A STUDY ON THE EFFECTIVENESS OF E-LEARNING:- WITH SPECIAL REFERENCE TO KOTTAYAM DISTRICT

Dissertation submitted in partial fulfillment of the requirement for the award of

Bachelor's Degree in Commerce

Submitted by

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CERTIFICATE

Certified that this is a bonafide report of the project work undertaken by **AISHWARYA R SHENOY(Register No.170021084392), BLESSY JUBY(Register No.170021084404), MERLIN ANN MATHEW (Register No.170021084423), SANGEETHA .M (Register No.170021084437)** *of B. Com Semester VI, in partial fulfilment of the requirements for the award of the Bachelor's Degree in Commerce of Mahatma Gandhi University, Kottayam under my supervision and guidance.*

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Countersigned

Principal **Head of the Department**

DECLARATION

*We do hereby declare that the project titled "**A STUDY ON THE EFFECTIVENESS OF E-LEARNING WITH SPECIAL REFERENCE TO KOTTAYAM DISTRICT** "is a Bonafede report of the project work undertaken by us in partial fulfilment of the requirements for the award of the Bachelor of Commerce (Taxation) of Mahatma Gandhi University, under the guidance of **Mrs. ANU MARY JOHN ,** Lecturer, Department of Commerce, Saintgits College of Applied Sciences, Pathamuttom, Kottayam. We also declare that this project report has not been submitted by us anywhere, fully or partially for the award of any degree, diploma, fellowship or other similar title or recognition of any university/institute to the best of my knowledge and belief.*

Pathamuttom
31-03-2020

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In partial fulfilment of the award of the B. Com Degree by Mahatma Gandhi University, it is mandatory for the regular students of B. Com of the university to prepare a project report to be submitted to the college/university.

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INTRODUCTION

1.1 INTRODUCTION

A learning system based on formalized teaching but with the help of electronic resources is known as E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times.

With the introduction of the computer and internet in the late 20th century, e-learning tools and delivery methods expanded. The first MAC in the 1980′s enabled individuals to have computers in their homes, making it easier for them to learn about particular subjects and develop certain skill sets. Then, in the following decade, virtual learning environments began to truly thrive, with people gaining access to a wealth of online information and e-learning opportunities.

By the early 90s, several schools had been set up that delivered courses online only, making the most of the internet and bringing education to people who wouldn't previously have been able to attend a college due to geographical or time constraints. Technological advancements also helped educational establishments reduce the costs of distance learning, a saving that would also be passed on to the students – helping bring education to a wider audience.

In the 2000′s, businesses began using e-learning to train their employees. New and experienced workers alike now had the opportunity to improve upon their industry knowledge base and expand their skill sets. At home, individuals were granted access to programs that offered them the ability to earn online degrees and enrich their lives through expanded knowledge.

1.2 OBJECTIVES OF THE STUDY

- To study the awareness and accessibility of e-learning.
- To analyse the potential of e-learning implementation.
- To estimate the major users of e-learning.
- To understand different attitudes of people towards e-learning.
- To study the various available e-learning tools.
- To estimate the challenges faced by e-learning.
- To analyse the positive and negative impacts of e-learning.

1.3 SIGNIFICANCE OF THE STUDY

- This study provides the benefits of E- learning and consumer satisfaction on the same.
- This study shows the role of E-learning in the lives of users and its importance on education system.
- The research work shows the comparison between E-learning and Traditional Learning.

1.4 SCOPE OF THE STUDY

- The present research is an attempt to understand the performance of E-learning and why the need is essential.
- The study focuses from the receiving end, the consumer gain.

1.5 STATEMENT OF PROBLEM

The study is focused on effectiveness of e- learning and attitude of consumers towards e – learning techniques.

1.6 RESEARCH METHODOLOGY

Research methodology is the description, explanation and justification of various methods of conducting research. This area deals with research design, sources of data collection sample design and statistical tools used for the data analysis and interpretation.

a. DATA COLLECTION

The data required for the study is collected from primary and secondary sources

- Primary data
  Primary data was collected with the help of structured questionnaires which were distributed to group of people.
- Secondary Data
  Secondary data were obtained from books, journals, websites and other documents.

b. SAMPLE SIZE

The number of sampling units selected from population is called the size of the sample. In this project sample size is 106 because information is collected from 106 respondents.

c. AREA OF STUDY

This study covers learners of Kottayam district.

d. SAMPLE DESIGN

Convenience sampling method is used.

1.7 TOOLS FOR ANALYSIS AND PRESENTATION

- **Tools for analysis:** Mathematical tools like percentage is used to analyse the data collected.
- **Tools for presentation:** Pie diagrams, bar charts and tables are used to present the data in a simple manner.

1.8 LIMITATIONS

- Data collection process was restricted to few areas.
- Time of study was comparatively within a short span of time.
- There were limitations prevailing on the equipment of study.
- There was lack of knowledge from respondents due to which it causes.

CHAPTER-2

REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

2.1 REVIEW OF LITERATURE

At present the majority of research activities in Education are focused on e-learning. We can see the various education related research journals with full of research papers focusing on different aspects of e-learning. They are talking about the utilization of Information and Communication Technology (ICT) in school education to higher education. They are discussing about the impact of learning materials with the combination of 3D graphics, text, audio and video. They are also researching on virtual learning environment and use of social networking websites for educational activities. ICT policy plans for school to University education are also the favorite subject areas for the researchers.

- Hall (1997): incorporated both Zahn (2000) and Karon (2000) definitions by underlining computer-based training as an all-encompassing term used to describe any computer-delivered training including CD-ROM and World Wide Web. Hall further explained that some people use the term CBT to refer only to old-time, text-only training.

- Karon (2000): discussed the convenience factor of well-designed computer-based training by saying that any well-designed computer-based training- whether it's networked based or delivered via the Internet – is more convenient than traditional instructor-led training or seminars. Karon went on to say that self-paced CBT courses are available when learners are ready to take them, not just when the seminar is scheduled or the instructor is available.

- Zahn (2000): described computer-based training (CBT) as usually delivered via CD-ROM or as a Web download and that it is usually multimedia-based training.

- Fong and Hui (2005): have argued that educators should not simply recreate the traditional classroom but take advantage of what new communication and information technologies offer. Technological advancement has made available a broad scope of creativity in generating learning material.

- Chen and Tsai (2007): highlighted the role of gender in web-based learning environment. On an average male student have more positive attitude towards web-based learning than females. (Edmunds and Richardson, 2009). Various factors like gender, age and subject background play important role in deciding the learners' attitude towards e-learning environment.

- Wang & Woo (2011): claimed that the Facebook group had the potential to be used as Learning Management System (LMS). It has pedagogical, social and technological affordance. The utilization of available social networking websites for teaching-learning activities has been examined and discussed in various research works.

- (Paul A. Soukup, 2011): The newness and growing availability of computers have given educators the chance to more careful design how to teach.

- Teo (2014): aimed to clarify the extent of teacher satisfaction of the application of e-learning program among persevere teachers. Teo (2014) investigated the key drivers of teachers' e-learning satisfaction. 387 participants in a postgraduate diploma in education completed a survey questionnaire to measure 6 constructs (tutor quality, perceived usefulness, perceived ease of use, course delivery, facilitating conditions, and course satisfaction). By using structural equation modeling, data analysis showed that, apart from facilitating conditions, all other constructs were significant predictors of e-learning satisfaction. Nevertheless, the facilitating conditions construct was found to be a significant mediator of perceived ease of use and satisfaction. The trend of using e-leaning as learning and teaching tools is now rapidly expanding into education.

- Suri and Sharma (2014): examined the relationship between disciplines of students and their responses and attitudes towards e-learning. The researchers used computer and e-learning attitude scale by employing survey questionnaires to 477 students enrolled in various courses across 6 major disciplines in Panjab University Chandigarh, India. The researchers found a significant relationship between discipline of student and the factors of scale on computer and e-learning attitude which set emphasis on the role of department in learning and satisfaction level of students.

