

**Undergraduate Student's Attitude Towards E-learning**

**A**

**Thesis**

**By**

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**Submitted**

**To**

**Department of ICT Education**

**Central Department of Education**

**University Campus, Kirtipur**

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**Kirtipur, Kathmandu**

### Letter of Certificate

This is to certify that Mr. Binod Bashyal, a student of academic year 2073/2075 B.S. with campus Roll no.383/2074, Exam roll No. 7328545 and T.U. Registration No: 9-2-50-531-2013 has completed this thesis under my supervision during the period prescribed by the rules and regulation of Tribhuvan University, Kirtipur Kathmandu, Nepal. This thesis entitled "**Undergraduate Student's Attitude Towards E-learning**" embodies the result of this investigation conducted during the period of January 2020 to March 2021 under the department of ICT Education Central Department of Education, University Campus, Kirtipur Kathmandu. I hereby recommend and forward that this thesis be submitted for the evaluation to award the Degree of Master of Education.

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Lecturer Dr. Bed Prasad Dhakal

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**Letter of Approval**

A THESIS

BY

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Entitled "**Undergraduate Student's Attitude Towards E-learning**" has been approved in partial fulfillment of the requirements for the degree of master's education.

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This is to certify that Mr. Binod Bashyal completed his M.Ed. thesis entitled "**Undergraduate Student's Attitude Towards E-learning**" under my supervision during the period prescribed the rules and regulation of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommended and forward his thesis to the Department of ICT Education to evaluate in final viva-voce.

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By

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### **Dedication**

This holy work is dedicated to my father Mr. Shubhakar Bashyal and Mother Mrs. Tila Devi Bashyal, who even in a very difficult situation gave me a great span of their life for what I am now.

### **Declaration**

This thesis contains no materials, which has been accepted for the award of other degree in any institutions. To the best of acknowledgment and belief thesis the contains no materials previously published any others except due acknowledgment has been made.

.....

Binod Bashyal

Date: .....

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.....

(Binod Bashyal)



### **Abstract**

This study aimed at examining the attitudes of undergraduate students towards e-learning in Kathmandu Valley. The study mainly focused on exploring undergraduate student's attitude towards e-learning and to analyze the opportunities and challenges of e-learning. A self-structured opinionnaire with 5-point Likert scale and two open ended question were designed for data collection from a sample of 400 undergraduate level students. The researcher collected 250 students out of 400 students from Kathmandu Colleges and 150 students from online google form. A set of 20 (positive and negative) opinionnaire were developed as the tool for collection data. The opinionnaire had five level of statements strongly agree, agree, undecided, disagree and strongly disagree of Likert scale. The  $\chi^2$ -test, mean, t-test, standard deviation, attitude score and percentage were used to determine the attitude of students towards e-learning. Findings of the study shows undergraduate students had a positive attitudes towards e-learning. Slow and unstable internet facilities, with the least understanding of students about e-learning, often develop a negative approach among students regarding e-learning. Policy makers should include e-learning topics in the curriculum and the government needs to organize workshops and seminars for teachers to equip them with knowledge and application of e-learning in academic process.

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### **List of Abbreviation**

CDC = Curriculum Development Centre

ICT= Information Communication Technology

ICT= Information Technology

LMS = Learning Management Systems

SCL = Student-Centered Learning

T.U = Tribhuvan University

## Chapter I

### Introduction

This is the study about the undergraduate student attitudes towards e-learning in Kathmandu valley. This introduction part includes the background of the study, objective of the study, statement of the problem, relation of the study, significance of the study, delimitations of the study and definition of the key terms respectively.

#### **Background of the Study**

One of the most oft-used terms after the pandemic is the term “new normal.” The new normal in education is the increased use of e-learning tools. The COVID-19 pandemic has triggered new ways of learning. All around the world, educational institutions are looking toward e-learning platforms to continue with the process of educating students. The new normal now is a transformed concept of education with online learning at the core of this transformation. Today, digital learning has emerged as a necessary resource for students and schools all over the world. For many educational institutes, this is an entirely new way of education that they have had to adopt. Online learning is now applicable not just to learn academics but it also extends to learning extracurricular activities for students as well. In recent months, the demand for e-learning has risen significantly, and it will continue doing so in the future.

In the era of science and technology, Information and Communication Technology (ICT) plays a significant role not only in classroom teaching but also in other field. Now a day, due to growth of internet technology, e- learning plays a significant role as a learning approach of higher educational institutions. Describes an educational setting in which teaching and learning takes place within an internet-based environment. E-learning makes the process of learning interactive and collaborative by linking each learner with physically apart from expert, time and location flexibility, time and cost effective for students (Mark, 2003).

Information technology (IT) refers to the hardware and software used in computerized information systems and has been a major force in shaping the current society. Information and communication technology has a great impact on the education industry and has to lead to changes in the delivery mode of education and learning or teaching. ICT (Information and Communications Technology) is an umbrella term that includes any communication or application which encompassing radio, television, cellular phones, satellite systems,



computer and network hardware or software and so on. From the computing dictionary, ICT is the study of technology used to handle information and aid communication. Nowadays, ICT is rapidly developing in many of countries which due to the globalization and technological change. Recently, ICT is widely used in many areas or sectors such as education, economy, politics and social. Especially for education, many countries now regard understanding ICT as part of the core of education, alongside writing, reading and numeracy. The emergence of ICT has made an improvement on the education for every student as it brings a lot of advantages for every student. For many teacher, ICT also has improve their effectiveness on the teaching process which in turn could help the student to enhance their educational performance. That goes without saying ICT has gradually become a part of the life for every students and teacher. The computers and internet has shown their effectiveness and efficiency in education. Besides, ICT has also improved the learning environment of student. For ICT, if we used appropriately, it could help to expand the access of education for students and raise the quality of educational by reinforce the relevance of education. E-learning, blended learning and distance learning are the various types of learning that arise from the ICT.

Information and communication technology (ICT) is most important part of modern education system. It is highly beneficial for the improvement of students several aspect of knowledge, skill and attitudes. Education system is upgrading these days with advance technologies that are from conventional learning to E-learning and this is relevant for learner as it is providing flexibility in learning with optional choices for study to the learner with unlimited access of information. E-learning is the effective tools of teaching and learning process these days and different universities of Nepal also broadly adopting this e-learning strategy and offering for distance education or online learning.

E-learning as utilization of Internet and related tools and technologies to provide a broad range of solutions that improves performance and knowledge. E-learning is the term widely used to refer to learning practice disseminated or supported by electronic tools and technologies. It refers to a course, program or degree that is completed through online. Presently, e-learning is inspiring the world societies at large. In this perturbed era, it is hard to get education in formal mode due to social, economic or interconnected problems in the society. But everyone has an urge to continue its education within possible means. E-learning makes education flexible because there is no limitation of time and space. So, e-learning makes learning easier to learn. E-learning refers to a learning system that we can obtain

through the internet using an electronic device. We also call it online learning or online education. The 'E' in e-learning stands for 'Electronic.' Hence, the original term 'electronic learning.' Experts believe that the process of making education available around the clock assures better results and that's encouraging more learners and institutions to take up online education. The generation at present that loves spending time glued to gadgets is extremely hopeful about new age technology that allows people to virtually carry classes in their pockets.

In general, E-learning can be considered as the process of learning formed by communication with contents delivered digitally with electronic services and support. It includes extensive use of information and communication related technologies to assist, enable, and reform the process of learning. Wide spread of Internet has encouraged universities and organizations to develop Learning Management Systems (LMS) to support teaching and learning process. Such LMSs provides various features like registration of courses, distribution of learning material, tracking learner's progress, conducting tests, interaction between teacher and learner and other educational needs. In an e-learning environment, learners can learn at their own convenience of schedule and willingness. Ease of access to the learning material, time independence, repetitive learning and mobility are critical factors which drive the utilization of e-learning systems (Thakkar & Joshi, 2017).

Attitude is a tendency which is attributed to individuals and creates ideas, feelings and behaviors about a psychological object in an orderly manner. Attitudes which cause individuals to always behave in the same way to people, objects, events and foundations are constant and unchangeable beliefs, feelings and tendencies. While the positive attitudes serve a better comprehension of the nature of learning for the learners, it also makes the students more open to learning, increases their expectations from learning process and reduces their anxiety levels. For instance, students having positive attitudes towards reading take more advantage of the advance organizers. Achievements of the students developing negative attitudes go down. The desire of learning interpenetrates people. However, it is important that the intrinsic motivators of the learner, such as the learners' sense of wonder, high expectations, desire of sufficiency, support this process. Berteau (2009) talking about e learning, a favorable attitude shows a greater probability that learners will accept the new learning system. Factors such as patience, self-discipline, easiness in using software, good technical skills, and abilities regarding time management impact on student's attitude towards

e-learning, thus, the attitude can be positive, if the new form of education fits the students' needs and characteristics, or negative if the student cannot adapt to the new system because he does not have the set of characteristics required (Bhatia, 2011).

### **Statement of Problem**

E-learning is emerging as a prominent way to carry teaching-learning process. E-learning has revolutionized learning in the workplace for a number of years, improving efficiencies, workflow and collaboration. The flexibility offered by e-learning in terms of place of learning and time of learning means that whole education programmes can be rolled out across teams all over the world. Within the education sector, e-learning has been used within classrooms, from primary to university education, to deliver impactful courses that are fun and engaging. In Nepal, educational resources are limited to printed media. Educational pedagogy is mostly traditional with teachers' Lecturer in classroom. Very few educational institutes and teachers use e-learning to transect teaching learning activities. With this traditional face to face only kind of pedagogy, teaching learning hours are restricted within bounded timeframe. To overcome the problem e-learning may offer an alternative solution to the drawback of the traditional learning classroom such as limited time and practice. Therefore this study to explore attitude of undergraduate students towards e-learning.

### **Objectives of the Study**

The objectives of the study are as follows,

1. To explore undergraduate student's attitude on e- learning.
2. To find out the opportunities and challenges of e-learning.

### **Rational of the Study**

Essentially, the section on relational of the study provides information to the reader on how the studies contribute for further research. It must be specifically stated, however, what the study can contribute and who can get the benefit from the research.

This research aimed to identify the actual attitude of undergraduate student towards e-learning. When this research becomes complete, the researcher and other stakeholder understanding attitude of e-learning of undergraduate students in Kathmandu. The research will give a detailed analysis of opportunities and challenges with attitude of e-learning. This research concentrates on the essentials of undergraduate student attitude towards e-learning in Kathmandu. The findings, ideas, ways may be beneficial for the respective field. In this

regard, this study will be valuable for the all teachers, subject experts, students, undergraduate college and government as well.

### **Delimitation of the Study**

Every study has own delimitation due to the limited time and the lack of infrastructure availability of tools as well as sufficient financial resource. The study has been delimited to the following areas: the study was delimited to the following areas to find out the attitude of undergraduate students towards e-learning in Kathmandu valley and to accomplish the objectives of the study the researcher had selected undergraduate students of Kathmandu, Lalitpur, and Bhaktapur district. In this research, data was collected from 400 students.

### **Definition of the Key Terms**

The key terms are those keywords which help to increase the better understanding about the research study have defined following.

#### **Undergraduate**

An undergraduate is a student at a university or college who is studying for a bachelor's degree in any stream.

#### **Attitude**

Attitude is a way of feeling or thinking towards a person, thing or situation such as positive and negative.

#### **Attitude Scale**

It is scale used to obtain the measure of an attitude or belief of an individual towards some phenomenon for e.g. be strongly agree (SA), agree (A), undecided (U), disagree (DA) and strongly disagree (SDA).

#### **E-learning**

E-learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom.

#### **ICT**

ICT stands for "Information and Communication Technologies." ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.

## Chapter II

### Review of Related Literature

#### Introduction

Literature review is one of the most significant parts of research procedure, which will provide the valuable contribution to every step of the research. This chapter consists the review of theoretical literature, review of the empirical literature, implication of the review for this study and conceptual framework.

#### Review of the Literature

As the time has been changing day by day, many technological progress can be seen these days. With the invention of many advanced technological medias like computer, internet, mobile and so on, many bulk of message or information can be send or receive these days making easy for human communication. These kind of sources has made the easy getting information of the things around the world. As a result, with due technological advancement people can easily access the important message or information and can easily solve any problem with in a short period and also has broadened the mind of people thinking increasingly. Before 21st century, people had to do more effort in getting necessary information. In fact, at that time they required to know which sources provide the reliable information and even if they knew the sources that might not be available. Now this is 21st century and now everything has changed with the advanced development of technology. We don't need to go anywhere to find any information of thing, just we need to do is that just turn on our computer and browse the browser and type the information required. Then, within a short time and less cost that our required information will be in our computer screen. Most of finding these information depends on internet accessibility rather than person's location. Due to advancement of modern technology, people have become more mobility to do multiple task in the world. And also this modern technology has broadened teaching and learning process with e-learning approaches. The transformation can be seen in conventional way of learning to e-learning with the arrival of information technology and its growing use in educational sector (Shakya, Sharma, & Thapa, 2017).

E-learning is a flexible term used to describing a means of teaching through technology. The concept of e-learning was initiated during the 1980s, within the identical term of other delivery mode of online learning, while some author explicitly defines e-

learning ,others imply a specific definition or view of e-learning in their article. E-learning is the term for all kind of (ICT) technology -enhanced learning, where technology is used to support learning that is different from our traditional way of printed material form. It includes computing and communication facilities and features that variously support teaching, learning and a range of activities in education which constitutes hardware (CPU, monitor, projectors) and software (text editor, database and browsers). ICT is presenting a new model of education with a view of preparing students for “long life learning”. There are different ways of categorizing of e-learning. As per Algahtani, there have been some classifications based on the extent of their involvement in education (Algahtani, 2011).

In the recent decades we have been witnesses of a rapid growth in the field of information and communication technologies (ICT) development. New technologies have been infiltrating all parts of everyday life, changing and modifying the ways people communicate, work, spend their leisure time and also study. The generation of young people who have been surrounded by digital devices since their early childhood is generally considered to differ from the preceding generations in terms of their learning styles preferences, attitudes and approaches to learning requiring from teachers and responsible decision-makers in education to adapt the current educational system to suit their needs and preferences (Slechtova, 2015). Developments in the field of science and technology influenced the education as many other scientific areas. For this, it becomes very important to expand the technological infrastructure for educational institutions, particularly as the methods and technologies of education changing quickly.

Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimize the delivery of information. Worldwide research has shown that ICT can lead to an improved student learning and better teaching methods. The use of ICT creates a powerful learning environment and it transforms the learning and teaching process in which students deal with knowledge in an active, self-directed and constructive way (Ndirangu, Sossion, & Wambugu, 2015).

