However, they were motivated to learn through online learning and felt confident in performing basic functions of computers and internet. A significant difference of opinion was observed on 'computer/internet self-efficacy' and 'online communication self-efficacy' based on respondents' gender. Similarly, students from different levels of degree programs reported significantly different computer,

internet, and online communication self-efficacy and learning motivation. Moreover, the age and grades of respondents were noted to be strong predictors of their OLR.

Neetha Devan (2020) Stated that the closure of educational activities in the mid-march 2020 in India as well in Kerala due to the ongoing covid-19 pandemic resulted in unplanned shift from traditional class rooms to online classes. The author explored the perspective of school children regarding the effectiveness of learning online as well the difficulties or hurdles faced in remolding themselves to meet the requirement of the pedagogy. The school students with the sudden closure of schools missed out their educational opportunities as well had to face a lot of unprecedented challenges. The limited access to internet, lack of uninterrupted power supply, ill equipped teachers and students with the online mode of teaching-learning, absence of a robust monitoring system, hindrance in establishing a healthy rapport between the students and teachers, bridging the patchy and impersonal connect in an online atmosphere, unavailability of tools to create content in regional languages, are all still few of the many challenges faced on a daily basis. For families with multiple children, accessibility to gadgets for all still remains a major hinderance. For those who have access to the right technology and other facilities, online learning journey has been smooth. This pandemic situation could develop an innovative teaching-learning practice in education. Due to the digital gap, it could also result in creating even larger inequality in education.

Deepika Nambiar (2020) conducted an online survey regarding teacher's and student's perception and experience related to online classes during COVID-19. The study described the perception of college and university teachers and students with regard to taking online classes that have been made mandatory in the wake of COVID-19. The data has been collected from 70 teachers and 407 students from colleges and universities in Bangalore city by means of an Online survey. The findings revealed certain points that were considered crucial for teacher and student to be satisfied with online classes, those points were: quality and timely interaction between student and professor, technical support availability, structured online class modules, and modifications to accommodate conduction of practical classes. Teachers and students' comfort with online class design, structure, level of interaction between students and faculty, the quality and amount of class content, technical support, and overall experience with online class delivery impact the overall teaching and learning experience and determines the ultimate success or failure of online mode of education.

Ryotaro Hayashi, Marito Garcia, Angelica Maddawin & K. P. Hewagamage (2020) stated that the temporary closure of educational institutions during the coronavirus disease (COVID-19) pandemic has abruptly transformed the global education landscape in favor of distance learning. This radical shift saw a surge in the use of various digital platforms and applications, including digital learning management systems, collaboration platforms for live-video communication, massive open online courses (MOOCs), and tools for creating learning content. Some platforms have offered free access to basic services, especially during the pandemic, which higher education institutions used extensively, especially among academic staff and students with digital experience. For example, 90.3% of universities in Japan were providing distance learning as of 1 June 2020. In upper-middle-income countries, 88% of youth managed to continue learning, including 54% by video lectures and 40% by online testing. Students also actively joined online education, achieving an 88% participation rate for both state and nonstate institutions. More than half of responding students taking online education joined every day, although around 10% responded that they attended online learning only once a week. Nearly 90% of students were highly or moderately satisfied with online education.

Andreas Schleicher (2020) stated that the COVID-19 pandemic has not stopped at national borders. It has affected people regardless of nationality, level of education, income or gender. Education is no exception. Students from privileged backgrounds, supported by their parents and eager and able to learn, could find their way past closed school doors to alternative learning opportunities. International students were particularly badly hit at the start of the lockdown as they have to decide whether to return home with limited information about when they might return, or remain in their host country with restricted employment and education opportunities, all while sorting out their visa status. Beyond the transactional learning experience, these students are also losing out on other benefits of international mobility such as international exposure, access to a foreign job market and networking.

A report namely "policy brief: education during covid-19 and beyond" from United Nations (2020) concluded that the shock of the COVID-19 crisis on education has been unprecedented. It has set the clock back on the attainment of international education goals, and disproportionately affected the poorer and most vulnerable. There remains a risk of a downward spiral, in a negative feedback loop of learning loss and exclusion. Yet every negative spiral of

aggravating socio-economic circumstances suggests its reverse image of a positive spiral, one which would lead to the future of education we want: one of inclusive change in education delivery, of unleashing the potential of individuals, and of collective fulfilment, in all areas of life, through education investment. There is unlimited drive, and untapped resources, we can count on for the restoration, not only of education's essential services, but of its fundamental aspirations. It is the responsibility of governments and the international community to stay true to principles and conduct reforms, so that, not only will the children and youth regain their promised future, but all education stakeholders find their role in making it happen.

Troy Devon Thomas, Lenandlar Singh & Kemuel Gaffar (2013) compared the utility of modified versions of the unified theory of acceptance and use of technology (UTAUT) model in explaining mobile learning adoption in higher education in a developing country and evaluated the size and direction of the impacts of the UTAUT factors on behavioral intention to adopt mobile learning in higher education. The data were obtained through a web survey of university students and the models are estimated in a structural equation modelling framework. Many of the UTAUT relationships are confirmed, but some are contradicted. The results suggest that culture and country level differences moderate the UTAUT effects, hence, a straightforward application of the model regardless of the context can lead to non-detection of important relationships and to suboptimal mobile learning promotion strategies.

CHAPTER III

RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

Descriptive study is used for this research to gather descriptive information. The major purpose of descriptive research is to describe the characteristics or features or profile of the population or a phenomenon or sample which is having a direct or indirect relationship with the variables taken for the research.

3.2 SAMPLING TECHNIQUE

Snowball sampling technique was used in the study. Snowball sampling or chain-referral sampling is a non-probability sampling technique in which the initial samples provide referrals to other sampling required for the study, snowball sampling method is extensively used when the population is unknown. Hence, in this study the Under-graduate and post-graduate students of arts and science stream were taken as samples and the sample size of the study is 196.

3.3 DATA COLLECTION

Primary data:

Primary data has been collected with the help of structured questionnaire, through online portals and in person.

Questionnaires:

A structured questionnaire is framed to collect information from the respondents which includes demographic variables, dichotomous questions and five points Likert scale. The questionnaire was collected in person, through email and by scheduling whenever it was required.