- According to Jurupa (2015): the development of knowledge management and e-learning unsurprisingly are developed for years as both disciplines deal with knowledge capture, sharing, application and generation; have vital technological components to enhance learning; and contribute to building a continuous learning culture. Jurupa (2015) found that knowledge management and e-learning naturally brings both disciplines closer and supports integration. Model analysis confirmed several integration approaches. The more general approach is to base integration on common ground, which is identified as learning. Nevertheless, these approaches are not implemented in production environment and require necessary technical specification and application support.

While going through the various research papers and projects on e-learning, I observed the huge gap between developed countries and developing countries. Many research projects and activities are going on about the utilization of e-learning tools and platforms, even in primary school education of developed countries. They are using e-learning tools for primary education to higher education. On the other hand, maximum e-learning research activities are focused on higher education in context of developing countries including India. It indicates our backwardness in this field.

2.2 THEORETICAL FRAMEWORK

A learning system based on formalised teaching but with the help of electronic resources is known as E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times. In general E-learning refers to all electronic learning through systems that are used as part of the learning system. Let us discuss some examples of e-learning.

- **Digital Classrooms:**

This refers to 'smart-classrooms' equipped with several digital learning aids. These aids could include smart-boards, high lumen LED projectors, and interface of educational appliances with physical sensors (to sense physical systems such as motion, pressure, touch, etc.).

- **Satellite Education:**

Here an instructor in one location can impart lessons over an education satellite to thousands of students across multiple locations. This can also be done in a bidirectional mode—with students being able to address their questions to the instructor over the satellite system.

- **Web-based Learning or Internet-based Training (IBT) and Computer-based Training (CBT):**

This is based on course material accessible over the web, or through hundreds of DVDs on a wide variety of subjects. Video conferencing systems, telepresence systems, IP-based video phone: These systems are becoming increasingly popular in the corporate world today.

With full high-definition technology available in advanced telepresence systems (compared to traditional video conferencing systems), one can interact with global experts thousands of miles away with an experience that mimics being co-located.

A less-expensive (and naturally less life-like experience) version of such a system can also be achieved through IP-based Video Telephony. While the display here is much smaller than a Telepresence system, it serves the purpose in most companies that require large scale deployment to employees around the world.

HISTORY OF E- LEARNING

The term “e-learning” has only been in existence since 1999 when the word was first utilized at a CBT systems seminar. Other words also began to spring up in search of an accurate description such as “online learning” and “virtual learning”. However, the principles behind e-learning have been well documented throughout history, and there is even evidence which suggests that early forms of e-learning existed as far back as the 19th century. Long before the internet was launched, distance courses were being offered to provide students with education on particular subjects or skills. In the 1840′s Isaac Pitman taught his pupils shorthand via correspondence. This form of symbolic writing was designed to improve writing speed and was popular amongst secretaries, journalists, and other individuals who did a great deal of note taking or writing. Pitman, who was a qualified teacher, was sent completed assignments by mail and he would then send his students more work to be finished using the same system.

In 1924, the first testing machine was invented. This device allowed students to test themselves. Then, in 1954, BF Skinner, a Harvard Professor, invented the “teaching machine”, which enabled schools to administer programmed instruction to their students. It wasn’t until 1960 however that the first computer-based training program was introduced to the world. This computer-based training program (or CBT program) was known as PLATO-Programmed Logic for Automated Teaching Operations. It was originally designed for students attending the University of Illinois, but ended up being used in schools throughout the area.

The first online learning systems were really only set up to deliver information to students but as we entered the 70s online learning started to become more interactive. In Britain, the Open University was keen to take advantage of e-learning. Their system of education has always

been primarily focused on learning at a distance. In the past, course materials were delivered by post and correspondence with tutors was via mail. With the internet, the Open University began to offer a wider range of interactive educational experiences as well as faster correspondence with students via email etc.

E- LEARNING TODAY

With the introduction of the computer and internet in the late 20th century, e-learning tools and delivery methods expanded. The first MAC in the 1980′s enabled individuals to have computers in their homes, making it easier for them to learn about particular subjects and develop certain skill sets. Then, in the following decade, virtual learning environments began to truly thrive, with people gaining access to a wealth of online information and e-learning opportunities.

By the early 90s, several schools had been set up that delivered courses online only, making the most of the internet and bringing education to people who wouldn’t previously have been able to attend a college due to geographical or time constraints. Technological advancements also helped educational establishments reduce the costs of distance learning, a saving that would also be passed on to the students – helping bring education to a wider audience.

In the 2000′s, businesses began using e-learning to train their employees. New and experienced workers alike now had the opportunity to improve upon their industry knowledge base and expand their skill sets. At home, individuals were granted access to programs that offered them the ability to earn online degrees and enrich their lives through expanded knowledge.

TYPES OF E- LEARNING

- Computer Managed Learning (CML)
- Computer Assisted Instruction (CAI)
- Synchronous Online Learning
- Asynchronous Online Learning
- Fixed E-Learning
- Adaptive E-Learning
- Linear E-Learning
- Interactive Online Learning
- Individual Online Learning
- Collaborative Online Learning

Alternatively, some educational scientists have chosen to classify e-learning types more simply. They identify just two primary types of e-learning: **computer-based e-learning** and **internet-based e-learning**. This method of classification makes could be seen as more accurate because it differentiates e-learning from online learning, the two of which are often incorrectly used interchangeably. Some forms of e-learning such as CML and CAL are not required to take place online, but they are considered types of e-learning nonetheless.

- ### Computer Managed Learning (CML)

  In the case of computer-managed learning (CML), also known as Computer Managed Instruction (CMI), computers are used to manage and assess learning processes. Computer managed learning systems operate through information databases. These databases contain bits of information which the student has to learn, together with a number of ranking parameters which enables the system to be individualized according to the preferences of each student. As a result of two-way communication between the student and the computer, determinations can be made as to whether the student achieved their learning goals on a satisfactory level. If not, then the processes can be repeated until the student has achieved their desired learning goals.

Additionally, educational institutions use computer-managed learning systems for storing and retrieving information which aids in educational management. This could mean information such as lecture information, training materials, grades, curriculum information, enrolment information among others.

- ### Computer Assisted Instruction (CAI)

Computer Assisted Instruction (CAI), also sometimes referred to as computer-assisted learning (CAL), is another type of e-learning which uses computers together with traditional teaching. This could mean interactive software for the students or the kind of training software used by Patrick Suppers of Stanford University in 1966. Computer-assisted training methods use a combination of multimedia such as text, graphics, sound, and video in order to enhance learning. The primary value of CAI is interactivity – it allows students to become active learners instead of passive learners, by utilizing various methods such as quizzes and other computer-assisted teaching and testing mechanisms.

Most schools nowadays, both online and traditional, use different variations of computer-assisted learning to facilitate the development of skills and knowledge in their students.

- ## Synchronous Online Learning

Synchronous online learning enables groups of students to participate in a learning activity together at the same time, from any place in the world. Real-time synchronous online learning often involves online chats and videoconferencing, as these tools allow training participants and instructors to ask and answer questions instantly while being able to communicate with the other participants.

This kind of community-oriented online learning has been made possible with the rapid development of online learning technologies. Before the invention of computer networks in the 1960s, truly synchronous e-learning was practically impossible to implement. Nowadays, synchronous e-learning is considered to be highly advantageous as it eliminates many of the common disadvantages of e-learning, such as social isolation and poor teacher-to-student and student-to-student relationships. Synchronous e-learning is currently one of the most popular and quickest growing types of e-learning.

- ## Asynchronous Online Learning

In the case of asynchronous online learning, groups of students study independently at different times and locations from each other, without real-time communication taking place. Asynchronous e-learning methods are often considered to be more student-centered than their synchronous counterparts, as they give students more flexibility.

For these reasons, asynchronous e-learning is often preferred by students who do not have flexible schedules, because it allows them to utilize self-paced learning. They can set their own timeframes for learning, and they are not required to learn at specific time intervals together with other students.

Before the invention of the PLATO computer system, all e-learning was considered to be asynchronous, as there were no methods of computer networking available. However, nowadays, with the availability of computers and the World Wide Web, deciding between synchronous and asynchronous e-learning becomes a more difficult task, as each has their pros and cons.

- ## Fixed E-Learning

Fixed e-learning is a fancy name for something you are likely already familiar with. “Fixed” in this context means that the content used during the learning process does not change from its original state and all the participating students receive the same information as all the others. The materials are predetermined by the teachers and don’t adapt to the student’s preferences.