E-learning has play an essential role for every students in their education, the purposes of e-learning for students are to enable them to acquire the skills that needed for the future higher studies or the digital world, which then help them to easily get a job in future. Besides, the critical thinking and analytic skill are needed for students in their future. E-

learning with the purpose to promote those thinking and skills of students by self-developing. Thus, student will no longer depends on the teacher anymore as it would transform the classroom environment from teacher- centric to student-centric learning. In addition, the purpose of ICT is to offer an effective learning environment for students which then increase their performance in academic. Lastly, ICT is to enhance the existing curriculum and pedagogy for teaching and learning.

E-learning can be defined as the use of computer and Internet technologies to deliver a broad array of solutions to enable learning and improve performance. E-Learning encompasses systems to enable information gathering, access, distribution, and communication in various forms especially the use of ICT in teaching and learning. Over the past few years, e-learning has emerged as a new tool to enable educators to make use of the internet facilities to deliver their teaching online in higher learning institution. With e-learning, traditional learning environments are transformed into more efficient and attractive learning experiences. In addition, it has overcome restrictions of space, location and time constraints by leveraging equal learning opportunities for anyone, anywhere, anytime, in any desirable mode (Haw, 2015).

### ***Students Attitudes towards E-learning***

The use of e-learning can change teaching techniques in several ways. With e-learning, teachers are able to create their own materials and thus have more control over the materials used in the classroom than they have had in the past. Students associated with e-learning would raise interest and increased motivation on their part. Interactive courseware was popular amongst students – particularly games and simulations seen as combining practical challenges with learning opportunities. Students also saw e-learning tools as helpful to overcome the difficulties they experienced in producing work to a good standard – notably where this involved scribing by hand – so also reducing scope for criticism by teachers. Equally however, without the capacities required, ineffective use of e-learning tools could be highly de-motivating to the students. For some students, use of e-learning tools could diminish the sense of capability and accomplishment they gained from carrying out tasks without assistance (Slechtova, 2015) .

According to Bishnu G.C, Student's attitudes towards use of e-learning materials in higher secondary school/ college level in Kathmandu valley is significantly positive. Students are in favour of using e-learning. Student's responses show that e-learning is needed for

better learning to take place. Only a negligible number of students have negative perceptions, misconceptions, misunderstanding and illusions towards e-learning. Students were enthusiastic in learning with the help of e-learning. The various aspects of e-learning tools visually, dynamic in nature help students to provide more depth understanding of quantitative techniques. Students were very much impressed and excited to know about the quantitative techniques based on software (G.C., 2018).

The attitude toward e-learning can be viewed as a an umbrella for the methods of education supported by ICT, and specified with the consent or lack of consent of the students or lack of consent on the importance of technology and their special skills. Besides that, students' attitude towards e- learning affected through what they see as the advantages and disadvantages for this type of education. Students' attitude towards e-learning is influenced by its perceived advantages and disadvantages. The schedule flexibility is, without no doubt, an important advantage, the student having the opportunity to learn no matter his location, no matter the time as long as he has an Internet connection. Reducing costs is another benefit together with time saving, in case of students who are commuting. Still, there are disadvantages which are connected to technical aspects of the e-learning system, meaning the availability of certain technologies not only for learning institutions, but also for students. Moreover, an important disadvantage concerns students' abilities to use it efficiently the technology. The basic abilities needed by a student entering an e-learning program refer to use of writing software, internet browsing, and email communication. If these are missing, learning efficiency through e-learning diminishes, the student having to face a stressful feeling, which can turn into frustration and insecurity. These emotions influencing the student's attitude toward e-learning usually appear due to the lack of human interaction with colleagues and especially with teachers who can induce a certain discipline of working for students establishing rules, dead-lines, evaluation systems throughout the whole period of learning. That is why students with low motivation, not being constraint by the presence of a teacher, by a strict program as in the traditional system, cannot adapt to e-learning (Bertea, 2009).

### ***Types of E-learning***

The World Wide Web has offered opportunities to promote e-learning with considerable impact on the distribution of content, learning tasks, and assignments in training and distance education. E-learning is one of the latest and far-reaching form of distance



education that has brought a dynamic revolution in every aspect of our lives. There are diverse ways of classifying the types of e-learning. There have been some classifications based on the extent of their engagement in education. Some classifications are also based on the timing of interaction. Algahtani divided e-learning into two basic types, consisting of computer-based and the internet based e-learning. (Algahtani, 2011). The internet-based learning is a further improvement of the computer-based learning, and it makes the content available on the internet, with the readiness of links to related knowledge sources, for examples e-mail services and references which could be used by learners at any time and place as well as the availability or absence of teachers or instructors. Zeitoun classified this by the extent of such features use in education, mixed or blended more, assistant mode, and completely online mode. The assistant mode supplements the traditional method as needed. Mixed or blended mode offers a short-term degree for a partly traditional method. The completely online mode, which is the most complete improvement, involves the exclusive use of the network for learning (Zeitoun, 2008).

The e-learning has two modes such as synchronous and asynchronous. The synchronous type allows learners to discuss with the instructors and also among themselves via the internet at the same time with the use of tools such as the videoconference and chat rooms. This type offers the advantage of instantaneous feedback. The asynchronous mode also allows learners to discuss with the instructors or teachers as well as among themselves over the internet at different times. It is therefore not interaction at the same moment but later, with the use of tools such as thread discussion and emails, with an advantage that learners are able to learn at a time that suits to him. (Almubarak & Almosa, 2005) .

The learning process achieved by using digitally delivered content or interaction is e-learning. Mainly e-learning focuses on the use of computers whether in distance or in a classroom to deliver content to students. With the advancement in technology and the use of the World Wide Web the learning process is not only limited between a teacher and student. Learning can be achieved through reading blogs, participating in online forums, threaded email discussions, social media or through online training platforms such as the code academy. It is very common for people to use a search engine such as Google to look for information ranging from what to eat to what to wear in a particular day. People consult different blogs or online tutorials to learn about products or particular ways of doing tasks. These all are e-learning processes. Depending on the use of the source or the delivery

medium, e-learning can be of different kinds: Purely online: no face-to-face meetings, Blended learning: distance learning or a combination of online and face-to-face, Synchronous: instructor led online courses, Asynchronous: self-placed learning methods placed on the internet, network or storage devices, Instructor-led group: distance learning where students may be from different geographical locations and learn from a single teacher, Self-study: learning by visiting blogs, tutorials or informative websites, Self-study with subject matter expert: learning by regularly visiting some experts blogs or up-to-date sites, Web based: learning purely by looking up on the Internet with the use of search engines or social media groups such as Facebook, Computer based: learning by accessing study materials from different storage devices like CD ROM or USB in the computer, video/audio tape: learning by accessing multimedia files through YouTube or any other video/audio sharing websites (Guragain, 2016).

### ***Advantage of E-learning***

E-learning is beneficial to education, corporations and to all types of learners. It is affordable, saves time, and produces measurable results. E-learning is more cost effective than traditional learning because less time and money is spent traveling. Since e-learning can be done in any geographic location and there are no travel expenses, this type of learning is much less costly than doing learning at a traditional institute. E-learning helps students develop knowledge of the Internet. This knowledge will help learners throughout their careers. E-learning encourages students to take personal responsibility for their own learning. When learners succeed, it builds self-knowledge and self-confidence in them. Educators and corporations really benefit from e-learning. Learners enjoy having the opportunity to learn at their own pace, on their own time, and have it less costly (Bloomsburg University, 2006).

The adoption of e-learning in education, especially for higher educational institutions has several benefits, and given its several advantages and benefits, e-learning is considered among the best methods of education. Several studies and authors have provided benefits and advantages derived from the adoption of e-learning technologies into schools (Arkorful & Abaidoo, 2014). Some studies give advantage of e-learning as its ability to focus on the needs of individual learners. Some of the advantages that the adoption of e-learning in education, obtained from review of literature includes the following: E-learning provides the various resources in several varying formats, e-learning is a very efficient way of delivering courses contents, Due to its convenience and flexibility, the resources are available from

anywhere and at any time, Everyone, who are part time students or are working full time, can take advantage of e-learning. E-learning promotes active and independent learning, Through discussion boards and chats, e-learning possible to interact with everyone online and also clear doubts if any, The video instructions that are provided for audio and video learning can be rewound and seen and heard again and again if you do not happen to understand the topic first time around.

The above-mentioned advantages of e-learning has been summed up by Isabelle Clover as the ability of e-learning to assess the students as they learn. As well as increasing their experiences in community based education and eliminating boundaries of place and time. To them the most vital characteristics along with advantage of e-learning in education is that it centers on the students or learners (Clover, 2017). The major advantage of e-learning is that due to its convenience and flexibility, the resources are available from anywhere and at any time. It extends its reach with the reach of technology and can encompass both part-time students and regular ones. It presents a convenient and flexible option and promotes active and independent learning without restrictions of time, be it weekdays or weekends. Through discussion boards and chats, instructors can also interact with participants online (Singh, 2020).

Advantages of e-learning are: the learner determined the time of learning; materials can be accessed anytime, anywhere via internet connectivity; speed, time, and the amount of courses can decide by e-learners themselves; materials and information is already able to be obtained and can be regenerated; efficiency of the education can be assessed immediately; courses criteria can be dependently obtained by students; teachers are obtainable permanently through e-mail; forums, web, etc.; costs instructional costs were reduced (Abdelrahim M. Zabadi, 2016).

### ***Disadvantage of E-learning***

E-learning, in spite of the advantages that it has when adopted in education, also has some disadvantages. E learning has some drawback, no self-discipline, no face-to-face interaction, slow evolution, and good e-learning is difficult to do, lack of transformational power and no peripheral benefits. Most of the online assessments are limited to questions that are only objective in nature. There is also the problem of the extent of security of online learning programs. The authenticity of a particular student's work is also a problem as online just about anyone can do a project rather than the actual student itself. (Clover, 2017). If, e-

learning is to be considered as effective and authentic as traditional learning, it must be ensured that all online schools are qualified and accredited. Unfortunately, at the current point in time, there are still a vast number of online learning platforms which are unaccredited and where all the materials are quality checked by no one besides the instructors themselves. As such, poor quality assurance and a lack of accredited online learning providers continue to weaken the legitimacy of online education (Mandela, 2019).

Disadvantage of e-learning is that learners need to have access to a computer as well as the Internet. They also need to have computer skills with programs such as word processing, Internet browsers, and e-mail. Without these skills and software it is not possible for the student to succeed in e-learning. E-learners need to be very comfortable using a computer. Slow Internet connections or older computers may make accessing course materials difficult. This may cause the learners to get frustrated and give up. Another disadvantage of e-learning is managing computer files and online learning software. For learners with beginner-level computer skills it can sometimes seem complex to keep their computer files organized. Without good computer organizational skills learners may lose or misplace reports causing them to be late in submitting assignments. Some of the students also may have trouble installing software that is required for the class. Another disadvantage of e-learning is that students may feel isolated from the instructor. Instructions are not always available to help the learner so learners need to have discipline to work independently without the instructor's assistance. E-learners also need to have good writing and communication skills (Bloomsburg University, 2006).

According to Thanji, E-learning has some disadvantage like as Lack of instant feedback from instructors, increased preparation time for the instructor, not convenient to subset of stakeholders, causes more of frustration, anxiety, and confusion, Sense of remote feeling, isolation when learners are not active, Lack of direct interaction with instructors, Lack of required skills has an impact on learning, May lead to piracy and plagiarism (Thanji, 2018).

Regardless of all the disadvantages of e-learning, there are a lot of benefits which inspire its use and also encourage the search for ways to reduce disadvantages.

### ***Challenges of E-learning***

The use of the e-learning system, as an important approach in managing knowledge and educational needs of higher education institutions, creates some challenges. E-learning

system as one of the important factors encourages students to learn better by creating a competitive atmosphere. One of the challenges that ICT tools and e-learning program are faced with is internet use and accessing the technology (Olaniran, 2007). Stated that the cost of access to the Internet and the World Wide Web prevents students to access the e-learning curriculum. Digital divide is defined as the gap between those who have access to technology and those who do not. Accessing the technology is still considered as a challenge particularly in relation to e-learning (Shahmoradi, Changizi, Mehraeen, & Bashiri, 2018).

Challenges are such as lack of quality e-content, lack of awareness, lack of foreign language skill, incompatibility of contents, high rate of illiteracy in computer and skill unavailability, attitudinal hampering, infrastructural obstacles, cultural barriers are the main challenges of e-learning. E-learning requires an appropriate computer infrastructure. The most significant aspects of computer are software and hardware. Availability of high quality software is the one of the main challenges in applying the new technologies in using e-learning which is in parallel to the findings of previous studies of the e-learning challenges for development of electronic environment in the universities which revealed that lack of appropriate and necessary software and hardware possibilities, the costs to access to internet and the low speed of the internet, limitation in bandwidth are among the main issues and problems that agreed upon unanimously by experts and the researchers (Aldowah, Ghazal, & Muniandy, 2015).

E-learning comes with its fair share of challenges. It would not prove feasible for adoption without some components of external subsidies and aid. If implemented without consideration of people's needs and income levels, the benefits of e-learning risk just getting pooled in the small group that can afford it, furthering the prevalent social inequalities. Therefore, cost and wealth can prove to be a challenge to e-learning. Furthermore, e-learning is not an individual technology but rather a system. Thus, as a system, it requires certain prerequisites before it can be implemented; electricity and the internet being two of the main ones. However, both of them are what many areas around the country lack. Even in the city areas, electricity is irregular and its supply is unreliable. Many parts of the country are still not connected to the transmission grid and rely on solar power and other alternative sources of energy to power their homes. In an e-learning method, online assessments are limited to questions that are the only objective. There is also the problem of the extent of the security of online learning programs. Online student feedback tends to be limited. It demands strong

self-motivation and time management skills from students and in cases, also causes social isolation. Preventing cheating during online assessments is also complicated. It is obvious that, even after the lockdown is eased, it is going to be difficult to resume full-fledged classes for a long time because of the need for social distancing and reluctance from both instructors and participants. With the future uncertain, many schools, college, and universities have taken to using online tools to run virtual classes and move ahead with their courses. This is a welcome move to get around this crisis and needs to be encouraged. On a positive note, the government has also geared up and taken initiatives in this direction, which should be applauded and supported by all. Despite the challenges with e-learning methods, the hour of the need is to move forward and adopt e-learning by embracing its challenges and tackle the challenges gradually over time (Singh, 2020).

### **Conclusion**

Nowadays, E-learning turns out to be more and more practiced. Many traditional universities started to share their courses online for free. It represents an easy and comfortable method to achieve knowledge in almost every field, from law and accounting, to human sciences, such as psychology and sociology or history. E-learning is a great alternative to traditional universities, especially for people who can't afford the time and money to take real courses. E-learning is not just a change of technology. It is part of a redefinition of how we as a species transmit knowledge, skills, and values to younger generations of workers and students. Learners will have access to millions or billions of knowledge modules. Some will be Web pages with simple text and graphics. Others may include multimedia simulations. In many fields, e-learning has become the default way to conduct training or to provide education. E-learning has revolutionized learning in the workplace for a number of years, improving efficiencies, workflow and collaboration. The flexibility offered by e-learning in terms of place of learning and time of learning means that whole education programmes can be rolled out across teams all over the world. Within the education sector, e-learning has been used within classrooms, from primary to university education, to deliver impactful courses that are fun and engaging. As with most teaching methods, online learning also has its own set of positives and negatives. Decoding and understanding these positives and negatives will help institutes in creating strategies for more efficiently delivering the lessons, ensuring an uninterrupted learning journey for students.