Secondary Source:

Article, newspaper, magazines, websites, books**.**

3.4 PERIOD OF STUDY

The present study has been carried out for 4 months, and in that, 15 days was allocated exclusively for data collection.

3.5 STATISTICAL TOOL USED

- Percentage analysis
- Descriptive analysis (Mean and standard deviation)
- Independent Sample T-test
- One way ANOVA (Analysis of Variance)
- Correlation
- Regression

Statistical Package for Social Science (SPSS) version 26, had been used for analysis of the data collected.

Percentage analysis

Percentage analysis is one of the basic statistical tools which is widely used in analysis and interpretation of primary data. It deals with the number of respondents response to a particular question and the percentage arrived from the total population selected for the study. It is one of the simple forms of analysis which is very easy for anyone to understand the outcome of the research.

Descriptive analysis (Mean and standard Deviation)

Mean:

One of the main objectives of statistical analysis is to get a single value that describes the characteristic of the entire data. Such a value is called the central value and the most commonly used measures of central tendencies are Mean, Median and Mode. Mean, also known as arithmetic average or arithmetic mean, is the most common measure of central tendency or the measure of statistical average. It may be defined as the value which we get by dividing the total of the values of various given items in a series by the total number of items (n). But it suffers from some limitations viz., it is unduly affected by extreme items

$$\text{Mean or } \overline{X} = \frac{\sum X_i}{n}$$

where X = The symbol we use for mean (pronounced as X bar)

$\sum$ = Symbol for summation

X_i = Value of the ith item X, i = 1, 2, …, n

n = total number of items

Standard Deviation:

An average can represent a series only as best as a single figure can, but it certainly cannot reveal the entire story of any phenomenon under study. Specially it fails to give any idea about the scatter of the values of items of a variable in the series. In order to measure this scatter, statistical devices called measures of dispersion are calculated. Important measures of dispersion are (a) range, (b) mean deviation and (c) standard deviation. Standard deviation is most widely used measure of dispersion of a series and is commonly denoted by the symbol 'σ' (pronounced as sigma). Standard deviation is defined as the square-root of the averaged squared differences from the mean. It shows how much variation is there from the mean. It explains how widely the values in a data set are spread around the mean (i.e Uniformity in deviation). A low standard deviation indicates that the data points tend to be very close to the mean, where as a high standard deviation indicates that the data is spread out over a large range of values.

$$\text{The standard deviation or } \sigma = \sqrt{\frac{\sum (X_i - \overline{X})^2}{n}}$$

Independent sample T-test

The Independent Samples *t* Test is a parametric test which compares the means of two (and only two) independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. This test is also known as Independent *t* Test, Independent Measures *t* Test, Independent Two-sample *t* Test, Student *t* Test, Two-Sample *t* Test, Uncorrelated Scores *t* Test, Unpaired *t* Test, Unrelated *t* Test. The variables

used in this test are known as dependent variable or test variable and Independent variable or grouping variable.

The Independent Samples *t* Test is commonly used to test the following:

- Statistical differences between the means of two groups
- Statistical differences between the means of two interventions
- Statistical differences between the means of two change scores

One way ANOVA (Analysis of Variance)

The One-way (or single factor) ANOVA is used to determine whether there are any statistically significant differences between the means of three or more independent (unrelated) and it tend to useful only when there is a minimum of three, rather than two groups. Under one-way ANOVA, we consider only one factor and then observe that the reason for said factor to be important is that several possible types of samples can occur within that factor. We then determine if there are differences within that factor. It should be remembered that ANOVA test is always a one-tailed test, since a low calculated value of F from the sample data would mean that the fit of the sample means to the null hypothesis (viz., XX X 1 2 = = k ...) is a very good fit.

Correlation analysis:

Correlation analysis is a statistical method used to evaluate the strength of relationship between two quantitative variables. A high correlation means that two or more variables have a strong relationship with each other, while a weak correlation means that the variables are hardly related. In other words, it is the process of studying the strength of that relationship with available statistical data. Correlation analysis typically gives us a number result that lies between +1 and -1. The +ve or –ve sign denotes the direction of the correlation. The positive sign denotes direct correlation whereas the negative sign denotes inverse correlation. Zero signifies no correlation. And the closer the number moves towards 1, the stronger the correlation is and the closer the number moves towards -1, the weaker the correlation is. Usually for the correlation to be considered significant, the correlation must be 0.5 or above in either direction.

Regression analysis:

Regression is the determination of a statistical relationship between two or more variables. In simple regression, we have only two variables, one variable (defined as independent) is the cause of the behavior of another one (defined as dependent variable). Regression can only interpret what exists physically i.e., there must be a physical way in which independent variable X can affect dependent variable Y. The basic relationship between X and Y is given by

$$Y = a + bX$$

Thus, the regression analysis is a statistical method to deal with the formulation of mathematical model depicting relationship amongst variables which can be used for the purpose of prediction of the values of dependent variable, given the values of the independent variable.

CHAPTER IV

ANALYSIS AND INTERPRETATION

Introduction

In this chapter, the analysis and interpretation of the study has been provided. The data are summarized in the form of table leading to interpretation and appropriate conclusion. The collected information is classified and the following tools are applied in the line with objective of the study.

4.1 Percentage Analysis (Demographic profile of the Respondents)

4.2 Descriptive Statistics (Mean and Standard deviation)

4.3 Individual Sample T-Test

4.4 One-way ANOVA

4.5 Correlation

4.6 Regression

4.1 PERCENTAGE ANALYSIS

Table 4.1.1 Frequency Distribution Table of Gender

Gender	Frequency	Percent	Cumulative Percent
Male	54	27.6	27.6
Female	142	72.4	100
Total	196	100	

(Source: Primary data)

The table 4.1.1 shows that 27.6% of the respondents were male and the remaining 72.4% of them were female among the total 196 respondents.

It depicts that the majority of the respondents were Female constituting 72.4% of the total respondents.

Table 4.1.2 Frequency Distribution Table of Education Level

Education Level	Frequency	Percent	Cumulative Percent
UG	156	79.6	79.6
PG	40	20.4	100
Total	196	100	

(Source: Primary data)

The table 4.1.2 displays that 79.6% of the respondents are pursuing their Undergraduate degree and the remaining 20.4% of them are doing their Post-graduation among the total 196 respondents.