This type of learning has been the standard in traditional classrooms for thousands of years, but it’s not ideal in e-learning environments. That is because fixed e-learning does not utilize the valuable real-time data gained from student inputs. Analyzing each student individually through their data and making changes to the materials according to this data leads to better learning outcomes for all students.

- ## Adaptive E-Learning

Adaptive e-learning is a new and innovative type of e-learning, which makes it possible to adapt and redesign learning materials for each individual learner. Taking a number of parameters such as student performance, goals, abilities, skills, and characteristics into consideration, adaptive e-learning tools allow education to become more individualized and student-centered than ever before.

We are now at a point in time where laboratory-based adaptive instructional techniques can be used for mathematical sequencing of student data. When done correctly, this could mean a new era for educational science. While this type of e-learning can be more difficult to plan and accomplish than traditional teaching methods, it’s potential value and effectiveness is often understated.

- ## Linear E-Learning

When referring to human-computer interaction, linear communication means that information passes from sender to receiver, without exception. In the case of e-learning, this becomes a very limiting factor, as it does not allow two-way communication between teachers and students. This type of e-learning does have its place in education, although it’s becoming less relevant with time. Sending training materials to students through television and radio programs are classic examples of linear e-learning.

- ## Interactive Online Learning

Interactive e-learning allows senders to become receivers and vice versa, effectively enabling a two-way communication channel between the parties involved. From the messages sent and received, the teachers and students can make changes to their teaching and learning methods. For this reason, interactive e-learning is considerably more popular than linear, as it allows teachers and students to communicate more freely with each other.

- ## Individual Online Learning

Individual learning in this context refers to the number of students participating in achieving the learning goals, rather than the student-centeredness of the material. This type of learning

has been the norm in traditional classrooms for thousands of years. When practicing individual learning, the students study the learning materials on their own (individually), and they are expected to meet their learning goals on their own.

This type of learning is not ideal for developing communicational skills and teamwork abilities in students, as it largely focuses on students learning independently, without communication with other students. Therefore, a more modern approach is necessary to supplant the communicational of skills and abilities.

- **Collaborative Online Learning**

Collaborative e-learning is a modern type of learning method, through which multiple students learn and achieve their learning objectives together as a group. Students have to work together and practice teamwork in order to achieve their common learning objectives.

This is done through the formation of effective groups, where each individual student has to take into account the strengths and weaknesses of each other student. This boosts the communicational skills teamworking abilities of the students. Collaborative e-learning expands on the idea that knowledge is best developed inside a group of individuals where they can interact and learn from each other.

While this type of learning is more often used in traditional classrooms than in online courses, it's still a valid type of e-learning which can be highly effective if done correctly.

SOME FAMOUS E- LEARNING APPS

- **Coursera**

Price: Free / Class costs vary

Coursera is an online school of sorts. It has a variety of lessons and classes that you can take. Each one educates you on a different topic. It boasts well over 1,000 courses ranging from math to science and even technology stuff. The classes have lectures, reading assignments, and video content. Finishing a course will even earn you a certificate of completion. Some of the courses are free. Others you'll have to pay for. It's a delightful mix of old school and modern learning. The only downside is that the app can be buggy at times. It's one of the learning apps worth checking out.

- **Duolingo**

Price: Free / $9.99 per month / $95.99 per year

Duolingo hit the ground running in 2014 and never looked back. It's a language learning app with a lot going for it. It teaches you languages in bite sized chunks through little mini games. The lessons get harder the further you go, but it always manages to stay fun. It supports over a dozen languages. The developers also boast that 34 hours in this app is equal to a semester in school. It's completely free to use. There are also no advertisements. It's one of the great learning apps for both adults and kids. The new subscription service makes things a little less pleasant, but the free version is still good.

- **Khan Academy**

Price: Free

Khan Academy is a popular online resource for learning. It teaches more traditional subjects like math, science, physics, economics, and many others. It's usually the kind of stuff that targeted learning apps (like Coursera and Udemy) don't focus on too much. The app boasts access to over 10,000 videos along with various lessons and courses. You can use it to learn new concepts or brush up on older stuff. Khan Academy's big claim to fame is that it's

completely free to use with no fees or hidden costs. That makes it one of the best learning apps for academics on a budget. There is also a kid's version for all of you with youngsters out there.

- **Udemy**

Price: Free / Classes vary in cost

Udemy is one of the more popular course-style learning apps. Like many, it focuses on skill-based learning. It has courses on things like Adobe apps, Microsoft apps, and you can even learn things like public speaking, cooking, and other stuff. There are a variety of courses for free or you can pay to get one of the more in-depth ones. The courses usually revolve around video lectures with video examples. Thus, the app lets you watch them as you please. Some of them could use a little work, but overall, it's a positive experience.

- **EdX**

edX is a massive open online course (MOOC) provider. It hosts online university-level courses in a wide range of disciplines to a worldwide student body, including some courses at no charge. It also conducts research into learning based on how people use its platform. EdX is a non profit organization and runs on the free Open edX open-source software platform.

Soft Skills and Personality Development through E-Learning

Soft skills and personality traits can be enhanced through the language laboratory where one can use self-improvement methods to j observe oneself and improve continuously. E-learning systems can also be used for soft skills and personality j development (in addition to developing one's hard skills or domain knowledge). A large number of Internet-/computer-based training material is available today on communication skills, listening skills, body language, job interviews, group discussions, etc.

BENEFITS OF E- LEARNING

(I) Flexible, On-Demand Learning:

The biggest advantage of e-learning is access to on-demand courses. Many a time one requires access to certain learning material. E-learning provides an abundance of such material (for enhancing both hard domain skills and soft skills) that can be accessed year-long at any time of the day or night.

There is no rigidity of a fixed curriculum, no need to go through multiple sequences to gain access to the point of need. Programmes can also be paced or paused, based on availability.

(ii) **Privacy of Learning:**

Some people feel intimidated by presence of peers during the learning process. If they do not understand certain sections of a course, they feel awkward to ask these questions in public. E-learning obviates this issue. Learning is a private experience. A section or an entire course can be repeated as many times as needed. Questions to an 'instructor' can be asked one-on-one through an on-line query-response system.

(iii) **Increased Access:**

E-learning brings the world to one's finger-tips! It is possible to easily access the best global experts through the electronic medium. Similarly, an expert can reach thousands of students over the Internet or over a Satellite system. The learning experience is also of higher quality. It is enhanced through the use of audio, video, and graphics and imaging aids. This multimedia experience greatly augments the quality of learning.

(iv) Lower Cost:

Well-architected e-learning systems typically cost lower than traditional systems, if the right scale is achieved. This is because it leads to savings in terms of travel, time and distribution of content, etc.

Advantages Of E-Learning

1. It is a very efficient way of delivering courses online.
2. Due to its convenience and flexibility, the resources are available from anywhere and at any time.
3. Everyone, who are part time students or are working full time, can take advantage of web-based learning.
4. Web-based learning promotes active and independent learning.
5. As you have access to the net 24x7, you can train yourself anytime and from anywhere also

6. Not only can you train yourself on a day to day basis, but also on weekends or whenever you have the free time to. There is no hard and fast rule.

7. Through discussion boards and chats, you are able to interact with everyone online and also clear your doubts if any.

8. 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.

9. Less expensive to deliver, affordable and saves time

10. Access to global resources and materials that meet students' level of knowledge and interest.

11. Self-pacing for slow or quick learners reduces stress and increases satisfaction and retention.

12. E-learning allows more affective interaction between the learners and their instructors through the use of emails, discussion boards and chat room. Learners have the ability to track their progress.

13. Learners can also learn through a variety of activities that apply to many different learning styles that learners have.

14. It helps the learners develop knowledge of using the latest technologies and the Internet.

15. The e-learning could improve the quality of teaching and learning as it supports the face-to-face teaching approaches.

Disadvantages Of E-Learning

Well, there are not many disadvantages of eLearning, the main one being that you get knowledge only on a theoretical basis and when it comes to putting to use whatever you have learnt, it may be a little different. The face-to-face learning experience is missing, which may matter to some of you.