The main knowledge of this literature review is that e-learning is perceived to be useful. E-learning is the need of the present and future especially in developing countries like Nepal. It is efficient, time saving and cost effective in the long run. The opportunity to study from anywhere in the world becomes an advantage of e-learning which, is not possible in traditional face-to-face learning. There is no boundary of time schedule and building. E-learning provides opportunity to contact any teacher or institution from any part of the world. E-learning has a lot of benefits which inspire its use and also encourage the search for ways to reduce disadvantages. E-learning is a global trading of learning method. Nepal has also started to use e-learning. But attitude of student towards e-learning in Nepal has not be yet explored. This research gap is seen. Therefore, this study explore undergraduate student attitude towards e-learning.

## The Conceptual Framework

Conceptual framework can act like maps that takes different forms depending upon the research problems. A conceptual framework is the representation of the main relation of the research. This study is related to the attitude of undergraduate student towards the e-learning. The following conceptual framework is constructed.

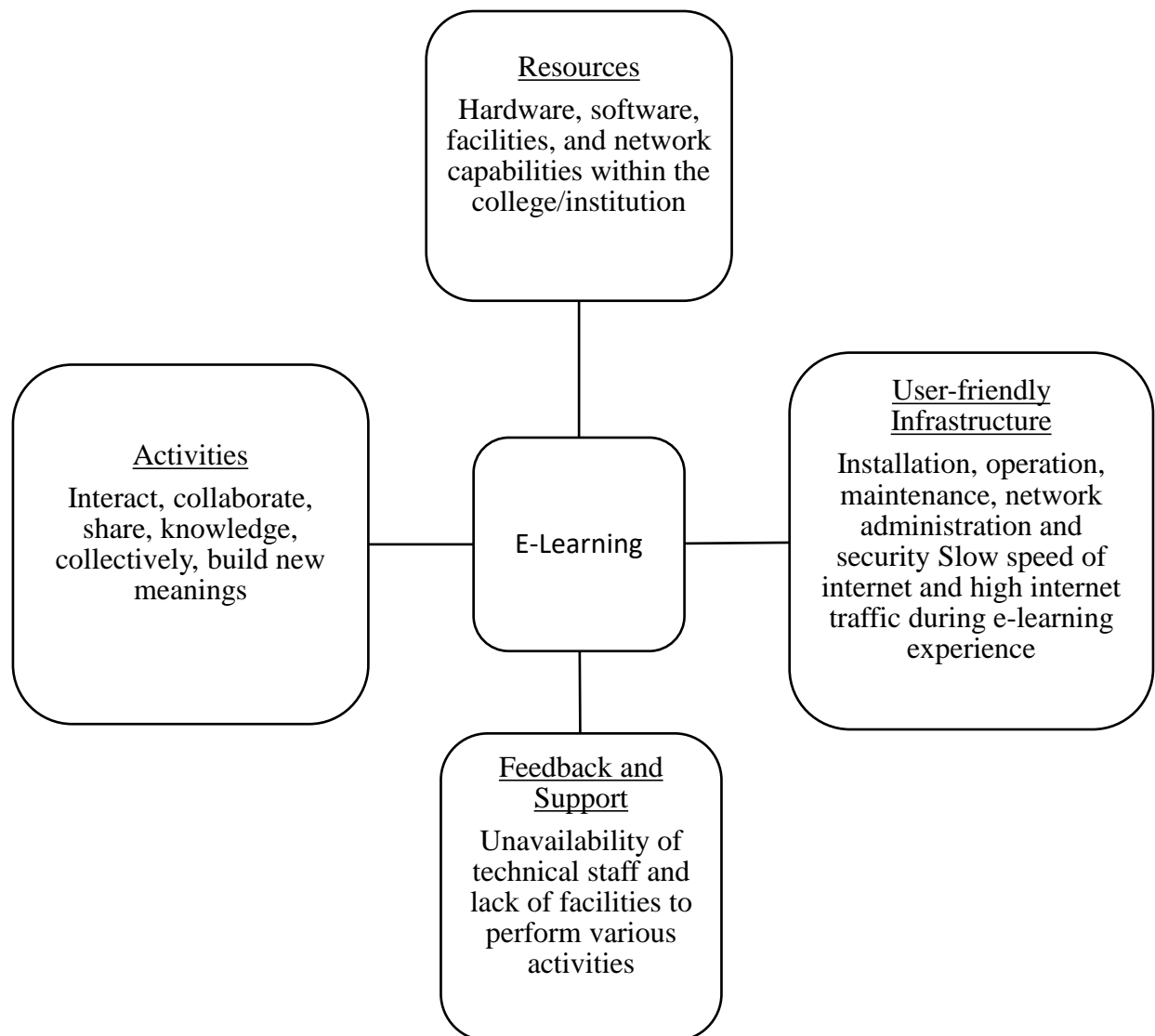


Figure 1: Conceptual framework of attitudes of undergraduate student towards e-learning.



## **Chapter III**

### **Methods and Procedure**

#### **Introduction**

This chapter presents the procedure of study, which carried out to achieve the objectives of the study. This chapter contains the method of sampling, the instrument use to collect data and the procedure used to analyze the data. This study presents the undergraduate student attitude towards e-learning.

#### **Design of the Study**

The design of this study is survey type. Since the research question and the research issues corresponds to survey. The overall methodology used corresponds to the survey research. This research study is based on quantitative research design through the survey study and descriptive in nature. It is the most commonly used method of investigation ranging from large-scale investigation to a small scale study or even a small classroom study. Therefore, techniques are applied to analyze the data. The data are collect through the primary sources. All the information from primary sources are analyzed and interpreted on the following procedure to conduct this study.

#### **Sources of Data**

The primary source of the data obtains by opinionnaire statement and open ended question from the students. Secondary source of data the researcher collected the related thesis, article, journal, news\book, and so no from the subject exports, teachers, CDC (Curriculum Development Centre) and so on.

#### **Population and Sample**

Survey research demands a large number of populations. The population of the study is undergraduate student of Education, Commerce, Engineering and Science stream within Kathmandu valley during academic year 2076/2077.

The sample was selected using proportionate stratified random sampling method. The researcher took the sample which meets all the characters of population. So, the researcher made the list of Bachelors College in Kathmandu valley. From the list there are 12 Bachelor's college selected by the method of random sampling.

Table No.1 List of data collection college

Management		Science & Engineering		Education	
College Name	Total Student	College Name	Total Student	College Name	Total Student
Mega College New Baneshor	20	Everest College Thapathali	20	KMC Koteshor	20
Daffe College RantaPark	20	Himalayan Institute of Science and Technology Shankhamul	20	Sanotimi College	20
Koteshor Multiple College	30	Nagarjuna College Pulchok	20	Ratna Rajya College	20
Liverpool College Baneshor	20	Advanced College of Engineering	20	Janamatri College	20
Online google Form	50	Online google form	50	Online google form	42
Online google form from Humanity faculty	8				

### Data Collection Tools

Every study needs to collect data. The aim of the survey was to investigate student's attitude towards e-learning. The researcher was use opinionnaire and open ended question as data collection tools.

### *Opinionnaire*

An opinionnaire is defined as a special form of inquiry. It is used by the researcher to collect the opinions of a sample of population on certain facts or factors the problem under investigation. Attitude is not directly observable because of its invisible nature. Opinionnaire is a suitable tool to collect the valuable opinions of student's attitude towards e-learning (Best

& Kahn , 2008). Opinionnaire was the major tool for the collection of data in this research. Data is the foundation of any research. The researcher used opinionnaire as data collection tools. In this study, the researcher was use close-ended opinionnaire statement. An opinionnaire was developed based on conceptual framework. Those statements are positive and negative both. For each statements Likert's five points scale is used. These options are strongly agree (SA), agree (A), undecided (U), disagree (DA) and strongly disagree (SDA). The researcher visited the sample school to collect data by opinionnaire for e-learning. For the opinionnaire, 20 statements were prepared for students based on the above main theme of conceptual framework. These opinionnaire consists different aspects of e-learning. The opinionnaire included the attitudes related e-learning. The collection of data for research was done with the help of sets of opinionnaire about the under graduate student attitude of e-learning. Opinionnaire are developed and constituted under the guidance of supervisor.

### ***Open-ended question***

Open-ended questions are free-form survey questions that allow respondents to answer in open text format so that they can answer based on their complete knowledge, feeling, and understanding. It means that the response to this question is not limited to a set of options. The Researcher developed two open-ended question to find out the opportunities and challenges of e-learning.

### **Reliability and Validity of Research Tools**

Reliability and Validity of Tools For the reliability of the instruments, a pilot study was conducted to assess the reliability of this tools or instruments. The pilot study was carried out of twenty students, which were not included in the study. The obtained data were calculated using by split-half method, then reliability coefficient was found 0.63. For the validation of the instruments, the researcher consulted with the thesis supervisor. The research tools used in this study were questionnaire. It also prepared by through the consultation with the expert. The statement was fixed for the final study. The statement was related to undergraduate student attitude towards e-learning. For the researcher consulted with the thesis supervisor.

### **Data Collection Procedures**

The following processes were used to collect data. The researcher visited different colleges and permission was taken from principal before distribution of opinionnaire to the

students then the researcher requested students to fill the opinionnaire form for the collection of data regarding attitude of students towards e-learning, Finally the researcher said thanks to all the respondent for their kind cooperation and similar procedure was followed and adopted to all selected colleges.

### **Data Analysis Procedure**

After completing data collection procedure, collected data and information was verified. The collected data had analyzed and interpreted by using statistical technique as mean, standard deviation, percentage, t-test and  $\chi^2$  -test under the quantitative and descriptive method. Mainly the statistical  $\chi^2$  - test was applied to find out the attitudes of students towards e-learning.  $\chi^2$  -test was used to test the male and female attitude towards the e-learning. The t-test was used to compare the attitude of male and female students and faculty-wise students towards e-learning. The weighted mean and standard deviation of each statement regarding the attitudes students towards e-learning was measured. The standard deviation is used to analysis measures the spread of a data distribution. The researcher has collected the answer from the open-ended question by considering the double and the same answer as one and removing the irrelevant answer and summarized them and explained them.

### **Ethical Considerations**

This study was conduct only for academic purpose. All the participants were briefed on the importance of the research and were requested to participate voluntarily. The researcher assured the study participants confidentiality that all the information given would be treated with strict confidence and only used for the purpose of this study. All data was recorded and stored in paper and electronic form.

## Chapter IV

### Analysis and Interpretation of Data

#### Introduction

In this study the chapter deals about the analysis and interpretation of the collected data including on the chapter third. This chapter presents the result of statistical analysis of collective data. The collected information from the informants is analyzed and interpreted to find out the undergraduate students attitude towards e-learning in Kathmandu Valley. Opinionnaire was the major tools for the collection of data in this research. It is already mentioned that the researcher was build a tool as set of 20 opinionnaire having positive and negative statements with five alternatives strongly agree, agree, undecided, disagree and strongly disagree of Likert scale and two open-ended question. This part deals with statistical analysis and interpretation of the data. For analyzing the data, mean, percentage, standard deviation, chi-square test and t-test were used. The researchers summarizing the response collected from the open-ended questions and explain them. The analysis of the study was carried out under the following two major headings of objectives.

To explore undergraduate student's attitude on e- learning.

To analyze the opportunities and challenges of e-learning.

#### Undergraduate Student's Attitude on E- Learning

The researcher included ten positive and ten negative statements in the opinionnaire set related to the student attitude towards e-learning. To find the attitude of students towards e-learning, the  $\chi^2$  -value was calculated on each statement.

### *Student Attitudes towards E-learning Activities*

To find out attitude of students toward e-learning it is necessary to discover their view or reaction toward e-learning related activities. The researcher developed five statements were proposed to students, on which 2 statements were positive and 3 statements were negative and following are the detailed response of students:

*Table No.2 Activities related statement*

S.N.	Statement	Type	S.A.	A.	N.	D.A.	S.D.A	Mean	S.D.	$\chi^2$ test
1	I believe using e-learning technologies will Improve my study performance.	P	28.75%	35.5%	19.75%	10%	6%	3.71	1.16	5.82
3	Computers make study more interesting.	P	23.8%	19.8%	11.8%	26%	18.8%	3.04	1.47	0.6
15	E-learning requires expensive technical support.	N	16%	20%	25%	24%	16%	2.94	1.3	8.55
11	E-learning difficult to do.	N	15.5%	18.5%	21.5%	29%	15.5%	3.01	1.34	7.35
20	I feel uncomfortable reading a text book on a computer screen than a physical text book.	N	14%	17%	25%	17.50%	26.50%	2.75	1.38	2.94
	Average		19.61%	22.16%	20.61%	21.30%	16.56%	2.54		

**Statement 1** “I believe using e-learning technologies will improve my study performance.” In this statement 35% of students are strongly agreed and 28.75% student are agree and 19.75% of students are undecided and 10% of students are disagree and only 6% students are strongly disagree about this statement. The chi square value 5.82 at 0.05 level of significance. The mean score of the statement is 3.71 and the standard deviation is 1.16. It

shows that most of them believe, using e-learning technologies helps to improve their studies. This indicates that the students have a positive attitude towards e-learning. This indicates that the students have positive attitude towards e-learning.

**Statement 3** “Computers make study more interesting.” A total 23% of students are strongly agreed and 19.8% of student agrees and 11% of students are undecided and 26% of students are disagreeing and only 19% of students strongly disagree about this statement. The chi square value 0.6 at 0.05 level of significance. The mean score of the statement is 3.4 and the standard deviation is 1.47.

**Statement 11** “E-learning difficult to do.” A total 15.5% of students are strongly disagreed and 29% of student disagrees and 21.5% of students are undecided and 18.5% of students are agreeing and only 15.5% of students strongly agree about this statement. The chi square value 7.35 at 0.05 level of significance. The mean score of the statement is 3.01 and the standard deviation is 1.34. It shows that most of the students are think e-learning is difficult to do. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 15** “E-learning requires expensive technical support.” A total 15% of students are strongly disagreed and 20% of student disagrees and 25% of students are undecided and 24% of students are agree and only 16% of students strongly agree about this statement. The chi square value 8.55 at 0.05 level of significance. The total mean score of the statement is 2.94 and the standard deviation is 1.3. It indicates that majority of students are not favor of this statement.