It shows that the majority of the respondents were Students of Under-graduation occupying 79.6% of the total respondents.

Table 4.1.3 Frequency Distribution Table of Year of Study

Year of Study	Frequency	Percent	Cumulative Percent
1st Year	41	20.9	20.9
2nd Year	73	37.2	58.2
3rd Year	82	41.8	100
Total	196	100	

(Source: Primary data)

From the table 4.1.3 it can be understood that 20.9% of the respondents are in the first year followed by 37.2% of second year students and the remaining 41.8% of the respondents are in their third year among the total 196 respondents.

It shows that the majority of the respondents were Students of third year constituting 41.8% among the categories.

Table 4.1.4 Frequency Distribution Table of Course-Stream

Course Stream	Frequency	Percent	Cumulative Percent
Bachelor of Commerce	49	25	25
Bachelor of Management Studies	3	1.5	26.5
Bachelor of Science	84	42.9	69.4
Bachelor of Vocational Studies	21	10.7	80.1
Master of Arts	3	1.5	81.6
Master of Commerce	2	1	82.7
Master of Science	34	17.3	100
Total	196	100	

(Source: Primary data)

From the table 4.1.4 it can be understood that 25% of respondents are students from Bachelor of Commerce, 1.5% of them are from Bachelor of Management studies, 42.9% of students are doing their Bachelors in Science, 10.7% belong to Bachelor of Vocational studies, 1.5% of respondents are doing their Masters in Arts, 1% from the Master of Commerce and finally 17.3% of the respondents have opted their Masters in Science.

It shows that the majority of the students were doing their Bachelors in Science (42.9%) followed by Bachelor of Commerce (25%) after that the students pursuing their Masters in Science (17.3%) then the students belong to Bachelor of Vocational studies by 10.7% and the rest of the three categories occupy less than 5% in total among the total 196 respondents.

Table 4.1.5 Frequency Distribution Table of Computer Skills

Computer Skills	Frequency	Percent	Cumulative Percent
Low	11	5.6	5.6
Moderate	162	82.7	88.3
High	23	11.7	100
Total	196	100	

(Source: Primary data)

From the table 4.1.5 it can be clearly understood that only 5.6% of the total respondents feel that their level of computer skills is low, and 82.7% of them feel that they have a Moderate level of computer-skill and 11.7% of the students feel that they have high level of computer skill among the total 196 respondents.

It depicts that the majority of the respondents (82.7%) believe that they have Moderate level of computer skill.

Table 4.1.6 Frequency Distribution Table of Previous Participation

Previous Participation	Frequency	Percent	Cumulative Percent
Yes	82	41.8	41.8
No	114	58.2	100
Total	196	100	

(Source: Primary data)

The table 4.1.6 shows that 41.8% of the respondents have already participated in the online learning before the Covid-19 Pandemic and the remaining 58.2% of the respondents stated that they have not participated in the online learning before pandemic.

It shows that the majority of the respondents (58.2%) stated that they have not participated in the online learning before the Covid-19 Pandemic.

4.2 DESCRIPTIVE STATISTICS

Table 4.2.1 Course Design

Course Design	N	Mean	Std. Deviation	Variance
My course design is suitable for online learning	196	3.1	1.277	1.631
The learning outcomes of my course can be attained through online learning	196	3.26	1.189	1.414
Sufficient classwork and assignments were conducted through online mode	196	3.76	1.099	1.209

The table 4.2.1 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Course Design".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.76 and the standard deviation is 1.099 which denotes that the respondents agreed the statement **"Sufficient classwork and assignments were conducted through online mode".** The second highest mean score is 3.26 and the standard deviation is 1.189 which denotes that the respondents neither agree and nor disagree the statement **"The learning outcomes of my course can be attained through online learning".** The lowest mean score is 3.1 and the standard deviation is 1.277 which denotes that the respondents neither agree and nor disagree the statement **"The course design is suitable for online learning".**

Table 4.2.2 Course Content

Course Content	N	Mean	Std. Deviation	Variance
Proper learning materials are provided in the online learning	196	3.71	1.224	1.497
The notes and the PPTs given in online learning are simple to understand	196	3.73	1.16	1.345
Online learning enhances me in critical thinking, analysis, problem-solving skills	196	3.29	1.146	1.313

The table 4.2.2 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Course Content".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.73 and the standard deviation is 1.16 which denotes that the respondents agreed the statement **"The notes and the PPTs given in online learning are simple to understand".** The second highest mean score is 3.71 and the standard deviation is 1.224 which denotes that the respondents agreed the statement that **"Proper learning materials are provided in the online learning".** The lowest mean score is 3.29 and the standard deviation is 1.146 which denotes that the respondents neither agree and nor disagree the statement that **"Online learning enhances me in critical thinking, analysis, problem-solving skills".**

Table 4.2.3 Social Support

Social Support	N	Mean	Std. Deviation	Variance
There is an equal chance of participation for me in Q&A and class discussion.	196	3.28	1.18	1.393
My home environment gives the ambiance of the classroom	196	3.21	1.237	1.53
Online learning encourages cooperation among the students through online classes	196	3.18	1.134	1.286

The table 4.2.3 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Social Support".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.28 and the standard deviation is 1.18 which denotes that the respondents neither agree and nor disagree the statement **"There is an equal chance of participation for me in Q&A and class discussion".** The second highest mean score is 3.21 and the standard deviation is 1.237 which denotes that the respondents neither agree and nor disagree he statement **"My home environment gives the ambiance of the classroom".** The lowest mean score is 3.18 and the standard deviation is 1.134 and that denotes that the respondents neither agree and nor disagree the statement **"Online learning encourages cooperation among the students through online classes".**

Table 4.2.4 Instructor Characteristics

Instructor Characteristics	N	Mean	Std. Deviation	Variance
Availability of teachers to provide the needs of learners during online discussions	196	3.41	1.154	1.331
The feature of online learning allows instructor to be more interactive during online classes	196	3.33	1.171	1.372
Online learning helps instructor in precise conducting of summative assessments	196	3.39	1.024	1.049