1. Most of the online assessments are limited to questions that are only objective in nature.
2. There is also the problem of the extent of security of online learning programs.
3. 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.
4. The assessments that are computer marked generally have a tendency of being only knowledge-based and not necessarily practicality-based.
5. Lack of a firm framework to encourage students to learn.
6. A high level of self-discipline or self-direct is required, learners with low motivation or bad study habits may fall behind.
7. Absence of a learning atmosphere in e-learning systems.
8. The distance-learning format minimizes the level of contact, e-learning lacks interpersonal and direct interaction among students and teachers.
9. When compared to the face-to-face learning, the learning process is less efficient.

CHAPTER-3

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of data collected from various respondents. primary data are collected through questionnaires. The data collected from the samples are tabulated on the basis of age, gender, education, etc.

3.1 CLASSIFICATION ON THE BASIS OF AGE

This table shows the classification of respondents on the basis of age.

Table 3.1 Age of respondents

Age	Number of responses	Percentage
Below 10	**4**	**3.8%**
10-15	**20**	**19.2%**
Above 20	**81**	**76.7%**

(Source: Primary data)

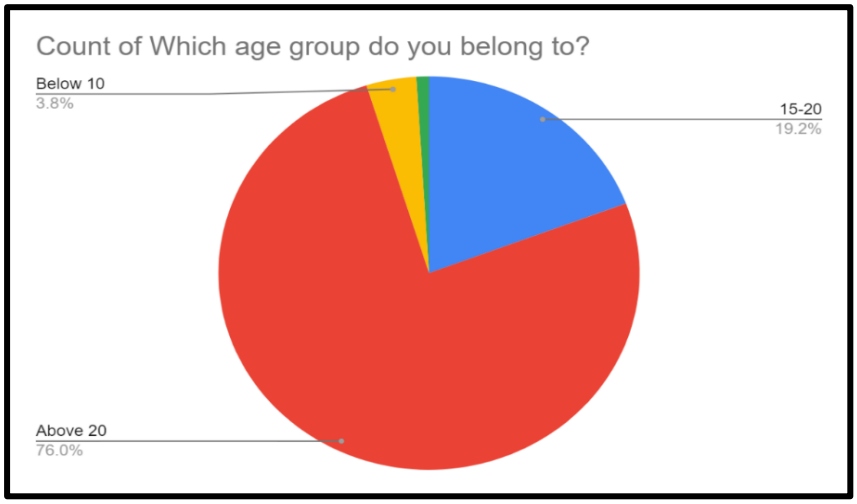

Figure 3.1 Age of respondents

INFERENCE:

The above chart shows the age group of the respondents of the related study. According to the analysis the respondents of age above 20 are more in number. They constitute 76.7% of total respondents.

3.2 CLASSIFICATION ON THE BASIS OF GENDER

This table shows the classification of respondents on the basis of gender

Table 3.2 Gender of respondents

Gender	Number of responses	Percentage
Male	**48**	**45.2%**
Female	**58**	**54.8%**

(Source: Primary Data)

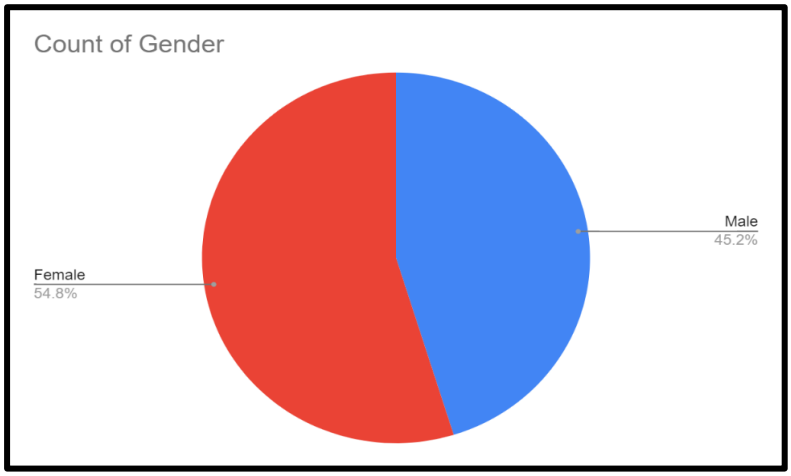

Figure3.2 Gender of respondents

INFERENCE:

The above chart shows the gender majority of female in the related study. according to analysis there is 54.8% of female out of total respondents.

3.3 CLASSIFICATION ON THE BASIS OF CATEGORY OF RESPONDENTS

This table shows the classification of respondents on the basis of category.

Table 3.3 Category of respondents

Category	Number of responses	Percentage
Teacher	**11**	**13.5%**
Student	**55**	**51.9%**
Others	**40**	**34.6%**

(Source: Primary Data)

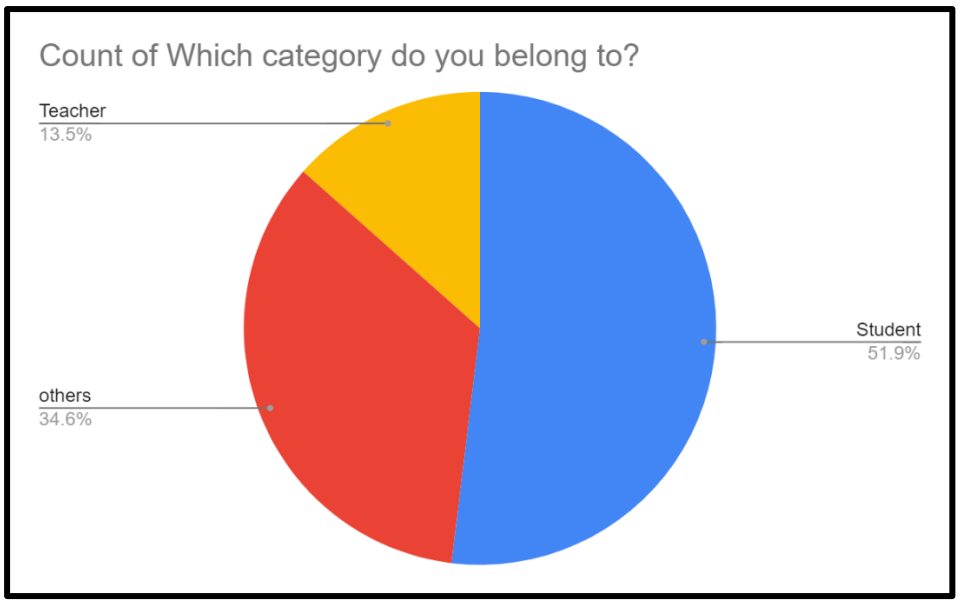

Figure 3.3 Category of respondents

INFERENCE:

The above pie chart shows the category of the respondents, which group they belong to. in this study, there is a majority of students (51.9%) compared to teachers and other categories.

3.4 CLASSIFICATION ON THE BASIS OF AWARENESS

This table shows the awareness among e-learners.

Table 3.4 Awareness of e-learning

Awareness	Number of responses	Percentage
Yes	96	91.3%
No	10	8.7%

(Source: Primary Data)

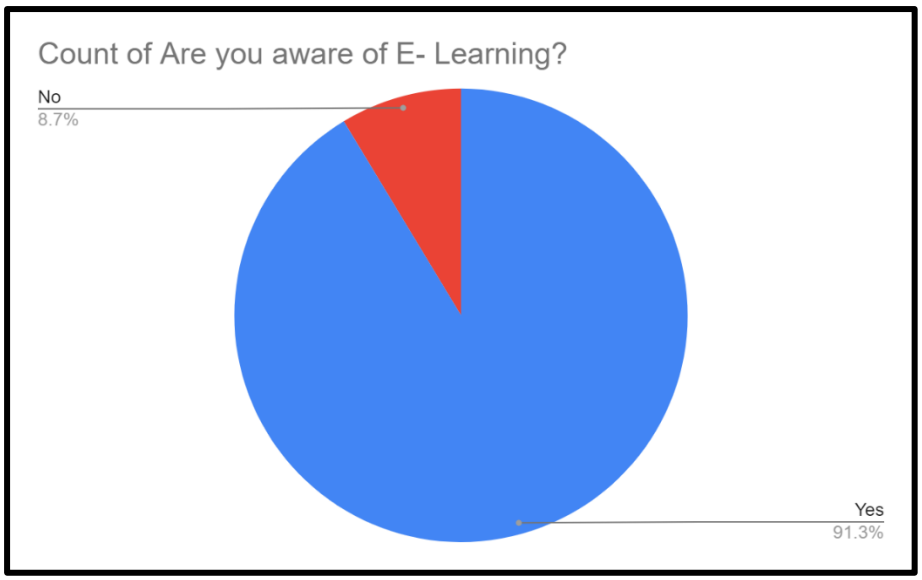

Figure 3.4 Awareness of e-learning

INFERENCE:

The chart above signifies the awareness of respondents toward e- learning techniques. In this study, about 91.3%, that is, a majority of respondents were aware of e- learning. This shows the wide range of coverage for e- learning.