**Statement 20** “I feel uncomfortable reading a text book on a computer screen than a physical text book.” A total 14% of students are strongly disagreed and 17% of student disagrees and 25% of students are undecided and 17.5% of students are agree and only 26.5% of students strongly agree about this statement. The chi square value 2.94 at 0.05 level of significance. The mean score of the statement is 2.75 and the standard deviation is 1.38. It indicates to the researchers that the student has a negative attitude towards e-learning.

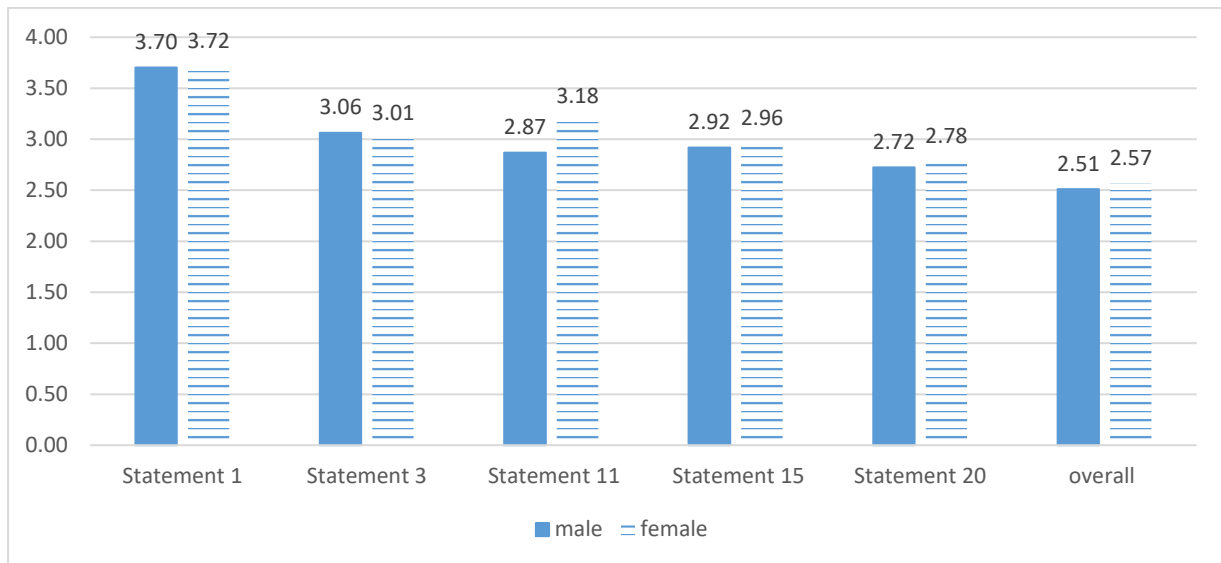


Figure 2: Mean result of students' attitude toward e-learning activities on the basis of gender

Table No. 3 Mean result of students' attitude toward e-learning activities

S.N.	Statement	Gender		Faculty			Total
		Male	Female	Science & Engineering	Management	Education	
1	I believe using e-learning technologies will Improve my study performance.	3.70	3.72	3.75	3.57	3.84	3.71
3	Computers make study more interesting.	3.06	3.01	2.95	3.35	2.73	3.04
11	E-learning difficult to do.	2.87	3.18	2.97	3.08	3.01	3.01
15	E-learning requires expensive technical support.	2.92	2.96	2.95	2.95	2.96	2.94
20	I feel uncomfortable reading a text book on a computer screen than a physical text book.	2.72	2.78	2.85	2.74	2.62	2.75
	Overall mean result of Activities related e-learning attitudes	2.51	2.57	2.52	2.59	2.51	2.54



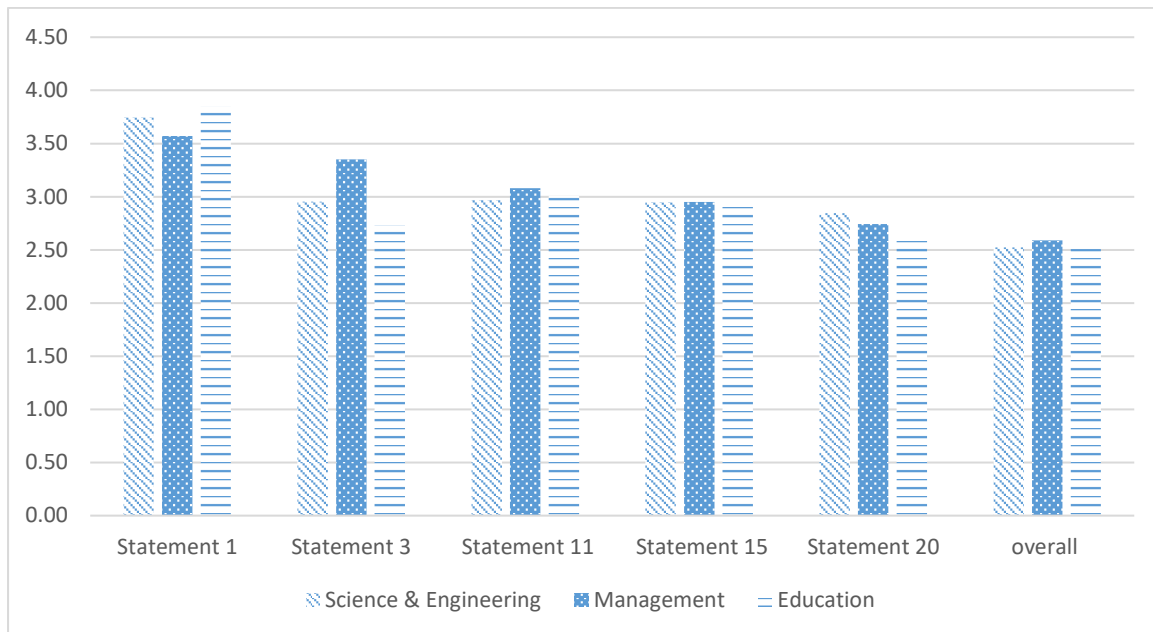


Figure 3: Mean result of students' attitude toward e-learning activities on the basis of faculty

**Statement 1** "I believe using e-learning technologies will improve my study performance." In this statement mean score is 3.70 for male students and 3.72 for female students and t-test value is 0.388 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 3.75, management students have mean score of 3.57, education students have mean score of 3.84 students and t-test value is 0.259 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.71 and the standard deviation is 1.16.

**Statement 3** "Computers make study more interesting." In this statement mean score is 3.06 for male students and 3.01 for female students and t-test value is 0.877 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 2.95, management students have mean score of 3.35, education students have mean score of 2.73 students and t-test value is 0.004 and significance level is 0.05. So we can conclude, there is significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.04 and the standard deviation is 1.47.

**Statement 11** “E-learning difficult to do.” In this statement mean score is 2.87 for male students and 3.18 for female students and t-test value is 0.334 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.97, management students have mean score of 3.08, education students have mean score of 3.01 students and t-test value is 0.518 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.01 and the standard deviation is 1.34.

**Statement 15** “E-learning requires expensive technical support.” In this statement mean score is 2.92 for male students and 2.96 for female students and t-test value is 0.969 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.95, management students have mean score of 2.95, education students have mean score of 2.96 students and t-test value is 0.517 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.94 and the standard deviation is 1.3.

**Statement 20** “I feel uncomfortable reading a text book on a computer screen than a physical text book.” In this statement mean score is 2.72 for male students and 2.78 for female students and t-test value is 0.538 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.85, management students have mean score of 2.74, education students have mean score of 2.62 students and t-test value is 0.259 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.75 and the standard deviation is 1.38.

The researcher had prepared five statements related to e-learning activities affecting e-learning. On the basis of percentage, 2 were positive statements where students agree percentage is high, on remaining 3 negative statement one statement have higher agree percentage one has a high undecided percentage and the last one have higher disagree percentage. All Statements related to e-learning seems higher positive attitude. On an overall basis, agree percentage in the activities-related statement is higher, so the attitudes of the

students are positive. But the overall mean score of all the activities-related statements is 2.54 and the standard deviation is 0.57. Which means a lower than the average mean score. The mean score of male students is 2.51 and the mean score of female students is 2.57 and t-test value is 0.313 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme. According to the data, science and engineering students have a mean score of 2.52, management students have a mean score of 2.59, education students have a mean score of 2.51 and the t-test value is 0.478 and the significance level is 0.05. So we can conclude, there is no significant difference in students' attitude towards the theme on the basis of faculty. In summary, e-learning helps to improve study performance as well as helps students to learn new skills to meet the current market needs.

#### ***Student Attitudes towards E-learning Resources***

To find out attitude of students toward e-learning it is necessary to discover their view or reaction toward e-learning related activities. Five statements were proposed to students by the researcher, on which 3 statements were positive and 2 statements were negative and following are the detailed response of students:

Table No. 4 Student attitudes towards e-learning resources

S.N	Statement	S. T.	S.A.	A.	N.	D.A.	S.D.A	Mea n	S.D.	$\chi^2$ test
5	E-learning is very economical for students to adopt.	P	18.75%	27.75%	24%	17%	12%	3.25	1.28	4.98
7	E-learning will provide me with better learning opportunities than traditional means of learning.	P	31.5%	27.5%	15%	15%	10.75%	3.54	1.35	2.45
8	It is easier to revise electronic educational materials than printed material.	P	17.50%	21.75%	16.25%	29.25%	14.75%	2.99	1.35	0.65
17	E-learning materials has no any trust.	N	14%	18.50%	23.50%	17%	27%	3.24	1.39	1.03
18	I can't find related content on internet.	N	14%	16%	21%	21%	28%	2.77	1.37	3.2
Average			19.15%	22.30%	19.95%	19.85%	18.15%	3.16		

**Statement 5** “E-learning is very economical for students to adopt.” In this statement 18.75% of students are strongly agreed and 27.75% of student agrees and 24% of students are undecided and 17% of students are disagreeing and only 12% of students strongly disagree about this statement. The chi square value 10.13 at 0.05 level of significance. The chi square value 4.98 at 0.05 level of significance. The mean score of the statement is 3.25 and the standard deviation is 1.28. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 7** “E-learning will provide me with better learning opportunities than traditional means of learning.” A total 31.50% of students are strongly agreed and 27.50% of

student agrees and 15% of students are undecided and 15% of students are disagreeing and only 10.75% of students strongly disagree about this statement. The chi square value 2.45 at 0.05 level of significance. The mean score of the statement is 3.54 and the standard deviation is 1.35. It shows that most of the students think e-learning provides them better learning opportunities. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 8** “It is easier to revise electronic educational materials than printed material.” A total 17.50% of students are strongly agreed and 21.75% of student agrees and 16.25% of students are undecided and 29.25% of students are disagreeing and only 14.75% of students strongly disagree about this statement. The chi square value 0.65 at 0.05 level of significance. The mean score of the statement is 2.99 and the standard deviation is 1.35. It indicates to the researchers that the student has a negative attitude towards this statement.

**Statement 17** “E-learning materials has no any trust.” A total 27% of students are strongly disagreed and 17% of student disagrees and 23.5% of students are undecided and 18.5% of students are agree and only 14% of students strongly agree about this statement. The chi square value 1.03 at 0.05 level of significance. The total mean score of the statement is 3.24 and the standard deviation is 1.29. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 18** “I can't find related content on internet.” A total 14% of students are strongly disagreed and 16% of student disagrees and 21% of students are undecided and 21% of students are agree and only 28% of students strongly agree about this statement. The chi square value 3.2 at 0.05 level of significance. The total mean score of the statement is 2.77 and the standard deviation is 1.37. It indicates to the researchers that the student has a negative attitude towards e-learning.

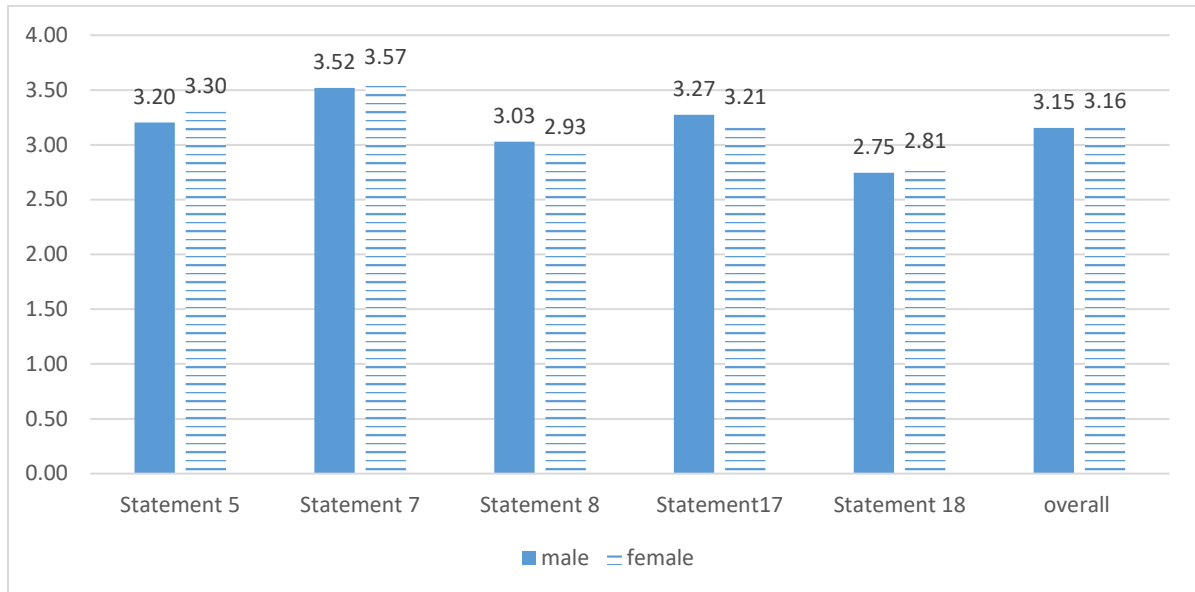


Figure 4: Mean result of students' attitude toward e-learning resources on the basis of gender

Table No.5 Mean result of student attitudes towards e-learning resources

S.N.	Statement	Gender		Faculty			Total
		Male	Female	Science & Engineering	Management	Education	
5	E-learning is very economical for students to adopt.	3.20	3.30	3.28	3.25	3.19	3.25
7	E-learning will provide me with better learning opportunities than traditional means of learning.	3.52	3.57	3.59	3.69	3.30	3.54
8	It is easier to revise electronic educational materials than printed material.	3.03	2.93	3.05	2.95	2.93	2.99
17	E-learning materials has no any trust.	3.27	3.21	3.27	3.35	3.13	3.24
18	I can't find related content on internet.	2.75	2.81	2.69	2.99	2.60	2.77
	Overall mean result of Student attitudes towards e-learning resources	3.15	3.16	3.18	3.25	3.03	3.16