The table 4.2.4 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Instructor Characteristics".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.41 and the standard deviation is 1.154 which denotes that the respondents neither agree nor disagree the statement **"Availability of teachers to provide the needs of learners during online discussions".** The second highest mean score is 3.39 and the standard deviation is 1.024 which denotes that the respondents neither agree nor disagree the statement **"Online learning helps instructor in precise conducting of summative assessments".** The lowest mean score is 3.33 and the standard deviation is 1.171 and that denotes that the respondents neither agree nor disagree the statement **"The feature of online learning allows instructor to be more interactive during online classes".**

Table 4.2.5 Learner Characteristics

Learner Characteristics	N	Mean	Std. Deviation	Variance
Course materials are helping me to achieve the learning outcomes of the course	196	3.42	1.109	1.23
Online learning is easy and quick to get adapted to the new technology	196	3.41	1.193	1.423
Online learning provides enhanced motivation and learning style	196	3.33	1.117	1.247

The table 4.2.5 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Learner Characteristics".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.42 and the standard deviation is 1.109 which denotes that the respondents neither agree nor disagree the statement **"Course materials are helping me to achieve the learning outcomes of the course".** The second highest mean score is 3.41 and the standard deviation is 1.193 which denotes that the respondents neither agree nor disagree the statement **"Online learning is easy and quick to get adapted to the new technology".** The lowest mean score is 3.33 and the standard deviation is 1.117 and that denotes that the respondents neither agree nor disagree the statement **"Online learning provides enhanced motivation and learning style".**

Table 4.2.6 Student's Activity

Student's Activity	N	Mean	Std. Deviation	Variance
Describe your activity during Online learning	196	3.35	1.156	1.335

The table 4.2.7 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Student's Activity".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.35 and the standard deviation is 1.156 and that reveals the fact that the respondents felt, their activity during online learning was neither effective nor ineffective.

Table 4.2.7 Acceptance of E-Learning

Acceptance of E-Learning	N	Mean	Std. Deviation	Variance
How much did you enjoy Online learning classes during the Pandemic	196	3.34	1.273	1.619

The table 4.2.8 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Acceptance of E-Learning".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.34 and the standard deviation is 1.273 and that reveals the fact that the respondents neither felt enjoyable nor felt unenjoyable while attending the **"Online learning classes in Pandemic".**

Table 4.2.8 Quality of E-Learning

Quality of E-Learning	N	Mean	Std. Deviation	Variance
Online learning raises the level of student's achievement and makes it enjoyable	196	**3.2**	**1.171**	1.37
Online learning improves the instructor's presentation of contents and activities	196	**3.44**	1.087	1.181
Online learning enhances the bonding between instructors and learners	196	**3.07**	**1.241**	1.539
Online learning is more user friendly and convenient for instructor and learner	196	**3.28**	**1.193**	1.423
Online learning enables the instructor to record the lecture and listened again by learners	196	**3.6**	1.107	1.226
Online learning provides two-way communication and cooperation among students	**196**	**3.31**	1.052	1.106

The table 4.2.6 shows the mean, standard deviation and variance of the respondent's opinion about the construct **"Quality of E-Learning".** Mean, standard deviation and variance were calculated in order to measure the central tendency and the absolute measures of dispersion. The highest mean score is 3.6 and the standard deviation is 1.107 which denotes that the respondents agreed statement **"Online learning enables the instructor to record the lecture and listened again by learners".** The second highest mean score is 3.44 and the standard deviation is 1.087 which denotes that the respondents neither agree nor disagree the statement "**Online learning improves the instructor's presentation of contents and activities".** The third highest mean score is 3.31 and the standard deviation is 1.052 which denotes that the respondents neither agree nor disagree the statement **"Online learning provides two-way communication and cooperation among students".** The fourth highest mean score is 3.28 and the standard deviation is 1.193 which denotes that the respondents neither agree nor disagree the statement **"Online**

learning is more user friendly and convenient for instructor and learner". The fifth highest mean score is 3.2 and the standard deviation is 1.171 which denotes that the respondents neither agree nor disagree the statement **"Online learning raises the level of student's achievement and makes it enjoyable".** The lowest mean score is 3.07 and the standard deviation is 1.241 which denotes that the respondents neither agree nor disagree the statement **"Online learning enhances the bonding between instructors and learners".**

4.3 INDEPENDENT SAMPLE T-TEST

Table 4.3.1 - Independent Sample T-Test between the gender and the Factors that are affecting the quality of online learning among learners.

Factor	Gender	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference	T	df	Sig. (2-tailed)
CD	Male	54	3.383	0.823	0.112	0.012	0.082	194	0.935
	Female	142	3.371	0.936	0.079				
CC	Male	54	3.488	0.880	0.120	-0.125	-0.841	194	0.401
	Female	142	3.613	0.948	0.080				
SS	Male	54	3.228	0.924	0.126	0.008	0.051	194	0.960
	Female	142	3.221	0.964	0.081				
IC	Male	54	3.321	0.829	0.113	-0.078	-0.527	194	0.598
	Female	142	3.399	0.960	0.081				
LC	Male	54	3.519	0.831	0.113	0.180	1.211	194	0.227
	Female	142	3.338	0.968	0.081				
SA	Male	54	3.333	1.166	0.159	-0.019	-0.101	194	0.919
	Female	142	3.352	1.156	0.097				
AEL	Male	54	3.333	1.289	0.175	-0.005	-0.023	194	0.982
	Female	142	3.338	1.271	0.107				
QEL	Male	54	3.346	0.781	0.106	0.042	0.302	194	0.763
	Female	142	3.304	0.894	0.075				

Table 4.3.1 shows the result of the independent sample t-test between the "Gender" and the "Factors that affect the quality of online learning". The test is used to determine whether the **responses of the students** to the "factors that are affecting the quality of online learning **differs** based on their genders". And the above test reveals that **there are no significant differences** between the gender of the students and their responses towards the factors in the study.

Table 4.3.2 - Independent Sample T-Test between the Education Level and the Factors that are affecting the quality of online learning among learners.