3.5 CLASSIFICATION ON THE BASIS OF FAMILIARITY ON E-LEARNING APPS

This table shows the familiarity on e-learning apps among people.

Table 3.5 Familiarity on e-learning apps

Familiar Apps	Number of responses	Percentage
Biju's	**60**	**58.7%**
Udemy	**14**	**16.3%**
Merit nation	**4**	**3.8%**
Others	**28**	**21.2%**

(Source: Primary Data)

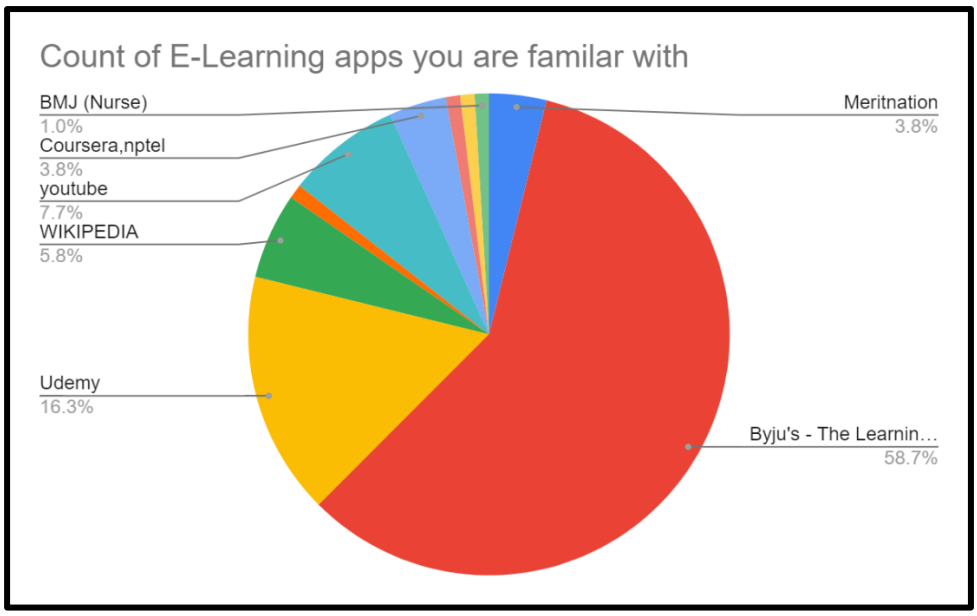

Figure 3.5 Familiarity on e-learning apps

INFERENCE:

The pie chart above shows the apps the respondents are familiar with, the majority of samples i.e. 58.7% marked Biju's -The learning app as familiar.

3.6 CLASSIFICATION ON THE BASIS OF PURPOSE OF E-LEARNING

This table shows the purpose for which e-learning is used.

Table 3.6 Purpose of E-learning

Purpose	Number of responses	Percentage
Study material	**12**	**9.6%**
Learning Courses	**13**	**9.6%**
Reference	**48**	**49.0%**
All the Above	**33**	**31.7%**

(Source: Primary Data)

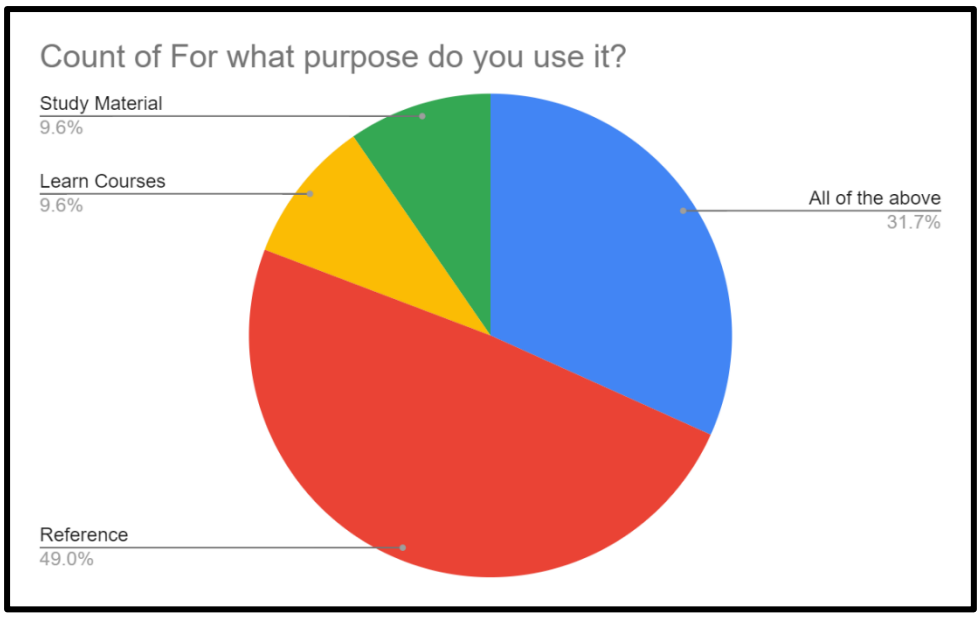

Figure 3.6 Purpose of E-learning

INFERENCE:

The diagram above shows how the respondents use e- learning, or what purpose does e-learning serve them. A majority of samples responded saying they use it for reference.

3.7 CLASSIFICATION ON THE BASIS OF RELIABILITY

This table represents the user friendliness in e-learning.

Table 3.7 Reliability of E-learning

User Friendly	Number of responses	Percentage
Yes	96	92.3%
No	10	7.7%

(Source: Primary Data)

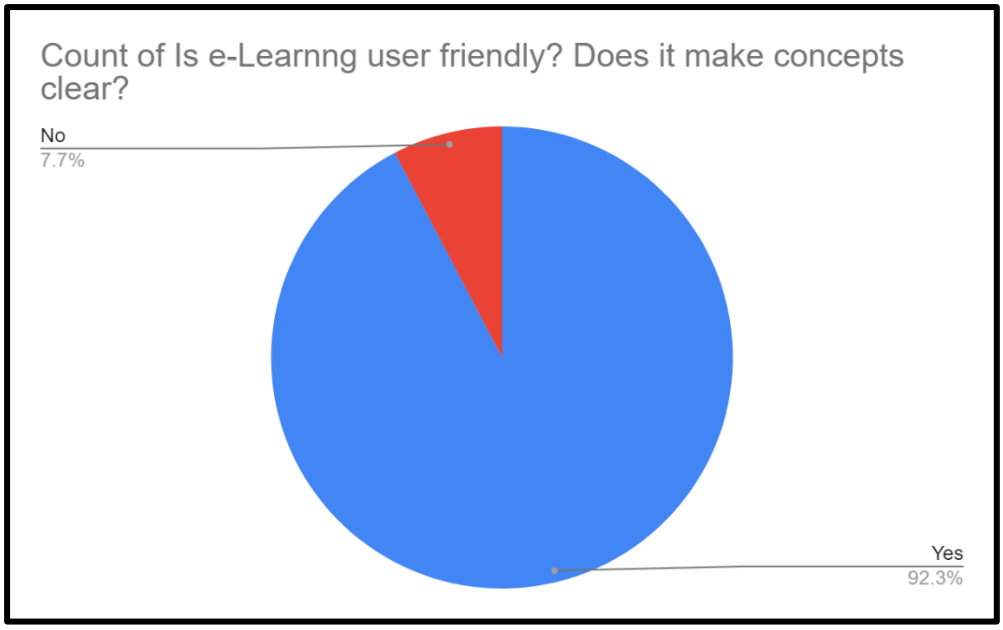

Figure 3.7 Reliability of E-learning

INFERENCE:

The chart shows effectiveness of e- learning, the majority of samples, i.e. 92.3% marked that e- learning is capable of making concepts clear, this signifies the capability of e-learning as a teacher.