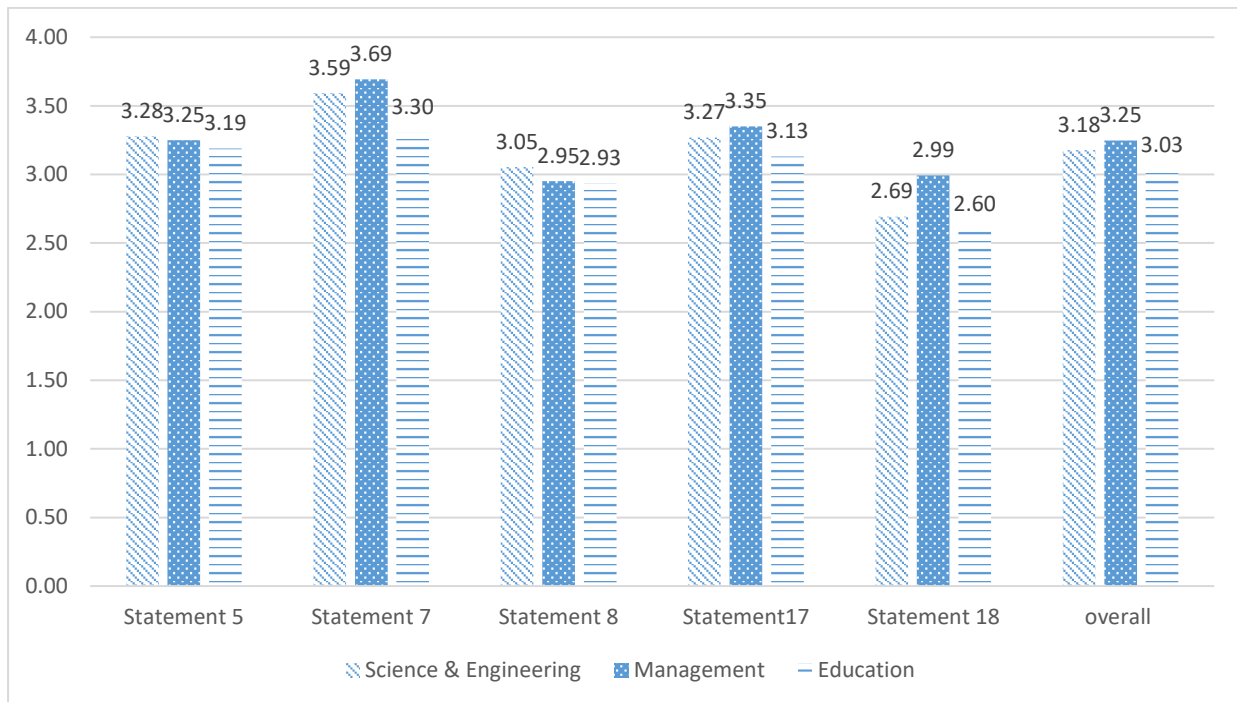


Figure 5: Mean result of students' attitude toward e-learning resources on the basis of gender

**Statement 5** "E-learning is very economical for students to adopt." In this statement mean score is 3.20 for male students and 3.30 for female students and t-test value is 0.909 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 3.28, management students have mean score of 3.25, education students have mean score of 3.19 students and t-test value is 0.795 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.25 and the standard deviation is 1.28.

**Statement 7** "E-learning will provide me with better learning opportunities than traditional means of learning." In this statement mean score is 3.52 for male students and 3.57 for female students and t-test value is 0.707 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 3.59, management students have mean score of 3.69, education students have mean score of 3.30 students and t-test value is 0.115 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.54 and the standard deviation is 1.35.

**Statement 8** “It is easier to revise electronic educational materials than printed material.” In this statement mean score is 3.03 for male students and 2.93 for female students and t-test value is 0.687 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 3.05, management students have mean score of 2.95, education students have mean score of 2.93 students and t-test value is 0.822 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.99 and the standard deviation is 1.35.

**Statement 17** “E-learning materials has no any trust.” In this statement mean score is 3.27 for male students and 3.21 for female students and t-test value is 0.547 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 3.27, management students have mean score of 3.35, education students have mean score of 3.13 students and t-test value is 0.356 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.24 and the standard deviation is 1.39.

**Statement 18** “I can't find related content on internet.” In this statement mean score is 2.75 for male students and 3.81 for female students and t-test value is 0.563 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.69, management students have mean score of 2.99, education students have mean score of 2.60 students and t-test value is 0.109 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.77 and the standard deviation is 1.37.

Resource is one of the aspect which have direct impact on attitude of students toward e-learning. The researcher had prepared five statements related to resources affecting in e-learning. There were 5 statements related to resources on which 3 are positive statements and remaining 2 are negative statements. On 2 positive statements agree percentage is high and on one statement disagree percentage is high and regarding 2 negative statements disagree



percentage is high, the overall mean score of all the resources-related statements is 3.16 and the standard deviation is 0.66. Which means a higher than the average mean score. The mean score of male students is 3.15 and the mean score of female students is 3.16 and t-test value is 0.696 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme. According to the data, science and engineering students have a mean score of 3.18, management students have a mean score of 3.25, education students have a mean score of 3.03 students and the t-test value is 0.061, and the significance level is 0.05. So we can conclude, there is no significant difference in students' attitude towards the theme on the basis of faculty. So, we can conclude that on the basis of resources students have positive attitude towards e-learning. On the basis of the overall percentage, the agreed percentage is higher in the resources-related statement, so the attitudes of the students can be said to be positive. And the total mean score is 3.15 which is much higher than the average.

#### ***Student Attitudes towards E-learning User-Friendly***

To find out attitude of students toward e-learning it is necessary to discover their view or reaction toward e-learning related activities. Five statements were proposed to students by the researcher, on which 3 statements were positive and 2 statements were negative and following are the detailed response of students:

Table No.6 Student attitudes towards e-learning user-friendly

S.N	Statement	S.T	S.A.	A.	N.	D.A.	S.D.A	Mean	S.D	$\chi^2$ test
4	I prefer using a computer to prepare my lessons.	P	29.50%	26.50%	18.25%	15.25%	10.50%	3.49	1.33	12.86
6	Working and studying with computers is exciting.	P	23%	26.75%	23.75%	15%	11.50%	3.35	1.29	3.55
9	E-learning is useful for self-learning.	P	27.25%	26.50%	18.50%	14.75%	12.75%	3.41	1.36	0.86
12	Using of e-learning is boring.	N	18.50%	21%	21%	24%	15.50%	2.98	1.35	4.712
13	Using computer systems requires a lot of mental effort.	N	15%	18.50%	22%	33.50%	11%	2.84	1.28	6.17
	Average		22.65%	23.85%	20.70%	20.50%	12.25%	3.21		

**Statement 4** “I prefer using a computer to prepare my lessons.” In this statement 29.50% of students are strongly agreed and 26.50% of student agrees and 18.25% of students are undecided and 15.25% of students are disagreeing and only 10.50% of students strongly disagree about this statement. The chi square value 12.86 at 0.05 level of significance. The mean score of the statement is 3.49 and the standard deviation is 1.33. It shows that most of

the students prefer using a computer to prepare lessons. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 6** “Working and studying with computers is exciting.” In this statement 23% of students are strongly agreed and 26.75% of student agrees and 23.75% of students are undecided and 15% of students are disagreeing and only 11.50% of students strongly disagree about this statement. The chi square value 3.55 at 0.05 level of significance. The mean score of the statement is 3.35 and the standard deviation is 1.3. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 9** “E-learning is useful for self-learning.” A total 27.25% of students are strongly agreed and 26.50% of student agrees and 18.50% of students are undecided and 14.75% of students are disagreeing and only 12.75% of students strongly disagree about this statement. The chi square value 0.86 at 0.05 level of significance. The mean score of the statement is 3.41 and the standard deviation is 1.36. It shows that most of the students think e-learning is useful for self-learning. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 12** “Using of e-learning is boring.” A total 15.5% of students are strongly disagreed and 24% of student disagrees and 21% of students are undecided and 21% of students are agree and only 18.5% of students strongly agree about this statement. The chi square value 40712 at 0.05 level of significance. The mean score of the statement is 2.98 and the standard deviation is 1.35. It shows that most of the students are think e-learning is difficult to do. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 13** “Using computer systems requires a lot of mental effort.” A total 11% of students are strongly disagreed and 33.5% of student disagrees and 22% of students are undecided and 18.5% of students are agree and only 15% of students strongly agree about this statement. The chi square value 6.17 at 0.05 level of significance. The mean score of the statement is 2.84 and the standard deviation is 1.28. It indicates to the researchers that the student has a positive attitude towards e-learning.

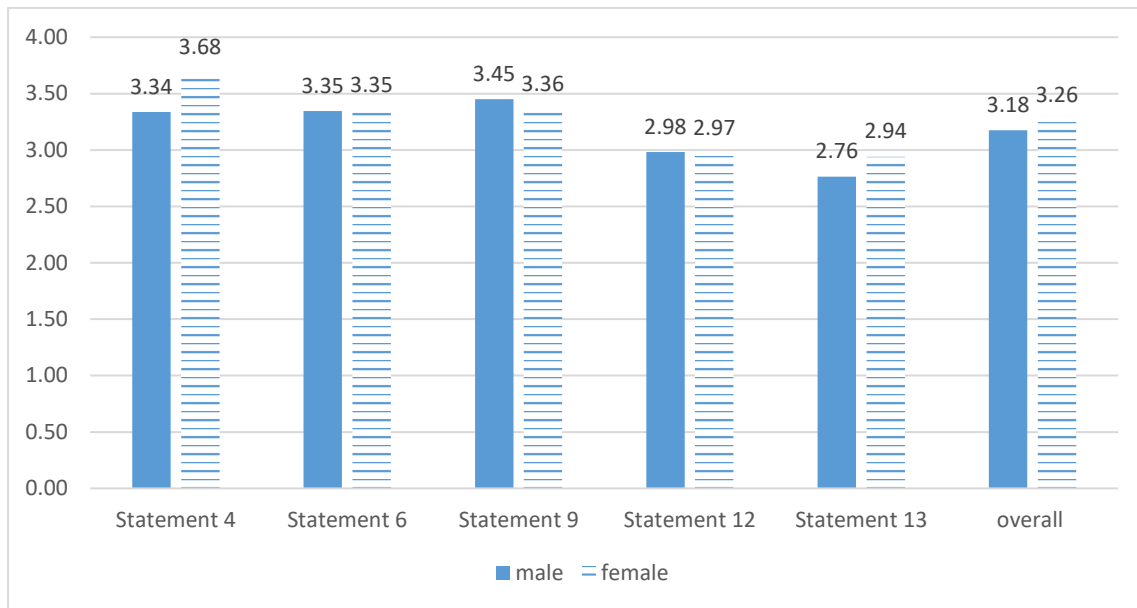


Figure 6: Mean result of students' attitude towards user friendly activities on the basis of gender

Table No. 7 Mean result of e-learning user-friendly

S.N.	Statement	Gender		Faculty			Total
		Male	Female	Science & Engineering	Management	Education	
4	I prefer using a computer to prepare my lessons.	3.34	3.68	3.52	3.54	3.40	3.49
6	Working and studying with computers is exciting.	3.35	3.35	3.35	3.46	3.20	3.35
9	E-learning is useful for self-learning.	3.45	3.36	3.39	3.66	3.14	3.41
12	Using of e-learning is boring.	2.98	2.97	2.81	3.25	2.88	2.98
13	Using computer systems requires a lot of mental effort.	2.76	2.94	2.88	2.92	2.72	2.84
	Overall mean Result of E-learning User-Friendly attitudes.	3.18	3.26	3.19	3.37	3.07	3.21

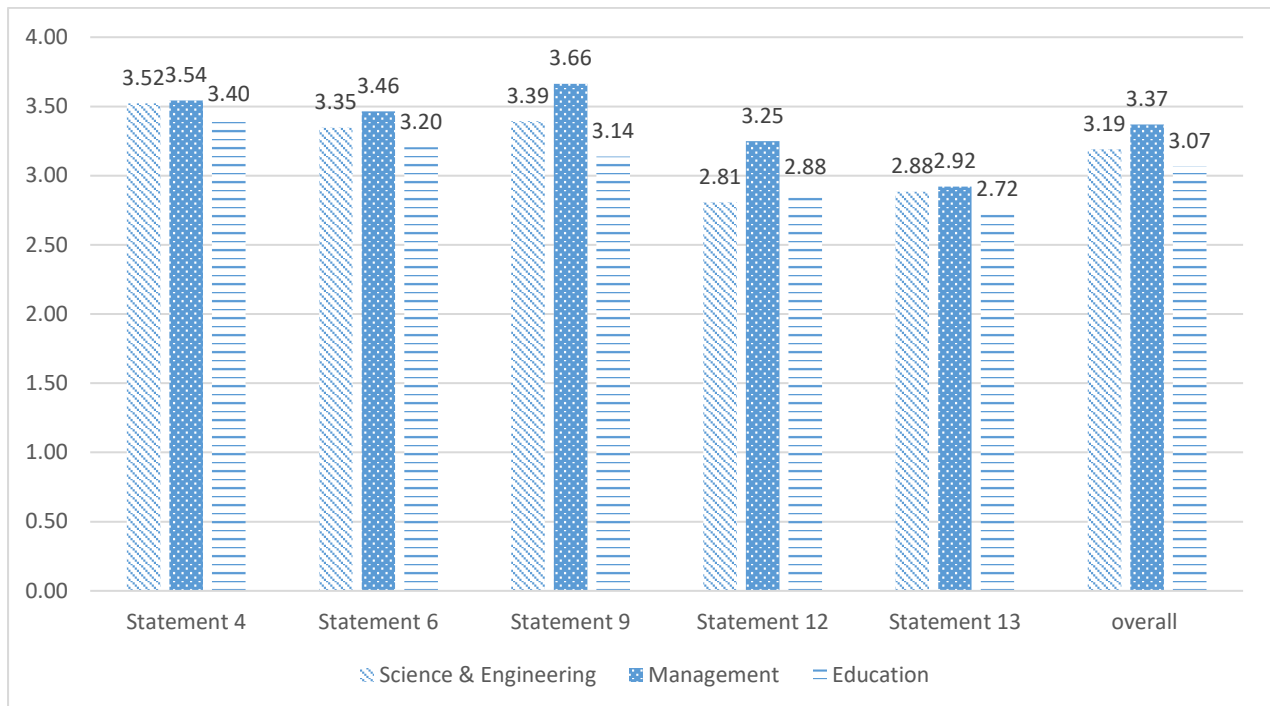


Figure 7: Mean result of students' attitude towards user friendly activities on the basis of gender

**Statement 4** "I prefer using a computer to prepare my lessons." In this statement mean score is 3.34 for male students and 3.68 for female students and t-test value is 0.444 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 3.52, management students have mean score of 3.54, education students have mean score of 3.40 students and t-test value is 0.842 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.49 and the standard deviation is 1.33.