Factor	Education Level	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference	T	df	Sig. (2-tailed)
CD	UG	156	3.453	0.874	0.070	0.386	2.441	194	**0.016***
	PG	40	3.067	0.964	0.152				
CC	UG	156	3.588	0.946	0.076	0.046	0.278	194	0.781
	PG	40	3.542	0.870	0.137				
SS	UG	156	3.263	0.951	0.076	0.196	1.165	194	0.246
	PG	40	3.067	0.946	0.150				
IC	UG	156	3.400	0.919	0.074	0.108	0.658	194	0.511
	PG	40	3.292	0.949	0.150				
LC	UG	156	3.391	0.948	0.076	0.016	0.097	194	0.923
	PG	40	3.375	0.884	0.140				
SA	UG	156	3.359	1.164	0.093	0.059	0.287	194	0.774
	PG	40	3.300	1.137	0.180				
AEL	UG	156	3.410	1.259	0.101	0.360	1.604	194	0.110
	PG	40	3.050	1.300	0.206				
QEL	UG	156	3.328	0.869	0.070	0.061	0.400	194	0.689
	PG	40	3.267	0.846	0.134				

Table 4.3.2 shows the result of the independent sample t-test between the "Level of Education" and the "Factors that affect the quality of online learning". The test is used to determine whether the **responses of the students** to the "factors that are affecting the quality of online learning **differs** based on their level of education". And the above test reveals that **there is a significant difference** among the respondent's opinion on the factor i.e.., **"Course Design" (CD)** and the Educational Level. And the responses of the students regarding the rest of the factors i.e., Course Content (CC), Social Support (SS), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with the Level of Education.

Table 4.3.3 - Independent Sample T-Test between the Previous Participation and the Factors that are affecting the quality of online learning among learners.

Factor	Previous Participation	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference	T	df	Sig. (2-tailed)
CD	Yes	82	3.606	0.956	0.106	0.398	3.107	194	0.002*
	No	114	3.208	0.830	0.078				
CC	Yes	82	3.728	0.965	0.107	0.257	1.923	194	0.056*
	No	114	3.471	0.891	0.083				
SS	Yes	82	3.541	0.960	0.106	0.546	4.128	194	0.000*
	No	114	2.994	0.880	0.082				
IC	Yes	82	3.602	0.941	0.104	0.385	2.935	194	0.004*
	No	114	3.216	0.881	0.083				
LC	Yes	82	3.557	1.006	0.111	0.291	2.172	194	0.031*
	No	114	3.266	0.861	0.081				
SA	Yes	82	3.634	1.181	0.130	0.494	3.011	194	0.003*
	No	114	3.140	1.096	0.103				
AEL	Yes	82	3.695	1.234	0.136	0.616	3.435	194	0.001*
	No	114	3.079	1.242	0.116				
QEL	Yes	82	3.551	0.878	0.097	0.405	3.322	194	0.001*
	No	114	3.146	0.814	0.076				

Table 4.3.3 shows the result of the independent sample t-test between the "Previous Participation of Online classes before pandemic" and the "Factors that affect the quality of online learning". The test is used to determine whether the **responses of the students** to the "factors that are affecting the quality of online learning **differs** based on the Previous Participation of Online classes before pandemic. And the above test reveals that **there are significant differences** between the previous participation of the students in the online classes before pandemic and their responses towards the factors in the study.

4.4 ONE WAY ANOVA

Table 4.4.1 - One-way ANOVA between the Year of Study and the factors that are affecting the quality of online learning among learners.

Factor	Year of study	Sum of Squares	df	Mean Square	F	Sig.
CD	Between Groups	5.546	2	2.773	3.477	**0.033***
	Within Groups	153.905	193	0.797		
	Total	159.451	195			
CC	Between Groups	2.526	2	1.263	1.471	0.232
	Within Groups	165.719	193	0.859		
	Total	168.245	195			
SS	Between Groups	6.477	2	3.238	3.678	**0.027***
	Within Groups	169.906	193	0.880		
	Total	176.383	195			
IC	Between Groups	0.166	2	0.083	0.097	0.908
	Within Groups	166.339	193	0.862		
	Total	166.506	195			
LC	Between Groups	1.462	2	0.731	0.838	0.434
	Within Groups	168.402	193	0.873		
	Total	169.864	195			
SA	Between Groups	7.225	2	3.612	2.754	0.066
	Within Groups	253.183	193	1.312		
	Total	260.408	195			

AEL	Between Groups	7.560	2	3.780	2.367	0.096
	Within Groups	308.215	193	1.597		
	Total	315.776	195			
QEL	Between Groups	3.900	2	1.950	2.666	0.072
	Within Groups	141.176	193	0.731		
	Total	145.076	195			

Table 4.4.1 shows the result of the One-way ANOVA between the "Year of Study" and the "Factors that affect the quality of online learning". The test is used to **determine whether the responses of the students** to the "factors that are affecting the quality of online learning **differs** based on their Year of Study. And the above table reveals that **there is a significant difference** among the respondent's opinion on the factors i.e.., **"Course Design" (CD)** and "**Social Support" (SS)** and their year of study. And the responses of the students regarding the rest of the factors i.e., Course Content (CC), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with the year of study.

Table 4.4.2 One-way ANOVA between the Course Stream and the factors that are affecting the quality of online learning among learners.

Factor	Course Stream	Sum of Squares	Df	Mean Square	F	Sig.
CD	Between Groups	5.650	6	0.942	1.157	0.331
	Within Groups	153.801	189	0.814		
	Total	159.451	195			
CC	Between Groups	1.979	6	0.330	0.375	0.894
	Within Groups	166.266	189	0.880		
	Total	168.245	195			
SS	Between Groups	3.133	6	0.522	0.570	0.754
	Within Groups	173.250	189	0.917		
	Total	176.383	195			
IC	Between Groups	1.714	6	0.286	0.328	0.922
	Within Groups	164.791	189	0.872		
	Total	166.506	195			
LC	Between Groups	2.206	6	0.368	0.414	0.869
	Within Groups	167.658	189	0.887		
	Total	169.864	195			
SA	Between Groups	6.464	6	1.077	0.802	0.570
	Within Groups	253.944	189	1.344		
	Total	260.408	195			
AEL	Between Groups	10.024	6	1.671	1.033	0.405
	Within Groups	305.751	189	1.618		

	Total	315.776	195			
QEL	Between Groups	2.203	6	0.367	0.486	0.819
	Within Groups	142.874	189	0.756		
	Total	145.076	195			

Table 4.4.2 shows the result of the One-way ANOVA between the "Course Stream" and the "Factors that affect the quality of online learning". The test is used to **determine whether the responses of the students** to the "factors that are affecting the quality of online learning **differs** based on their stream of their courses". And the above **test reveals that there are no significant differences between the Course Stream** opted by the students **and the responses** of them towards the factors in the study.