3.8 CLASSIFICATION ON THE BASIS OF TRAINING PROVIDED

This table shows the training provided by the e-learning platforms.

Table 3.8 Training provided by e-learning platforms

Training	Number of responses	Percentage
Yes	**30**	**28.8%**
No	**76**	**71.2%**

(Source: Primary Data)

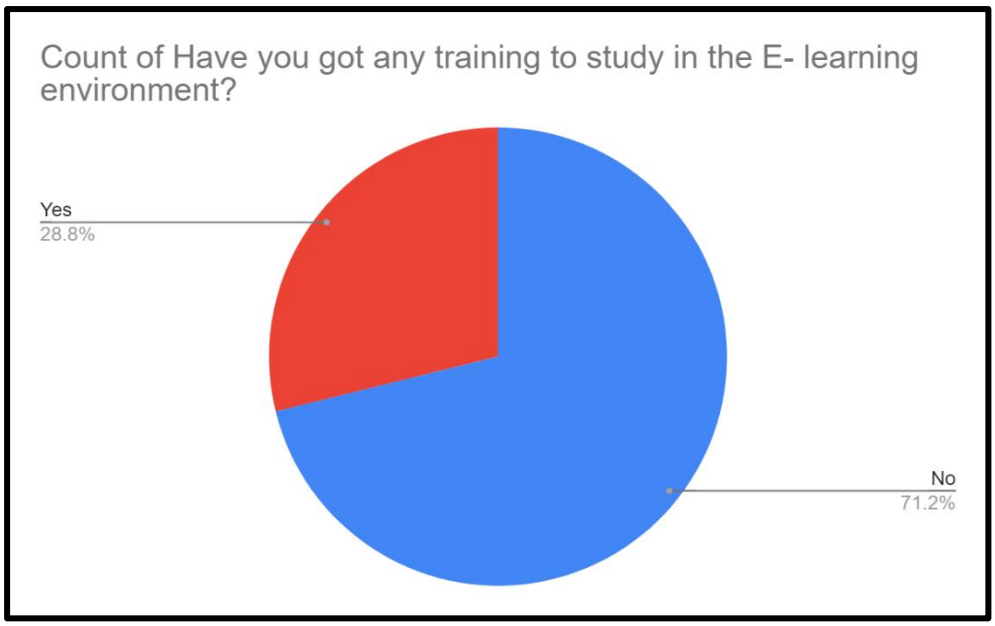

Figure 3.8 Training provided by e-learning platforms

INFERENCE:

The chart shows whether the samples have got any training to study or use e- learning. About 71.2% of samples answered it No, signifying that majority did not receive any training in e- learning environment.

3.9 CLASSIFICATION ON THE BASIS OF TIME SPAN

This table shows the time span of e-learning among people.

Table 3.9 Time Span of E-learning

Use	Number of responses	Percentage
Regularly	**11**	**9.7%**
Rarely	**28**	**26.2%**
Often	**22**	**20.4%**
Sometimes	**45**	**43.7%**

(Source: Primary Data)

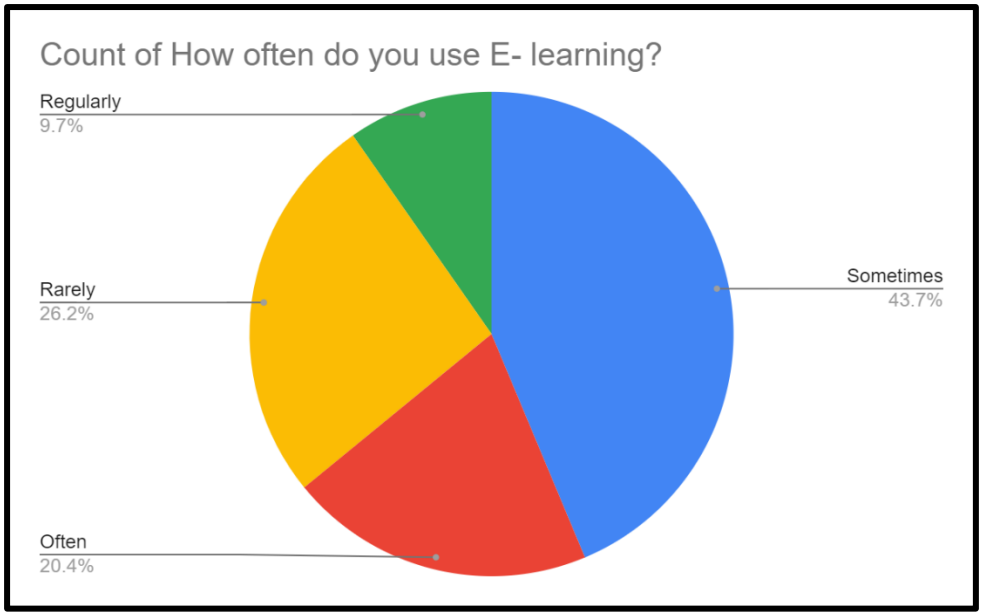

Figure 3.9 Time Span of E-learning

INFERENCE:

The chart above shows how often the respondents use e- learning, about 43.7% use e-learning sometimes.

3.10 CLASSIFICATION ON THE BASIS OF SUPPORT OFCAMPUS TOWARDS E-LEARNING

This table shows the support from campus towards e-learning.

Table3.10 Support of Campus Towards E-learning

Campus provide	Number of responses	Percentage
Yes	56	52.9%
No	50	47.1%

(Source: Primary Data)

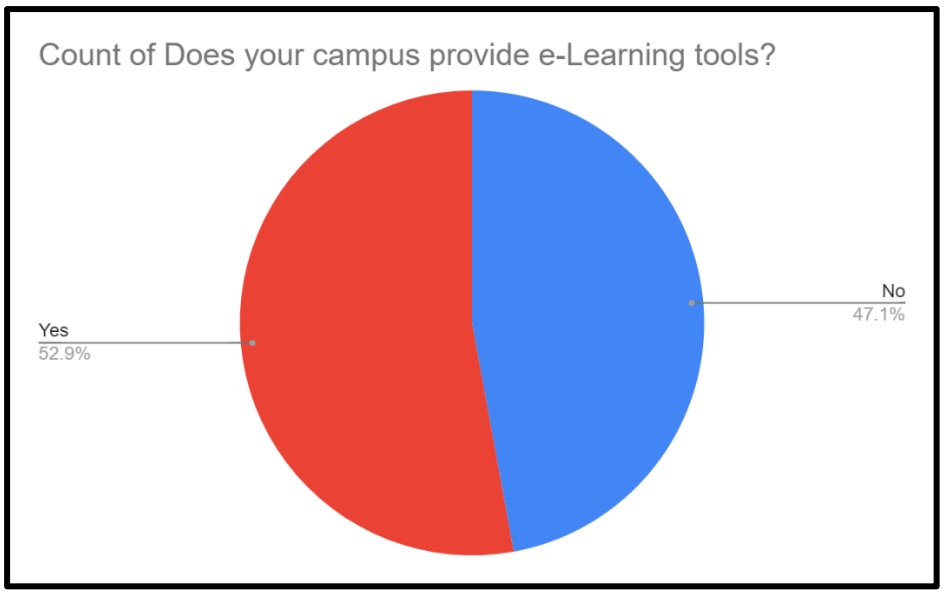

Figure 3.10 Support of Campus Towards E-learning

INFERENCE:

The chart shows whether the respondents received any support from their campus any support to study in e-learning. About 52.9% answered yes and about 47.1% answered the question No.

3.11 CLASSIFICATION ON THE BASIS OF PREFERENCE

This table shows the preference of face-to-face learning among e-learners.