**Statement 6** "Working and studying with computers is exciting." In this statement mean score is 3.35 for male students and 3.35 for female students and t-test value is 0.325 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 3.35, management students have mean score of 3.46, education students have mean score of 3.20 students and t-test value is 0.438 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.35 and the standard deviation is 1.29.

**Statement 9** “E-learning is useful for self-learning.” In this statement mean score is 3.45 for male students and 3.36 for female students and t-test value is 0.854 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 3.75, management students have mean score of 3.57, education students have mean score of 3.84 students and t-test value is 0.259 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.41 and the standard deviation is 1.36.

**Statement 12** “Using of e-learning is boring.” In this statement mean score is 2.98 for male students and 2.97 for female students and t-test value is 0.099 and significance level is 0.05. We can’t see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.81, management students have mean score of 3.25, education students have mean score of 2.88 students and t-test value is 0.018 and significance level is 0.05. So we can conclude, there is significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.98 and the standard deviation is 1.35.

**Statement 13** “Using computer systems requires a lot of mental effort.” In this statement mean score is 3.76 for male students and 2.94 for female students and t-test value is 0.422 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.88, management students have mean score of 2.92, education students have mean score of 2.72 students and t-test value is 0.575 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.84 and the standard deviation is 1.28.

Do e-learning technology used by students are user-friendly? What were the reaction of students towards the use of e-learning related technologies, does it affect students’ concept about e-learning, there were 5 user-friendly statements on which 3 statements were positive and 2 statements were negative. On 3 positive statements agree percentage is higher and on 2 negative statements disagree percentage is higher. So on the basis of the data we can conclude that on user-friendly activities students have positive attitude. On the basis of the

overall percentage, the agree percentage is higher in the user-friendly statement, so the attitudes of the students can be said to be positive. And the total mean score is 3.21 which is much higher than the average and the standard deviation is 0.68. The mean score of male students is 3.18 and the mean score of female students is 3.26 and t-test value is 0.994 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme. According to the data, science and engineering students have a mean score of 3.19, management students have a mean score of 3.37, education students have a mean score of 3.07 students and the t-test value is 0.003 and the significance level is 0.05. So we can conclude, there is significant difference in students' attitude towards the theme on the basis of faculty and on the basis of resources students have positive attitude towards e-learning.

### ***Student Attitudes towards E-learning Feedback***

To find out attitude of students toward e-learning it is necessary to discover their view or reaction toward e-learning related activities. Five statements were proposed to students by the researcher, on which 2 statements were positive and 3 statements were negative and following are the detailed response of students:

**Statement 2** "Using e-learning increases my creativity." In this statement 25.50% of students are strongly agreed and 26% of student agrees and 15.75% of students are undecided and 17% of students are disagreeing and only 15.75% of students strongly disagree about this statement. The chi square value 6.84 at 0.05 level of significance. The total mean score of the statement is 3.29 and the standard deviation is 1.42. It shows that most of the students are believe using e-learning increases his creativity. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 10** "E-learning is a very efficient way of learning." A total 27% of students are strongly agreed and 25.75% of student agrees and 21.75% of students are undecided and 12.75% of students are disagreeing and only 12.25% of students strongly disagree about this statement. The chi square value 5.61 at 0.05 level of significance. The total mean score of the statement is 3.43 and the standard deviation is 1.34. It indicates to the researchers that the student has a positive attitude towards e-learning.

Table No. 8 Student attitudes towards e-learning feedback

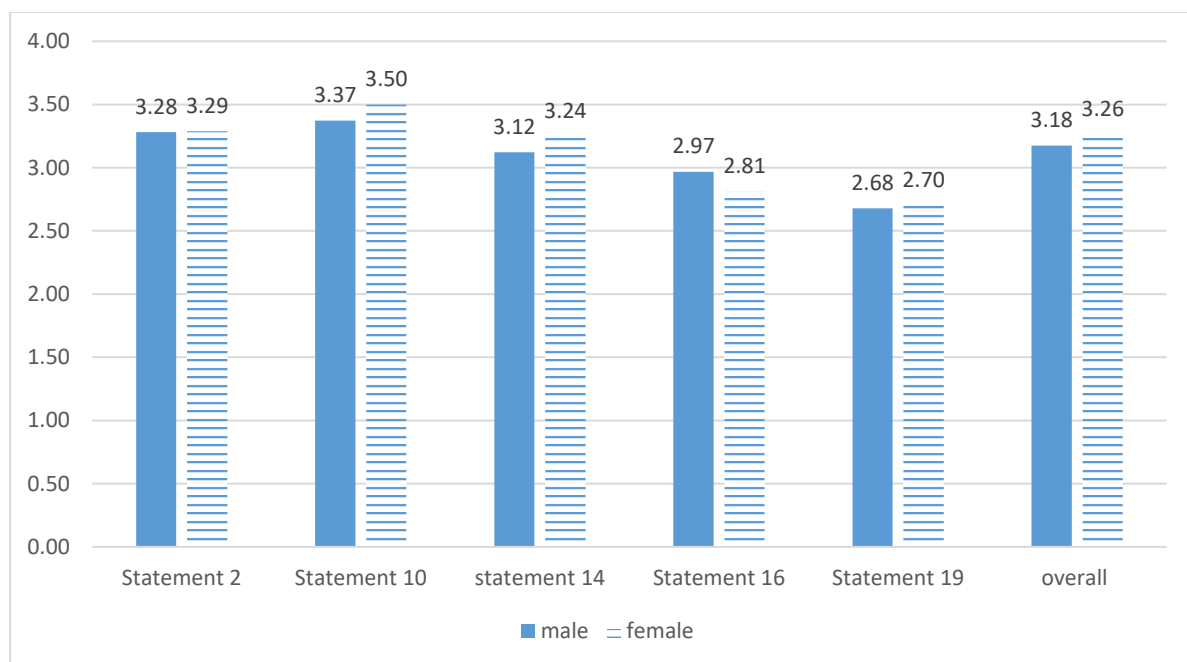
S.N.	Statement	S.T.	S.A.	A.	N.	D.A.	S.D.A	Mean	S.D.	$\chi^2$ test
2	Using e-learning increases my creativity.	P	25.50%	26%	15.75%	17%	15.75%	3.29	1.42	6.84
10	E-learning is a very efficient way of learning.	P	27%	25.75%	21.75%	12.75%	12.25%	3.43	1.34	5.61
14	E-learning has no peripheral benefits.	N	33%	16%	20%	13%	18%	3.18	1.39	4.4
16	E-learning reduces quality of knowledge attained.	N	19%	20%	20%	26%	15%	2.9	1.35	3.37
19	I never complete my e-learning chapter because of notification's distraction.	N	12%	17%	23.50%	22.50%	25%	2.69	1.34	2.31
Average			23.30%	20.95%	20.20%	18.25%	17.20%	3.21		

**Statement 14** “E-learning has no peripheral benefits.” A total 18% of students are strongly disagreed and 13% of student disagrees and 20% of students are undecided and 16% of students are agreeing and only 33% of students strongly agree about this statement. The chi square value 4.4 at 0.05 level of significance. The mean score of the statement is 3.18 and the standard deviation is 1.39. It indicates to the researchers that the student has a negative attitude towards e-learning.



**Statement 16** “E-learning reduces quality of knowledge attained.” A total 15% of students are strongly disagreed and 26% of student disagrees and 20% of students are undecided and 20% of students are agree and only 19% of students strongly agree about this statement. The chi square value 3.37 at 0.05 level of significance. The mean score of the statement is 2.898 and the standard deviation is 1.35. It indicates to the researchers that the student has a positive attitude towards e-learning.

**Statement 19** “I never complete my e-learning chapter because of notification's distraction.” A total 12% of students are strongly disagreed and 17% of student disagrees and 23.5% of students are undecided and 22.5% of students are agree and only 25% of students strongly agree about this statement. The chi square value 2.31 at 0.05 level of significance. The mean score of the statement is 2.69 and the standard deviation is 1.34. It indicates to the researchers that the student has a negative attitude towards e-learning.



*Figure 8: Mean result of students' feedback towards e-learning on the basis of gender.*

Table No.9 Mean result of e-learning feedback

S.N.	Statement	Gender		Faculty			Total
		Male	Female	Science & Engineering	Managemen t	Educa tion	
2	Using e-learning increases my creativity.	3.28	3.29	3.23	3.38	3.22	3.29
10	E-learning is a very efficient way of learning.	3.37	3.50	3.42	3.61	3.21	3.43
14	E-learning has no peripheral benefits.	3.12	3.24	2.98	3.35	3.20	3.18
16	E-learning reduces quality of knowledge attained.	2.97	2.81	3.07	2.79	2.85	2.90
19	I never complete my e-learning chapter because of notification's distraction.	2.68	2.70	2.75	2.88	2.37	2.69
	Overall mean Result of E-learning Feedback	3.18	3.26	3.19	3.37	3.07	3.21

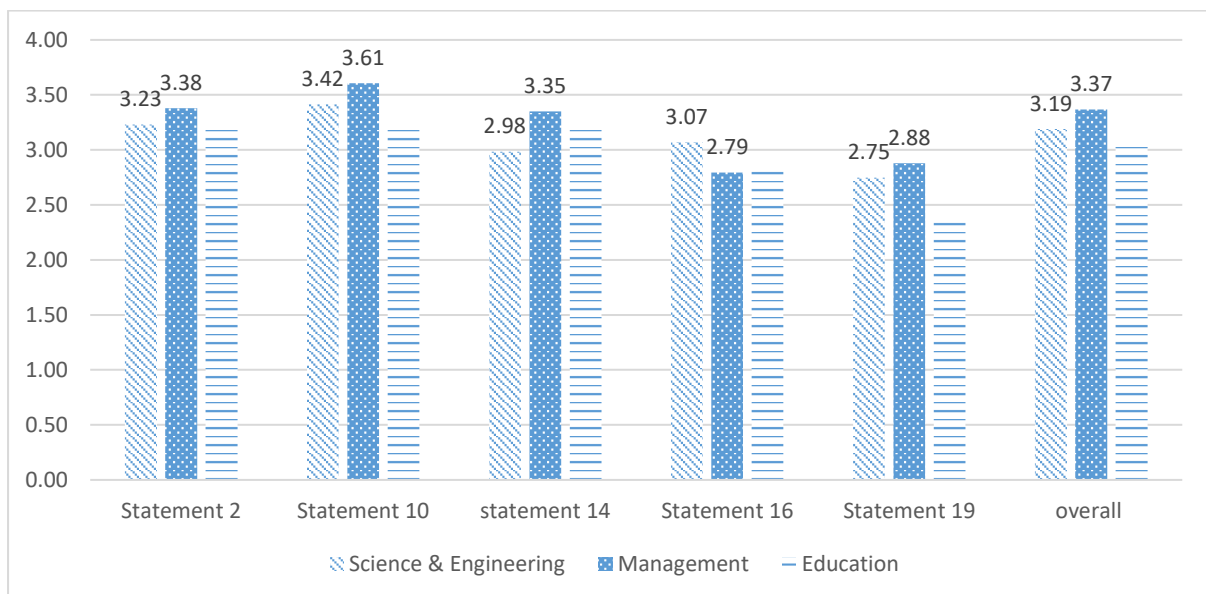


Figure 9: Mean result of students' feedback towards e-learning on the basis of faculty

**Statement 2** “Using e-learning increases my creativity.” In this statement mean score is 3.28 for male students and 3.29 for female students and t-test value is 0.029 and significance level is 0.05. We can see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 3.23, management students have mean score of 3.38, education students have mean score of 3.38 students and t-test value is 0.746 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.29 and the standard deviation is 1.42.

**Statement 10** “E-learning is a very efficient way of learning.” In this statement mean score is 3.37 for male students and 3.50 for female students and t-test value is 0.214 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 3.42, management students have mean score of 3.61, education students have mean score of 3.21 students and t-test value is 0.085 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.43 and the standard deviation is 1.34.

**Statement 14** “E-learning has no peripheral benefits.” In this statement mean score is 3.12 for male students and 3.24 for female students and t-test value is 0.110 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 2.98, management students have mean score of 3.35, education students have mean score of 3.20 students and t-test value is 0.185 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 3.18 and the standard deviation is 1.39.

**Statement 16** “E-learning reduces quality of knowledge attained.” In this statement mean score is 2.97 for male students and 2.81 for female students and t-test value is 0.729 and significance level is 0.05. We cannot see significant difference between male and female student’s attitudes on this statement. According to the data, science and engineering students have mean score of 3.07, management students have mean score of 2.79, education students

have mean score of 2.85 students and t-test value is 0.331 and significance level is 0.05. So we can conclude, there is no significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.90 and the standard deviation is 1.35.

**Statement 19** “I never complete my e-learning chapter because of notification's distraction.” In this statement mean score is 2.68 for male students and 2.70 for female students and t-test value is 0.674 and significance level is 0.05. We cannot see significant difference between male and female student's attitudes on this statement. According to the data, science and engineering students have mean score of 2.75, management students have mean score of 2.88, education students have mean score of 2.37 students and t-test value is 0.009 and significance level is 0.05. So we can conclude, there is significant difference on students' attitude towards the statement on the basis of faculty. The total mean score of the statement is 2.69 and the standard deviation is 1.34.

Feedback plays important role on e-learning. There were 5 feedback related statements where 2 statements are positive and 3 statements are negative on those 2 positive statements agree percentage is higher. Regarding 3 negative statements 1 statement have high agree percentage and remaining 2 statements have high disagree percentage therefore we can say that students have positive attitude towards e-learning. On the basis of the overall percentage, the agree percentage is higher in the e-learning feedback statement, so the attitudes of the students can be said to be positive. And the total mean score is 3.21 which is much higher than the average. The overall mean score of all the feedback-related statements is 3.21 and the standard deviation is 0.68. Which means a higher than the average mean score. The mean score of male students is 3.18 and the mean score of female students is 3.26 and t-test value is 0.994 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme. According to the data, science and engineering students have a mean score of 3.19, management students have a mean score of 3.37, education students have a mean score of 3.07 students and the t-test value is 0.003, and the significance level is 0.05, we can see there is significant difference in students' attitude towards the theme on the basis of faculty. So, we can conclude that on the basis of feedback systems students have positive attitude towards e-learning.

## **The Opportunities and Challenges of E-learning**

The researcher used two open-ended questions to collect data from respondents on e-learning opportunities and challenges. In which the e-learning opportunities from the first question and the challenges of e-learning from the second question were collected. The researcher has collected the answer from the open-ended question by considering the double and the same answer as one and removing the irrelevant answer and summarized them and explained them.