Table 4.4.3 one-way ANOVA between the gender and the factors that are affecting the quality of online learning among learners.

Factor	Department Name	Sum of Squares	df	Mean Square	F	Sig.
CD	Between Groups	32.159	18	1.787	2.484	**0.001**[*]
	Within Groups	127.292	177	0.719		
	Total	159.451	195			
CC	Between Groups	12.464	18	0.692	0.787	0.714
	Within Groups	155.781	177	0.880		
	Total	168.245	195			
SS	Between Groups	16.876	18	0.938	1.040	0.417
	Within Groups	159.507	177	0.901		
	Total	176.383	195			
IC	Between Groups	16.721	18	0.929	1.098	0.358
	Within Groups	149.784	177	0.846		
	Total	166.506	195			
LC	Between Groups	12.706	18	0.706	0.795	0.704
	Within Groups	157.158	177	0.888		
	Total	169.864	195			
SA	Between Groups	28.602	18	1.589	1.213	0.255
	Within Groups	231.806	177	1.310		
	Total	260.408	195			
AEL	Between Groups	18.738	18	1.041	0.620	0.881

	Within Groups	297.037	177	1.678		
	Total	315.776	195			
QEL	Between Groups	13.577	18	0.754	1.015	0.445
	Within Groups	131.500	177	0.743		
	Total	145.076	195			

Table 4.4.3 shows the result of the One-way ANOVA between the "Department Name" and the "Factors that affect the quality of online learning". The test is used to **determine whether the responses of the students** to the "factors that are affecting the quality of online learning **differs** based on their Department they belong to. And the above table reveals that **there is a significant difference** among the respondent's opinion on the factor i.e.., **"Course Design" (CD)** and the Department they belong to. And the responses of the students regarding the rest of the factors i.e., Course Content (CC), Social Support (SS), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with the Department they belong to.

Table 4.4.4 one-way ANOVA between the gender and the factors that are affecting the quality of online learning among learners.

Factor	Computer skills	Sum of Squares	Df	Mean Square	F	Sig.
CD	Between Groups	2.739	2	1.370	1.687	0.188
	Within Groups	156.712	193	0.812		
	Total	159.451	195			
CC	Between Groups	0.149	2	0.074	0.085	0.918
	Within Groups	168.096	193	0.871		
	Total	168.245	195			
SS	Between Groups	3.431	2	1.715	1.914	0.150
	Within Groups	172.952	193	0.896		
	Total	176.383	195			
IC	Between Groups	1.276	2	0.638	0.745	0.476
	Within Groups	165.229	193	0.856		
	Total	166.506	195			
LC	Between Groups	6.054	2	3.027	3.566	0.030*
	Within Groups	163.810	193	0.849		
	Total	169.864	195			
SA	Between Groups	9.795	2	4.898	3.772	0.025*
	Within Groups	250.613	193	1.299		
	Total	260.408	195			
AEL	Between Groups	4.790	2	2.395	1.486	0.229

	Within Groups	310.986	193	1.611		
	Total	315.776	195			
QEL	Between Groups	2.878	2	1.439	1.953	0.145
	Within Groups	142.198	193	0.737		
	Total	145.076	195			

Table 4.4.4 shows the result of the One-way ANOVA between the "Level of Computer skill" and the "Factors that affect the quality of online learning". The test is used to **determine whether the responses of the students** to the "factors that are affecting the quality of online learning **differs** based on their level of computer skill. And the above table reveals that **there is a significant difference** among the respondent's opinion on the factors i.e.., Learners Characteristics (LC), Student's Activity (SA) and their level of computer skill and their year of study. And the responses of the students regarding the rest of the factors i.e., Course Design (CD) and Course Content (CC), Social Support (SS) Instructors Characteristics (IC), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with their level of Computer Skill.

4.5 CORRELATION ANALYSIS

Table 4.5.1 - Correlation Analysis between the factors that are affecting the quality of online learning among learners.

Factors		CD	CC	SS	IC	LC	SA	AEL	QEL
CD	Pearson Correlation	1	.540**	.559**	.616**	.529**	.541**	.481**	.529**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000
CC	Pearson Correlation		1	.575**	.682**	.628**	.521**	.524**	.642**
	Sig. (2-tailed)			0.000	0.000	0.000	0.000	0.000	0.000
SS	Pearson Correlation			1	.707**	.638**	.592**	.594**	.752**
	Sig. (2-tailed)				0.000	0.000	0.000	0.000	0.000
IC	Pearson Correlation				1	.633**	.608**	.563**	.714**
	Sig. (2-tailed)					0.000	0.000	0.000	0.000
LC	Pearson Correlation					1	.529**	.550**	.782**
	Sig. (2-tailed)						0.000	0.000	0.000
SA	Pearson Correlation						1	.530**	.601**
	Sig. (2-tailed)							0.000	0.000
AEL	Pearson Correlation							1	.578**
	Sig. (2-tailed)								0.000
QEL	Pearson Correlation								1
	Sig. (2-tailed)								

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

From the table 4.5.1. it is inferred that the factors namely Course Design (CD), Course Content (CC), Social Support (SS), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL) and Quality of E-Learning (QEL) are positively related to each other and the Correlation values are found to be significant.

4.6 MULTIPLE REGRESSION ANALYSIS

Table 4.6.1 – Model fit of the effect of the factors that are affecting the quality of online learning on the factor "Quality of E-Learning (QEL)".

Model Summary					
R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**F**	**Sig.**
.864a	0.746	0.737	0.443	78.987	**.000b**
a. Predictors: (Constant), AEL, CD, CC, SA, LC, SS, IC					

*Significant at 5% level

AEL - Acceptance of E-Learning, CD - Course Design, CC - Course Content, SA – Student's Activity, LC – Learner Characteristics, SS – Social Support, IC – Instructor Characteristics.