Table 3.11 Preference of Face-to-Face Learning

Face -to-Face learning	Number of responses	Percentage
Yes	81	76.9%
No	25	23.1%

(Source: Primary Data)

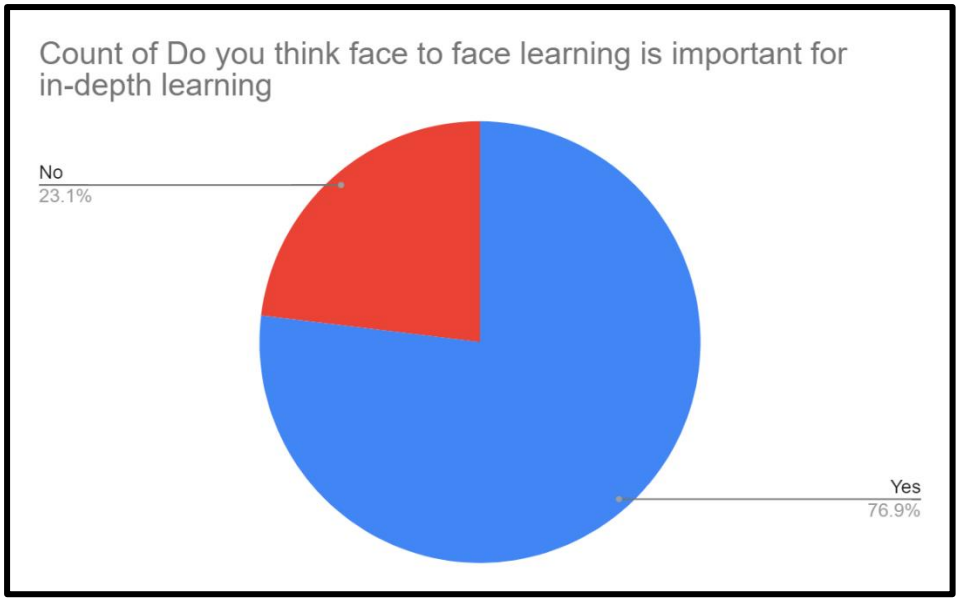

Figure 3.11 Preference of Face-to-Face Learning

INFERENCE:

The chart above shows the view of respondents or samples on e- learning compared to traditional learning. about 76.9% of the respondents replied as face to face learning is important for in depth learning.

3.12 CLASSIFICATION ON THE BASIS OF AVAILABILITY OF INTERNET

This table shows the availability of internet among people.

Table 3.12 Availability of internet

Internet facility	Number of responses	Percentage
Yes	**103**	**97.1%**
No	**3**	**2.9%**

(Source: Primary Data)

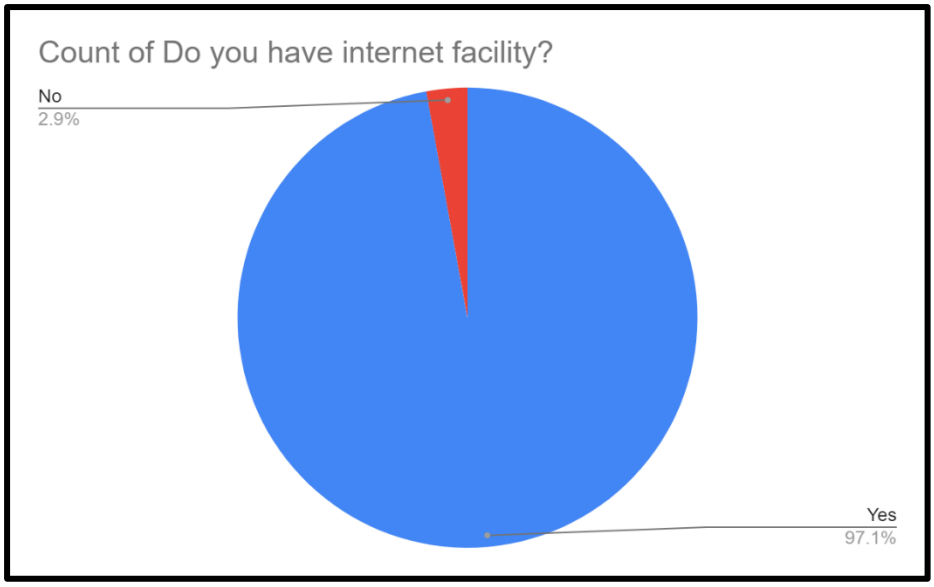

Figure 3.12 Availability of internet

INFERENCE:

The above chart shows the internet availability of sample or respondents, a majority of 97.1% respondents responded positively and a minority of 2.9% of the samples responded negatively.

3.13 CLASSIFICATION ON THE BASIS OF ESTABLISHMEMT OF GOALS

This table shows whether e-learning could help in establishment of goals among learners.

Table 3.13 Establishment of Goals

Help	Number of responses	Percentage
Yes	92	86.5%
No	14	13.5%

(Source: Primary Data)

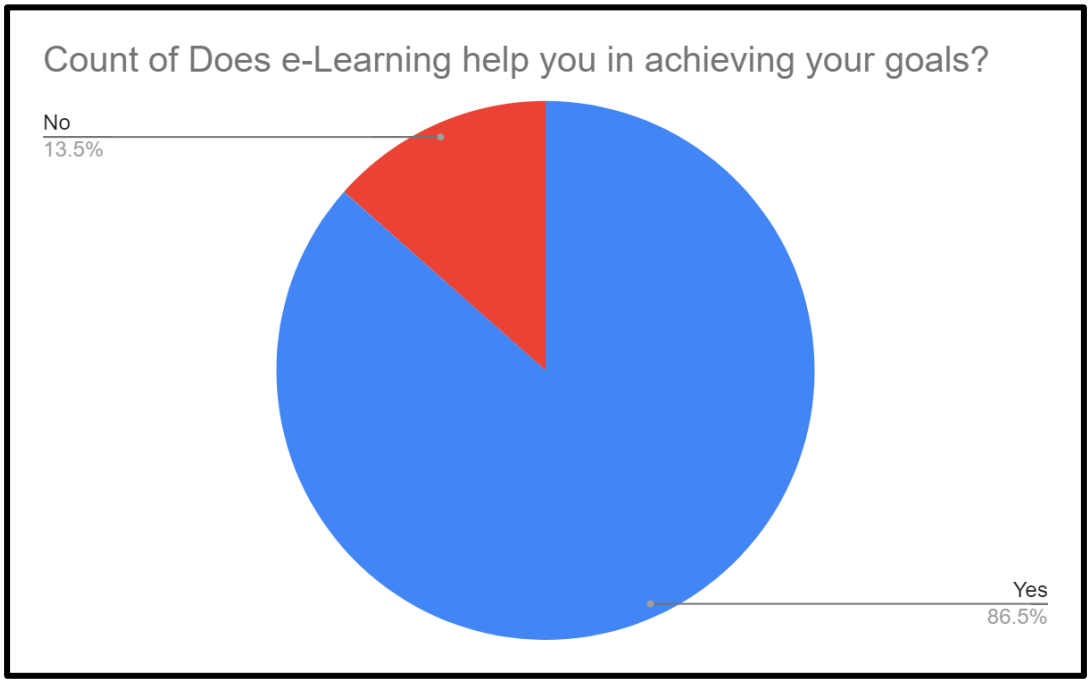

Figure 3.13 Establishment of Goals

INFERENCE:

The chart above signifies the effectiveness of e- learning in achieving their goals, about 86.5% of the total sample population responded in a positively but 13.5% responded negatively.

3.14 CLASSIFICATION ON THE BASIS OF POSSIBILITY OF SELF-ANALYSIS

This table shows the possibility of self-analysis through e-learning.