### ***Opportunities of E-learning***

This section covers the extracted themes that were derived from the analyses of data; each theme converses opportunities related to e-learning and reflects the perspectives of students regarding e-learning and their experience using e-learning tools. The first open-ended question is "What are the opportunities of using e-learning? ". These are the opportunities for the student to know and understand about e-learning in this question. Opportunity-related open-ended question was distributed to 400 students and only 310 students responded which was 77.5 percent. Among those students, 180 were female students and 130 were male students. After collecting response from all of the students, researcher have taken some representative topics which have received a lot of response. Which are flexible, self-learning, with no any boundaries, quality education, globalization, cost benefit etc.

### **Self-Learning**

Self-learning is anything you learn outside a classroom environment by yourself without a set curriculum or examinations. Many students have pointed to self-learning as an opportunity for e-learning. There are responses from 60 out of 310 students, which is about 20 percent. Self-learning is a main feature or facility of e-learning. Students consider self-learning as the main opportunity to learn according to the needs and desires of the student. The additional benefit of e learning is that it is student centered and focuses on self-learning.

Jaya Raj Khadka is currently studying in National College of Engineering at bachelor's level. He said, "*We can read multiple subjects, solve multiple tasks in shorter or same time through e-learning. No risk of losing books and tensions of bags or nook carriers. We can immediately search through google while doing e-learning.*"

Sabina Gaire is currently studying Trichandra College at bachelor's degree. She said, *“Through E - learning we can explore various educational websites and increase our horizon of knowledge. We will get to know about so many new things as we will be exploring the world through internet.”*

Pitamber Neupane is currently studying in Tribhuvan University at master's degree. He said, *“We can Search anything what we want.”*

Student-centered learning (SCL), also referred to as learner-centered education, is a modern learning method which aims to put the students in the center of focus, rather than the teachers. Online learning is fundamentally student-centered, due to the easy implementation of student discussion boards and peer grading systems. Self-learning is a process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, and evaluating learning outcomes (Knowles, 1975). According to James Thomes, A self-paced system enables them to make progress with rhythm that suits them. This type of system does not require attending live sessions; you can access the materials at any time that works for you. That's an advantage the traditional educational system cannot beat (Thomes, 2019). The research has demonstrated that self-paced learning leads to increased student satisfaction and reduced stress, resulting in improved learning outcomes for everyone involved. Some of the advantages of self-paced learning include efficiency, effectiveness, convenience, scalability, and reusability (Masie, 2019).

E-learning takes into consideration the differences of individual learners, and it allows students to practice their own individual learning styles. In other words, students are not always required to pass all unwanted courses in a curriculum and they can choose specific topics of interest to them. All students have different learning styles and there will never be a one-size-fits-all type of solution which will match all students at once. That is why individualistic learning methods are some of the greatest advantages of e-learning. E-learning, has the potential to be the most individualistic learning method ever made if implemented correctly. To recap, adaptive e-learning materials are designed to automatically change and adapt according to the knowledge, skills, and needs of each individual student.

## Flexibility

Flexible learning provides students with full control and accountability for their learning. With the help of e-learning, the students can take lessons online in flexible hours. They can learn at their own convenience anytime, anywhere sitting at any place. The students can be trained from all the countries, places whether in the remote areas or countryside areas where education facilities are not available. Students who study online can plan their own time schedule, without having to make personal sacrifices in order to meet the class attendance requirements of teachers and traditional universities.

There are responses from 52 out of 310 students, which is about 17 percent. Flexibility is a main feature or facility of e-learning. 22 students considered e-learning as flexible means to access education, 11 students considered as getting knowledge without geographical barrier, 14 students considered that education can be accessed anytime, 5 students considered e-learning is easy means to access global knowledge without being physically presence. As per students e-learning helps them to learn anywhere, at any time, without any geographical barrier. The flexibility of online education is often the most appealing factor, contributing to many students choosing to optional for this route over a more conventional education. Whilst it promises things like convenience and more freedom, flexibility itself also has a positive impact on the student's overall learning.

Akarti Malla is currently studying Asian College of Management and Technology at bachelor's degree. She said, *“E-learning, at its best, promotes the equality of education. E-learning gives also flexibility to family planning in the context of family social event. It gives the students a chance to study at what time of the day or week they want and when best suits them. This also improves the organizing skills of students because they have more responsibility of their timing and studies as well.”*

Suman Ghalan is currently studying in National College of Engineering at bachelor's level. He said, *“Anytime, Anywhere, Anybody can get opportunity of e-learning.”*

The major opportunities of e-learning is that due to its convenience and flexibility, the resources are available from anywhere and at any time. One of the best opportunities of e-learning is the flexibility with time. It gives the students a chance to study at what time of the day or week they want and when best suits them. This also improves the organizing skills of students because they have more responsibility of their timing and studies as well. E-learning,

at its best, promotes the equality of education. E-learning gives also flexibility to family planning in the context of family social event and in that way, e-learning has a strong social significance (Ndzibah & Ofori, 2017). It extends its reach with the reach of technology and can encompass both part-time students and regular ones. It presents a convenient and flexible option and promotes active and independent learning without restrictions of time, be it weekdays or weekends. Through discussion boards and chats, instructors can also interact with participants online.

### **E-learning is cost-effective**

E-learning can naturally be much more cost-effective than classroom-based learning, as it does not require learners to travel to be in the same place, or invest in special equipment and learning resources for each module of their course. Instead, Student can log into a portal, like Virtual College's Learning Management System Enable, from wherever they are, automatically removing travel expenses. As modules can be studied for via the screen, it also removes the need for people to spend on textbooks or other specialist equipment.

From the response of 30 students out of 310 students, which is about 10 percent. Cost-effective is a main feature or facility of e-learning. Student mainly included travel and accommodation, meal costs, classroom maintenance, text books, printed learning materials, and salaries for teachers and other staff. E-learning is cost effective as compared to traditional forms of learning. The reason for this price reduction is because learning through this mode happens quickly and easily. Can get education from anywhere at any time and mostly beneficial for financially struggling students (Thapa, 2020).

Sarmila Mainali is currently studying Nepal Mega College at bachelor's degree. She said, *“Opportunities of e-learning is economically low cost, flexibility with time, this also improve the organizing skills of students etc.”*

Many of the student reported the same factors flexible, resources are available from anywhere and at any time, no any boundaries, simpler, easier, scalable, and more effective, self-study, save time, creativity, user-friendly, enhance knowledge, get international degree, quality education, skill base learning, student-centered learning, cost effective, availability, accessibility, effective use of information and communication technologies, personalized learning, improved collaboration and interactivity. E-learning has completely transformed the



way in which learning is imparted to students. The student has said a lot about the e-learning opportunity.

In this era, learners can flexibly choose the most appropriate learning mode in accordance with their preferences or commitments, or both. E-learning is a tool that enhances active and independent learning. It gives the facilities to students to take classes online at any time at any place. So, the students take the time out from their daily schedules for devoting the time to their studies. With online learning location is no longer a barrier; neither are culture and nationality. Translating and customizing your online courses to address different cultures in various languages makes possible for your e-learning content to travel all around the world and reach the widest possible audience. The use of e-learning also enables students to communicate, share and work collaboratively anywhere and anytime. A number of students indicated in the questionnaire that e-learning has a significant role to play in supporting and enhancing their communication with their peers. Students see the use of ICT as a means of communication to share ideas and information to collaboratively construct knowledge (Singh, 2020).

Students have the opportunity to analyze problems and explore ideas as well as develop concepts. Not only they are able to acquire knowledge together, but students are also able to share diverse learning experiences to express themselves and reflect on their learning. E-learning makes many opportunities for education institutions, business organizations and learners. These opportunities are: effective use of information and communication technologies, delivery of educational services anywhere, anytime and to anyone, substantial cost savings, just-in-time access to timely information, personalized learning (Milovanovic, 2010). There is not much difference in the research of e-learning faced by the student and the finding of the previous research.

### ***Challenges of E-learning***

This section covers the extracted themes that were derived from the analyses of data; each theme converses challenges related to e-learning and reflects the perspectives of students regarding e-learning and their experience using e-learning tools. The second open-ended question is "What are the challenges you face while using e-learning?". These are the challenges for the student to know and understand about e-learning in this question.

Challenges-related open-ended question on e-learning was distributed to 400 students and only 300 students responded, which was 75 percent among those students, 200 were female students and 100 were male students. After collecting the response from all the students, researcher have taken some representative topics which have received a lot of response. Which are unstable network, lack of motivation, lack of technical knowledge, notification distraction and useless notification, shortage of devices, unnecessary advertisement, complexity, expensive, security etc.

### **Unstable Network and Internet connectivity**

Main challenges faced by students while using the e-learning method are unstable network and unstable internet connectivity. Out of 300 students 70 students, which is 24 percentage responded on unstable internet, expensive internet and expensive data charges. Most of the students are facing these issues while attending online class at lockdown period. Nepal is developing country, every student doesn't have wifi connectivity. Most of the students use mobile data for their online classes so it is expensive and unstable due to which students cannot continue their online class.

Sindhu Sapkota is currently studying Butwal Multiple College at bachelor's degree. She said, *"Poor network, unnecessary ads, Useless notifications, inauthentic sites and many more."*

Rabin Pandey is currently studying Koteshor Multiple College at bachelor's degree. He said, *"I face challenges which are as given bellow 1: i should buy laptop 2: its need wifi connections 3: manage to separate palace to learn."*

Santosh Bhusal is currently studying Koteshor Multiple College at bachelor's degree. He said, *"Slow internet connection and notification distraction."*

According to Vijay Thapa, Most of the people live in rural areas and Nepal has a difficult geographic condition which results in poor or no internet connection (Thapa, 2020). Internet is expensive, limited geographical coverage, and unstable if there is connectivity. According to respondents, internet package in Nepal is comparatively expensive which discourages students to search reading materials through the internet. Power supply, though it is more stable in these days, also stresses to students as well as instructors. According to respondents, internet package in Nepal is comparatively expensive which discourages students to search reading materials through the internet. Power supply, though it is more

stable in these days, also stresses to students. The students discomfort in online class because of late joining the class, disconnect and reconnect the classes frequently. This could be because of the poor strength of the internet.

### **Lack of Motivation**

Lack of motivation is also one of the important challenge faced by students in e-learning. Due to lack of motivation, students did not complete their e-learning classes and courses. Out of 300 students 50 students responded that they are facing motivation issue on e-learning this is 20 percentage of total responded student. Lack of self-motivation among students continues to be one of the primary reasons why students fail to complete online courses. For many students, one of the biggest challenges of online learning is the struggle with focusing on the screen for long periods of time. With online learning, there is also a greater chance for students to be easily distracted by social media or other sites. In traditional classrooms, there are numerous factors which constantly push students towards their learning goals. Face-to-face communication with professors, peer-to-peer activities, and strict schedules all work in unison to keep the students from falling off track during their studies (Olaniran, 2007).

Rabi Karki is currently studying Asian College of Management and Technology at bachelor's degree. He said, *“Yes so at the same time while E learning there will be so many distractions also. There will no proper concentration because of other social media notifications. Since there will be no physical interaction with teacher, will not be able to concentrate properly also.”*

Students taking e-learning courses find that they are often required to learn difficult materials in a comfortable home setting without any of the added pressure normally associated with traditional colleges. As a result, keeping up with regular deadlines during online studies can become difficult for those students who lack strong self-motivation and time management skills. In traditional classrooms, teachers can give students immediate face-to-face feedback. Students who are experiencing problems in the curriculum can resolve them quickly and directly either during the Lecturer or during the dedicated office hours. Personalized feedback has a positive impact on students, as it makes learning processes easier, richer, and more significant, all the while raising the motivation levels of the students (Mandela, 2019).

### **Lack of Technical knowledge**

Lack of technical knowledge is also one of the main problem faced by students while using e-learning. 40 students out of 300 students responded on lack of technical knowledge, which includes lack of knowledge about software while attending online class, unable to use live classes, unable to submit online assignment etc. As many students submit their assignments in scanned copy after writing their tasks in a copy. Before this covid pandemic, developing country like Nepal had not started much online classes. Due to this COVID pandemic college were closed and because of which college are competed to conduct online classes and lack of technical knowledge is one of the frequently faced problem by students at this pandemic period while attending online classes.

Akarti Malla is currently studying Asian College of Management and Technology at bachelor's degree. She said, *“Young people and kids who were raised around mobile devices often feel very comfortable using mobile devices, laptops and surfing the Internet. Sometimes we forget that not everybody have such a great computer skills. This is a challenge for teachers as well, because they have to both have the know-how of the e-learning programs they are using for teaching but also have a competence to give support to students for using the programs.”*

In contemporary times, young people and kids who were raised around mobile devices often feel very comfortable using mobile devices, laptops and surfing the Internet. Sometimes we forget that not everybody has such great computer skills. For those, the challenge of e-learning is computer skills. This is a challenge for teachers as well because they have to both have the know-how of the e-learning programs they are using for teaching but also have the competence to give support to students for using the programs. According to Ndzibah and Ofori, it is essential for successful e-learning, that the student is not hindered by a lack of e-skills and computer skills. Ndzibah and Ofori remind them that technical competence or incompetence is something that should be taken into consideration while planning online courses (Ndzibah & Ofori, 2017).

Many of the student reported the same factors as poor internet connectivity, unstable power supply, notification distraction, security and privacy, awareness about the benefits of e-learning, resistance from students and educators to using e-learning methods, lack of

technical knowledge, shortage of gadgets, lack of quality e-content, lack of awareness, lack of foreign language skill, incompatibility of contents, high rate of illiteracy in computer and skill unavailability, attitudinal hampering, cultural barriers are the main challenges of e-learning. These are the main challenges of e-learning while student using in Nepal.

According to Shakya, Sharma and Thapa, over the past of decades, students were facing more challenges by the increasingly global, digital and dynamic environment. All the challenges like cost, language, lack of human resources, lack of ICT tools etc inhibited the growth of E-learning. E-learning is being widely adopted and used in developed areas, there is the ease of accessing to get information however there is no easy access to get information for students living in developing areas. So there is a challenge of providing the infrastructure of learning taking account of internet connectivity and making the availability of e-learning materials (Shakya, Sharma, & Thapa, 2017).

Among challenges to online learning, the most frequently encountered were difficulty adjusting learning styles, having to perform responsibilities at home, and poor communication or lack of clear directions from educator. Lack of physical space conducive for studying and mental health difficulties were also common. The data showed that the availability of fast and reliable internet connection was a bigger concern than either device ownership or technical aptitude. Many of the students join their classes through their mobile phones which may not fulfill all the teaching objectives like presentations. The e-Learning methods currently practiced in education tend to make participating students undergo contemplation, remoteness and a lack of interaction. As a result, many of the students and teachers who inevitably spend much of their time online can start experiencing signs of social isolation, due to the lack of human communication in their lives. Social isolation coupled with a lack of communication often leads to several mental health issues such as heightened stress, anxiety, and negative thoughts (Thapa, 2020).

There is not much difference in the research of e-learning faced by the student and the finding of the previous research. But there are some new challenges in this research, they are: lack of motivation, notifications distraction, unstable network, shortage of device, security and privacy etc.