From the table 4.6.1, it is inferred that the model has R^2 value of 0.746 thus implying that 74% change in the **Quality of E-Learning** is due to the factors that are affecting the quality of online learning integrated in the model. R value as .864 shows a high and significant relationship (F= 78.987) between the factors that are affecting the quality of online learning and **Quality of E-Learning** and the model emerged as fit.

Table 4.7.2 – Multiple regression results between the factors that are affecting the quality of online learning and the factor "Quality of E-Learning (QEL)".

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	0.304	0.145	--	2.087	0.038
CD	-0.050	0.048	-0.053	-1.055	0.293
CC	0.069	0.051	0.074	1.362	0.175
SS	0.268	0.053	0.296	5.057	**0.000**[*]
IC	0.146	0.059	0.156	2.480	**0.014**[*]
LC	0.384	0.050	0.415	7.643	**0.000**[*]
SA	0.065	0.038	0.088	1.731	0.085
AEL	0.017	0.034	0.025	0.510	0.610

AEL - Acceptance of E-Learning, CD - Course Design, CC - Course Content, SA – Student's Activity, LC – Learner Characteristics, SS – Social Support, IC – Instructor Characteristics.

The table 4.6.2 shows the multiple regression results of the relationship between the factors that are affecting the quality of online learning and the factor **"Quality of E-Learning (QEL)".** From the table it could be inferred that the Learner Characteristics (LC), Social Support (SS) and Instructor Characteristics (IC) positively affects the **Quality of E-Learning (QEL)** and they are found to be significant. The rest of the factors namely Course Design (CD), Course Content (CC), Student's Activity (SA), Acceptance of E-Learning (AEL) do not influence the **Quality of E-Leaning (QEL).**

CHAPTER V

FINDINGS, SUGESSTION AND CONCLUSION

5.1 Summary of Findings

The data collected were analyzed using percentage analysis, descriptive analysis, Independent sample T-test, one way ANOVA, Correlation and Regression in order to study the factors that are affecting the quality of online learning among the learners. The below listed findings were drawn from the analysis and interpretation of the data.

5.1.1 Findings of percentage analysis

- The result depicts that the majority of the respondents were Female constituting 72.4% of the total respondents.
- The analysis shows that the majority of the respondents were Students of Under-graduation occupying 79.6% of the total respondents.
- The result clearly mentions that the majority of the respondents were Students of third year constituting 41.8% among the categories.
- The result reveals that the majority of the students were doing their Bachelors in Science (42.9%) followed by Bachelor of Commerce (25%) after that the students pursuing their Masters in Science (17.3%) then the students belong to Bachelor of Vocational studies by 10.7% and the rest of the three categories occupy less than 5% in total among the total 196 respondents.
- From the analysis we can clearly understand that the majority of the respondents (82.7%) believe that they have Moderate level of computer skill.
- The study shows that the majority of the respondents (58.2%) stated that they have not participated in the online learning before the Covid-19 Pandemic.

5.1.2 Findings from descriptive analysis

- The study shows that the highest mean score is 3.76 and the standard deviation is 1.099 which denotes that the respondents agreed the statement **"Sufficient classwork and assignments were conducted through online mode".**

- The result reveals that the highest mean score is 3.73 and the standard deviation is 1.16 which denotes that the respondents agreed the statement **"The notes and the PPTs given in online learning are simple to understand"**.

- The study inferred that the highest mean score is 3.28 and the standard deviation is 1.18 which denotes that the respondents neither agree and nor disagree the statement **"There is an equal chance of participation for me in Q&A and class discussion"**.

- From the analysis the highest mean score is 3.41 and the standard deviation is 1.154 which denotes that the respondents neither agree nor disagree the statement **"Availability of teachers to provide the needs of learners during online discussions"**.

- The analysis indicates that the highest mean score is 3.42 and the standard deviation is 1.109 which denotes that the respondents neither agree nor disagree the statement **"Course materials are helping me to achieve the learning outcomes of the course"**.

- The study depicts that the highest mean score is 3.35 and the standard deviation is 1.156 and that reveals the fact that the respondents felt their activity during online learning was neither ineffective nor effective.

- The study inferred that the highest mean score is 3.34 and the standard deviation is 1.273 and that reveals the fact that the respondents neither felt enjoyable nor felt unenjoyable while attending the **"Online learning classes in Pandemic"**

- The result clearly shows that the highest mean score is 3.6 and the standard deviation is 1.107 which denotes that the respondents agreed the statement **"Online learning enables the instructor to record the lecture and listened again by learners"**.

5.1.3 Findings from Independent Sample T-test

- The test reveals that **there are no significant differences** between the gender of the students and their responses towards the factors in the study.

- The result depicts that **there is a significant difference** among the respondent's opinion on the factor i.e.., **"Course Design" (CD)** and the Educational Level. And the responses of the students regarding the rest of the factors i.e., Course Content (CC), Social Support (SS), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with the Level of Education.

- Independent Sample T-test helps us to understand that **there are significant differences** between the previous participation of the students in the online classes before pandemic and their responses towards the factors in the study.

5.1.4 Findings from One-way ANOVA

- The test reveals that **there is a significant difference** among the respondent's opinion on the factors i.e., **"Course Design" (CD)** and "**Social Support" (SS)** and their year of study. And the responses of the students regarding the rest of the factors i.e., Course Content (CC), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with the year of study**.**

- From the analysis we can understand that **there are no significant differences between the Course Stream** opted by the students **and the responses** of them towards the factors in the study.

- One-way ANOVA helps us to understand that **there is a significant difference** among the respondent's opinion on the factor i.e.., **"Course Design" (CD)** and the Department they belong to. And the responses of the students regarding the rest of the factors i.e., Course Content (CC), Social Support (SS), Instructors Characteristics (IC), Learners Characteristics (LC), Student's Activity (SA), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with the Department they belong to.

- The results from the analysis depicts that **there is a significant difference** among the respondent's opinion on the factors i.e., Learners Characteristics (LC), Student's Activity (SA) and their level of computer skill and their year of study. And the responses of the students regarding the rest of the factors i.e., Course Design (CD) and Course Content (CC), Social Support (SS) Instructors Characteristics (IC), Acceptance of E-Learning (AEL), and the Quality of E-Learning (QEL) **has no significant difference** with their level of Computer Skill.

5.1.5 Findings from Correlation Analysis

- Course Design (CD) is positively related to every other factor in the study and the correlation values are found to be significant.
- Course Content (CC) is positively related to every other factor in the study and the correlation values are found to be significant.
- Social Support (SS) is positively related to every other factor in the study and the correlation values are found to be significant.
- Instructors Characteristics (IC) is positively related to every other factor in the study and the correlation values are found to be significant.
- Learners Characteristics (LC) is positively related to every other factor in the study and the correlation values are found to be significant.
- Student's Activity (SA) is positively related to every other factor in the study and the correlation values are found to be significant.
- Acceptance of E-Learning (AEL) is positively related to every other factor in the study and the correlation values are found to be significant.
- Quality of E-Learning (QEL) is positively related to every other factor in the study and the correlation values are found to be significant.

5.1.6 Findings from Regression Analysis

- Learner Characteristics (LC) positively affects the **Quality of E-Learning (QEL)** and the value found to be significant.
- Social Support (SS) positively affects the **Quality of E-Learning (QEL)** and the value found to be significant.
- Instructor Characteristics (IC) positively affects the **Quality of E-Learning (QEL)** and the value found to be significant.
- The rest of the factors namely Course Design (CD), Course Content (CC), Student's Activity (SA), Acceptance of E-Learning (AEL) do not influence the **Quality of E-Leaning (QEL).**

5.2 SUGGESTION

1. Course Design should be improved/changed according to the student's competence and to enhance the quality of online learning.
2. Course Content can be modified more with debates, assignments, quizzes, projects to further enhance the quality of online learning.
3. Students should interact with the instructors and their peer groups to achieve a better quality of online learning.
4. Administration can empower the teachers in generating, shaping and incorporating different ideas and practices in order to achieve the course content. The Instructor should give appropriate feedbacks to the instructors on time.
5. Students should be dedicative and self-disciplined towards their education.

5.3 CONCLUSION

In this study we came to a conclusion that as **Course Content, Social Support, Instructor characteristics, Learner Characteristics, Student's Activity, Acceptance of E-Learning** positively affects the quality of online-learning, the policy makers must try to enhance these factors to the utmost possible level, which in turn will improve the quality of online learning to the supreme level.

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APPENDIX

QUESTIONNAIRE

A STUDY ON THE FACTORS AFFECTING THE QUALITY OF ONLINE-LEARNING DURING THE COVID-19 PANDEMIC FROM THE PERSPECTIVE OF LEARNERS

Dear Respondent,

I am GURUSHIYA S P 3rd Year Undergraduate Student of B.Voc. Business Process and Data Analytics course at Dept. of Extension and Career Guidance, Bharathiar University conducting project on the topic, "A Study on Factors Influencing the Quality of Online Learning during COVID – 19 Pandemic from The Perspective of Instructors and Learners" You are kindly requested to fill in the following questionnaire in order to help me in pursuing the same. The data so collected will only be used for analysis purpose and full confidentiality will be maintained in all respect.

DEMOGRAPHIC PROFILE

1. Gender

☐ Male　　　　☐ Female

2. Level of education

☐ UG　　　　☐ PG

3. Year of study

☐ 1st Year　　　　☐ 2nd Year　　　　☑ 3rd Year

4. Name of the course you opted_____

5. Name of your department_____

6. How would you describe your computer skills?

☐ Low　　　　☐ Moderate　　　　☐ High

7. Have you ever participated in any type of online learning before the pandemic?

☐ Yes　　　　☐ No

8. What are the advantages of Online learning? Pick all that you consider true.

☐ Access to online materials

☐ Learning on your own pace

☐ Ability to stay at home

☐ Classes interactivity

☐ Ability to record a meeting

☐ Comfortable surroundings

☐ Ability to focus on passions and interests

☐ Ability to attend from remote locations

☐ Ability to be inactive during the class hours

☐ Reduced surveillance

9. What are the disadvantages of Online learning? Pick all that you consider true.

☐ Reduced interaction with the teacher

☐ Technical problems

☐ Lack of interactions with classmates

☐ Poor learning conditions at home

☐ Lack of self-discipline

☐ Social isolation

☐ Distractions due to other social medias and games

☐ Unrealistic and boring classes

☐ Reduced practical exposure

☐ Difficulty in understanding the lectures

10. Please state if you agree or disagree to the following statements regarding factors affecting the quality of online learning.

(SD – Strongly Disagree, D – Disagree, N – Neutral, A – Agree, SA – Strongly Agree)

S.No.	COURSE DESIGN	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
1	My course design is suitable for online learning					
2	The learning outcomes of my course can be attained through online learning					
3	Sufficient classwork and assignments were conducted through online mode					
	COURSE CONTENT					
4	Proper learning materials are provided in the online learning					
5	The notes and the PPTs given in online learning are simple to understand					
6	Online learning enhances me in critical thinking, analysis, problem-solving skills					

	SOCIAL SUPPORT					
7	There is an equal chance of participation for me in Q&A and class discussion.					
8	My home environment gives the ambiance of the classroom					
9	Online learning encourages cooperation among the students through online classes					
	INSTRUCTOR CHARACTERISTICS					
10	Availability of teachers to provide the needs of learners during online discussions					
11	The feature of online learning allows instructor to be more interactive during online classes					
12	Online learning helps instructor in precise conducting of summative assessments					
	LEARNER CHARACTERISTICS					
13	Course materials are helping me to achieve the learning outcomes of the course					
14	Online learning is easy and quick to get adapted to the new technology					
15	Online learning provides enhanced motivation and learning style					

	QUALITY OF E-LEARNING					
16	Online learning raises the level of students' achievement and makes it enjoyable					
17	Online learning improves the instructor's presentation of contents and activities					
18	Online learning enhances the bonding between instructors and learners					
19	Online learning is more user friendly and convenient for instructor and learner					
20	Online learning enables the instructor to record the lecture and listened again by learners					
21	Online learning provides two-way communication and cooperation among students					
	STUDENT'S ACTIVITY					
22	Describe your activity during Online learning					
	ACCEPTANCE OF E-LEARNING					
23	How much did you enjoy Online learning classes during the Pandemic					