## **Chapter-V**

### **Summary, Finding, Conclusion and Recommendation**

After the analysis and interpretation of collected data as per the design of study and the research questions, in this concluding chapter an attempt has been made to drive conclusion. This chapter represents the summary of the study with major findings and conclusion. Finally, the last section presents recommendations for the future study.

#### **Summary of the Study**

Information and communication technology (ICT) is most important part of modern education system. It is highly beneficial for the improvement of students several aspect of knowledge, skill and attitudes. Education system is upgrading these days with advance technologies that are from conventional learning to E-learning and this is relevant for learner as it is providing flexibility in learning with optional choices for study to the learner with unlimited access of information. E-learning is the effective tools of teaching and learning process these days and different universities of Nepal also broadly adopting this E-learning strategy and offering for distance education or online learning.

This study was carried out to examine the attitude of undergraduate students towards e-learning, the objectives of the study were: To explore undergraduate student's attitude on e-learning. To analyze the opportunities and challenges of e-learning. For the achievement of these objectives of the study, the researcher gathered data by method of opinionnaire survey and used "Likert Attitude Scale" and open-ended question and checklist as a primary tool. The population of the study was undergraduate student of Education, Commerce, Engineering and Science stream in Kathmandu valley. The sample was selected using proportionate stratified random sampling method. The researcher collected 250 students out of 400 students from Kathmandu College and 150 students from online google form. A set of 20 (positive and negative) opinionnaire were developed as the tool for collection data. The opinionnaire had five level of statements strongly agree, agree, undecided, disagree and strongly disagree of Likert scale. The  $\chi^2$  -test, mean, standard deviation, attitude score and percentage were used to determine the attitude of students towards e-learning. Lastly, the researcher found that undergraduate student had positive attitude towards e-learning.

## Findings

On the basis of analysis of the data the major findings of the study were summarized as below.

- From the chi-square test, all statements are significant at 0.05 level of significance.
- Opinionnaire has ten positive statements that eight statements have a higher percentage of agree and two statements have a higher percentage of disagree.
- Opinionnaire has ten negative statements have a higher percentage of disagree in five statements and agree in two statements and one has neutral percentage is high.
- Among the 20 statements, 13 statements have positive and 6 statements have a negative attitude towards e-learning.
- Overall, the undergraduate student had a positive attitude towards e-learning.
- The mean score of each statement is above 2. It also shows that most of the students had positive attitude towards e-learning.
- All e-learning activities related statements seem higher positive attitude. On an overall basis, agree percentage in the activities-related statement is higher, so the attitudes of the students are positive. But the overall mean score of all the activities-related statements is 2.54 and the standard deviation is 0.57. Which means a lower than the average mean score. The mean score of male students is 2.51 and the mean score of female students is 2.57 and t-test value is 0.313 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme. In summary, e-learning helps to improve study performance as well as helps students to learn new skills to meet the current market needs.
- Resource is one of the aspects which have direct impact on attitude of students toward e-learning. The overall mean score of all the resources-related statements is 3.16 and the standard deviation is 0.66. The mean score of male students is 3.15 and the mean score of female students is 3.16 and t-test value is 0.696 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme. So, we can conclude that on the basis of resources students have positive attitude towards e-learning. On the basis of the overall percentage, the agreed percentage is higher in the resources-related statement, so the attitudes of the students can be said to be positive. And the total mean score is 3.15 which is much higher than the average.

- User-friendly is one of the aspect which have direct impact on attitude of students toward e-learning. So on the basis of the data we can conclude that on user-friendly activities students have positive attitude. On the basis of the overall percentage, the agree percentage is higher in the user-friendly statement, so the attitudes of the students can be said to be positive. And the total mean score is 3.21 which is much higher than the average and the standard deviation is 0.68. The mean score of male students is 3.18 and the mean score of female students is 3.26 and t-test value is 0.994 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme.
- Feedback plays important role on e-learning. On the basis of the overall percentage, the agree percentage is higher in the e-learning feedback statement, so the attitudes of the students can be said to be positive. And the total mean score is 3.21 which is much higher than the average. The overall mean score of all the feedback-related statements is 3.21 and the standard deviation is 0.68. Which means a higher than the average mean score. The mean score of male students is 3.18 and the mean score of female students is 3.26 and t-test value is 0.994 and the significance level is 0.05. We cannot see the significant difference between male and female student's attitudes on this theme.
- E-learning being the most desired, effective and cheaply available tools for learner, it is more resourceful for learner as they can acquire more information accessing the internet. With the advancement of technology, many educational institute were offering online learning or distance education using e-learning materials. Those people who were unable to give full time for learning in a higher educational institute due to their own circumstances, e-learning has made easy learning for them by themselves using different web based technologies or seeing the tutorials in a computer or mobile on accessing the internet.
- The opportunities offered by e-learning are enormous such as user-friendly, flexible, enhance knowledge, reduce costs, self-study, resources are available from anywhere and at any time, no any boundaries, simpler, easier, scalable, and more effective, self-learning, save time, increases creativity, user-friendly, enhance knowledge, international degree which can be access from anywhere with no geographical barrier, quality education, skill base learning, student-centered learning, availability, accessibility.
- The Challenges faced by students while using e-learning are poor internet connectivity, unstable power supply, notification distraction, awareness about the benefits of e-learning, resistance from students and educators to using e-learning methods, lack of technical knowledge, shortage of gadgets, lack of quality e-content, lack of awareness, lack of foreign



language skill, incompatibility of contents, high rate of illiteracy in computer and skill unavailability, attitudinal hampering, cultural barriers are the main challenges of e-learning are the main challenges of e-learning.

- E-learning is seen as a complement and extension of classical forms of learning.

### **Conclusion**

The study was based on undergraduate student attitudes towards e-learning in Kathmandu Valley found on the basis of opportunities and challenges faced by students. Using the opinionnaire tool, student's perception of e-learning is measured and open-ended question is used to measure opportunity and challenges faced by students. The checklist was used to find out the status of e-learning in college. While preparing this thesis, due to covid-19, all college and schools were closed and classes were conducted online which made all parties aware of e-learning. They are in favor of using e-learning. Their responses show that e-learning is needed for better learning to take place. Only a negligible number of students have negative perceptions, misconceptions, misunderstanding and illusions towards e-learning. Overall, the parties had a positive attitude towards e-learning. The various aspects of e-learning tools visually, dynamic in nature help students to provide more depth understanding of quantitative techniques. The students received immediate feedback with the help of e-learning. Students were very much impressed and excited to know about the quantitative techniques based on software. The qualitative data revealed that student were facing various problem while using e-learning at basic level. They were related to devices (computers, mobile) and internet connection, there knowledge and skill, time as well as financial support, lack of infrastructure, trained instructors.

### **Suggestions for Future Research**

Based on the results of the current study, the researchers would like to suggest the following recommendations.

- This study was limited to undergraduate student in Kathmandu valley. This can be repeated with different participants from different universities and levels, and their attitudes can be studied.
- Conduct similar studies for further investigation of instructors' attitudes to the e-learning.
- Further studies using the quantitative and qualitative approaches to find out the relationship between students' attitude towards ICT.

- Similar study can be conduct to find out the attitude of students towards e-learning who are engaged in part time or full time jobs.
- Study can also be performed to overcome issues and challenges of e-learning that is faced by students.
- Effectiveness of online learning

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## Appendix –A

### Open Ended Question

1. What are the opportunities of using e-learning?
2. What are the challenges you face while using e-learning?

### List of Opinionnaire Statement

Name: ..... Semester / Year:

.....

Faculty: ..... College:

.....

Gender: Male  Female

I am doing research entitled **Undergraduate Student's Attitude towards E-learning** for the partial fulfillment of my master's degree in ICT Education. This research conducted under my respected teacher as well as thesis supervisor Bed Prasad Dhakal head of Department, Central Department of ICT Education, T.U. Kirtipur, Kathmandu. So, I am here collect data for this research. Researcher assure that collect data and information not disclose to unauthorized, not to use any other purpose and maintain confidentiality.

**Instruction:**

There is no wrong answer; each response will be treated as a correct one. Your opinion is what is required in this study. Do not think too long about each statement. It should take you around 10 minutes to complete. For each statement, put a tick (  $\checkmark$  ) to show your level of agreement; Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. Do not tick across two boxes.

S.N.	Statement	S.A.	A.	N.	D.	S.D.
1.	I believe using e-learning technologies will improve my study performance.					
2.	Using e-learning increases my creativity.					
3.	Computers make study more interesting.					
4.	I prefer using a computer to prepare my lessons.					
5.	E-learning is very economical for students to adopt.					
6.	Working and studying with computers is exciting.					
7.	E-learning will provide me with better learning opportunities than traditional means of learning.					
8.	It is easier to revise electronic educational materials than printed material.					
9.	E-Learning is useful for self-learning.					
10.	E-learning is a very efficient way of learning.					
11.	E-learning difficult to do.					
12.	Using of e-learning is boring.					
13.	Using computer systems requires a lot of mental effort.					
14.	E-learning has no peripheral benefits.					
15.	E-learning requires expensive technical support.					
16.	E-learning reduces quality of knowledge attained.					
17.	E-learning materials has no any trust.					
18.	I can't find related content on internet.					
19.	I never complete my e-learning chapter because of notification's distraction.					
20.	I feel uncomfortable reading a text book on a computer screen than a physical text book.					

## Appendix –B

S.N.	Statement	S.A.	A.	N.	D.A.	S.D.A
1	I believe using e-learning technologies will Improve my study performance.	115	142	79	40	24
2	Using e-learning increases my creativity.	102	104	63	68	63
3	Computers make study more interesting.	95	79	47	104	75
4	I prefer using a computer to prepare my lessons.	118	106	73	61	42
5	E-learning is very economical for students to adopt.	75	113	96	68	48
6	Working and studying with computers is exciting.	92	107	95	60	46
7	E-learning will provide me with better learning opportunities than traditional means of learning.	126	111	60	60	43
8	It is easier to revise electronic educational materials than printed material.	70	89	65	117	59
9	E-Learning is useful for self-learning.	109	107	74	59	51
10	E-learning is a very efficient way of learning.	108	105	87	51	49



**Appendix –C**

<b>S.N.</b>	<b>Statement</b>	<b>S.D.A</b>	<b>D.</b>	<b>N.</b>	<b>A.</b>	<b>S.A</b>
11	E-learning difficult to do.	63	116	85	74	62
12	Using of e-learning is boring.	63	96	83	84	74
13	Using computer systems requires a lot of mental effort.	44	134	89	74	59
14	E-learning has no peripheral benefits.	73	53	78	63	133
15	E-learning requires expensive technical support.	61	78	101	95	65
16	E-learning reduces quality of knowledge attained.	58	104	81	81	76
17	E-learning materials has no any trust.	107	69	94	74	56
18	I can't find related content on internet.	56	62	85	84	113
19	I never complete my e-learning chapter because of notification's distraction.	49	67	94	90	100
20	I feel uncomfortable reading a text book on a computer screen than a physical text book.	57	68	99	70	106

## Appendix – E

S.N.	Statement	A	R	U	F
1	I believe using e-learning technologies will improve my study performance.	✓			
2	Using e-learning increases my creativity.				✓
3	Computers make study more interesting.	✓			
4	I prefer using a computer to prepare my lessons.			✓	
5	E-learning is very economical for students to adopt.		✓		
6	Working and studying with computers is exciting.			✓	
7	E-learning will provide me with better learning opportunities than traditional means of learning.		✓		
8	It is easier to revise electronic educational materials than printed material.		✓		
9	E-Learning is useful for self-learning.			✓	
10	E-learning is a very efficient way of learning.				✓
11	E-learning difficult to do.	✓			
12	Using of e-learning is boring.			✓	
13	Using computer systems requires a lot of mental effort.			✓	
14	E-learning has no peripheral benefits.				✓
15	E-learning requires expensive technical support.	✓			
16	E-learning reduces quality of knowledge attained.				✓
17	E-learning materials has no any trust.		✓		
18	I can't find related content on internet.		✓		
19	I never complete my e-learning chapter because of notification's distraction.				✓
20	I feel uncomfortable reading a text book on a computer screen than a physical text book.	✓			

## Appendix – F

S.N.	Statement	S.A.	A.	N.	D.A.	S.D.A	Mean	S.D.	$\chi^2$ test
1	I believe using e-learning technologies will improve my study performance.	28.75%	35.5%	19.75%	10%	6%	3.71	1.16	5.82
2	Using e-learning increases my creativity.	25.5%	26%	15.75%	17%	15.75%	3.29	1.42	6.84
3	Computers make study more interesting.	23.8%	19.8%	11.8%	26%	18.8%	3.04	1.47	0.60
4	I prefer using a computer to prepare my lessons.	29.5%	26.5%	18.25%	15.25%	10.5%	3.49	1.33	12.86
5	E-learning is very economical for students to adopt.	18.75%	27.75%	24%	17%	12%	3.25	1.28	4.98
6	Working and studying with computers is exciting.	23%	26.75%	23.75%	15%	11.5%	3.35	1.29	3.55
7	E-learning will provide me with better learning opportunities than traditional means of learning.	31.5%	27.5%	15%	15%	10.75%	3.54	1.35	2.45
8	It is easier to revise electronic educational materials than printed material.	17.5%	21.75%	16.25%	29.25%	14.75%	2.99	1.35	0.65
9	E-Learning is useful for self-learning.	27.25%	26.5%	18.5%	14.75%	12.75%	3.41	1.36	0.86
10	E-learning is a very efficient way of learning.	27%	25.75%	21.75%	12.75%	12.25%	3.43	1.34	5.61

S.N.	Statement	S.D.A	D.	N.	A.	S.A	Mean	S.D.	x <sup>2</sup> test
11	E-learning difficult to do.	15.5%	29%	21.5%	18.5%	15.5%	3.01	1.34	7.35
12	Using of e-learning is boring.	15.5%	24%	21%	21%	18.5%	2.98	1.35	4.712
13	Using computer systems requires a lot of mental effort.	11%	33.5%	22%	18.5%	15%	2.84	1.28	6.17
14	E-learning has no peripheral benefits.	18%	13%	20%	16%	33%	3.18	1.39	4.40
15	E-learning requires expensive technical support.	16%	24%	25%	20%	16%	2.94	1.3	8.55
16	E-learning reduces quality of knowledge attained.	15%	26%	20%	20%	19%	2.90	1.35	3.37
17	E-learning materials has no any trust.	27%	17%	23.5%	18.5%	14%	3.24	1.39	1.03
18	I can't find related content on internet.	28%	21%	21%	16%	14%	2.77	1.37	3.20
19	I never complete my e-learning chapter because of notification's distraction.	25%	22.5%	23.5%	17%	12%	2.69	1.34	2.31
20	I feel uncomfortable reading a text book on a computer screen than a physical text book.	26.5%	17.5%	25%	17%	14%	2.75	1.38	2.94