Table 3.14 Possibility of Self-Analysis

Self-Analysis	Number of responses	Percentage
Yes	**82**	**76.9%**
No	**24**	**23.1%**

(Source: Primary Data)

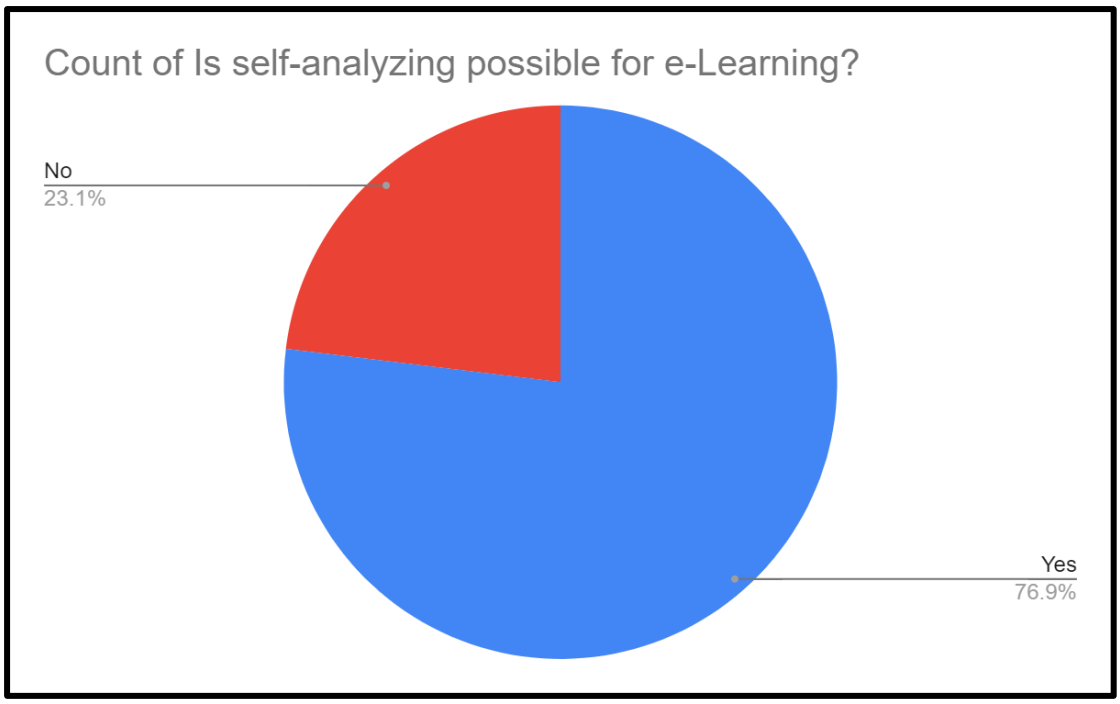

Figure 3.14 Possibility of Self-Analysis

INFERENCE:

The chart above shows whether the e- learning is helpful for the learners in their self analyse, around 76.9% of the sample said the self-analysis is possible through e-learning. This gives the learner an idea on his own improvements and weakness.

3.15 CLASSIFICATION ON THE BASIS OF ONLINE COURSE ATTENDED

This table shows the percentage of online course attended by e-learners.

Table 3.15 Online Course Attended

Attended Courses	Number of responses	Percentage
Yes	**51**	**48.6%**
No	**55**	**51.4%**

(Source: Primary Data)

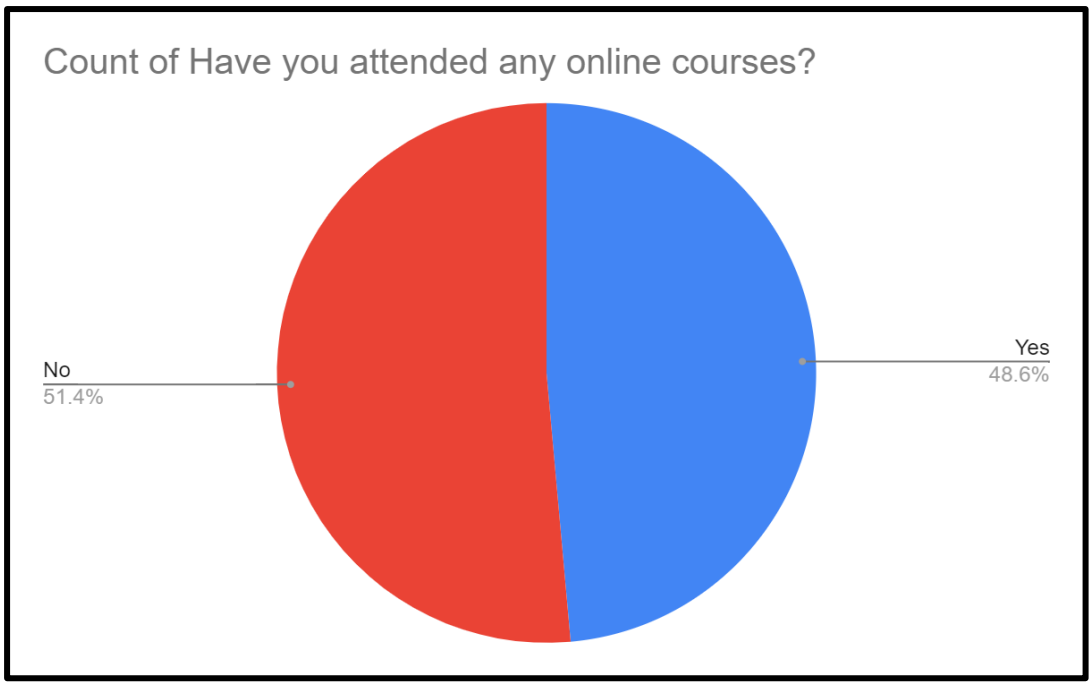

Figure 3.15 Online Course Attended

INFERENCE:

The chart above shows the number of samples that have attended any online courses. A majority of respondents have responded negatively i.e., 51.4% of the total samples.

3.16 CLASSIFICATION ON THE BASIS OF MONEY EXPENDITURE

This table shows the money expenditure spend on e-learning by learners.

Table 3.16 Money Expenditure

Money Spend	Number of responses	Percentage
Expensive	**10**	**8.7%**
Cheap	**36**	**34.6%**
Convenient	**60**	**56.7%**

(Source: Primary Data)

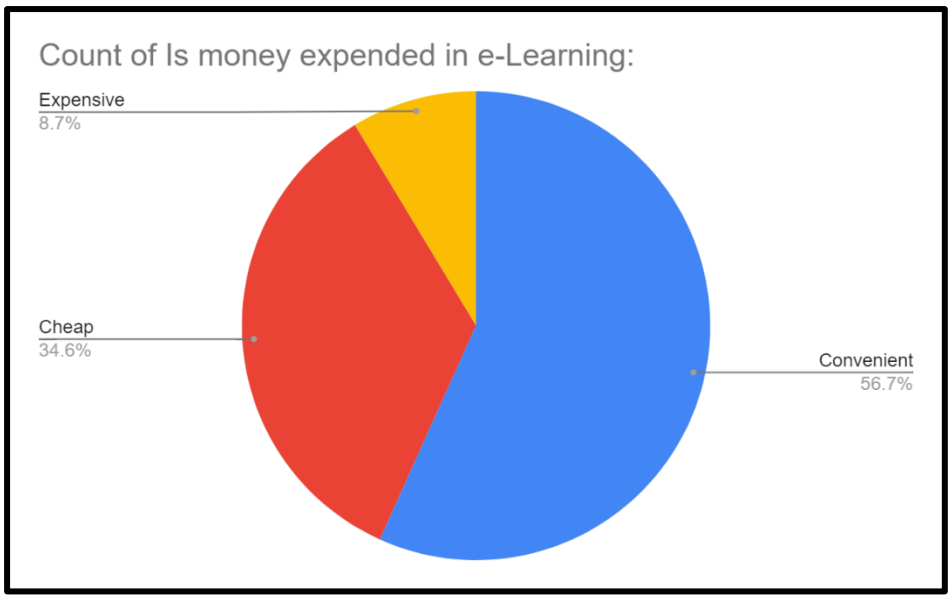

Figure 3.16 Money Expenditure

INFERENCE:

The above chart signifies how the respondents view e-learning. Around 56.7% of the respondents see e-learning expenses as economic.

3.17 CLASSIFICATION ON THE BASIS OF SOCIABILITY

This table shows whether e-learning can bring any social changes or not

Table 3.17 Sociability of E-learning

Social Changes	Number of responses	Percentage
Yes	49	45.2%
No	5	4.8%
Maybe	52	50.0%

(Source: Primary Data)

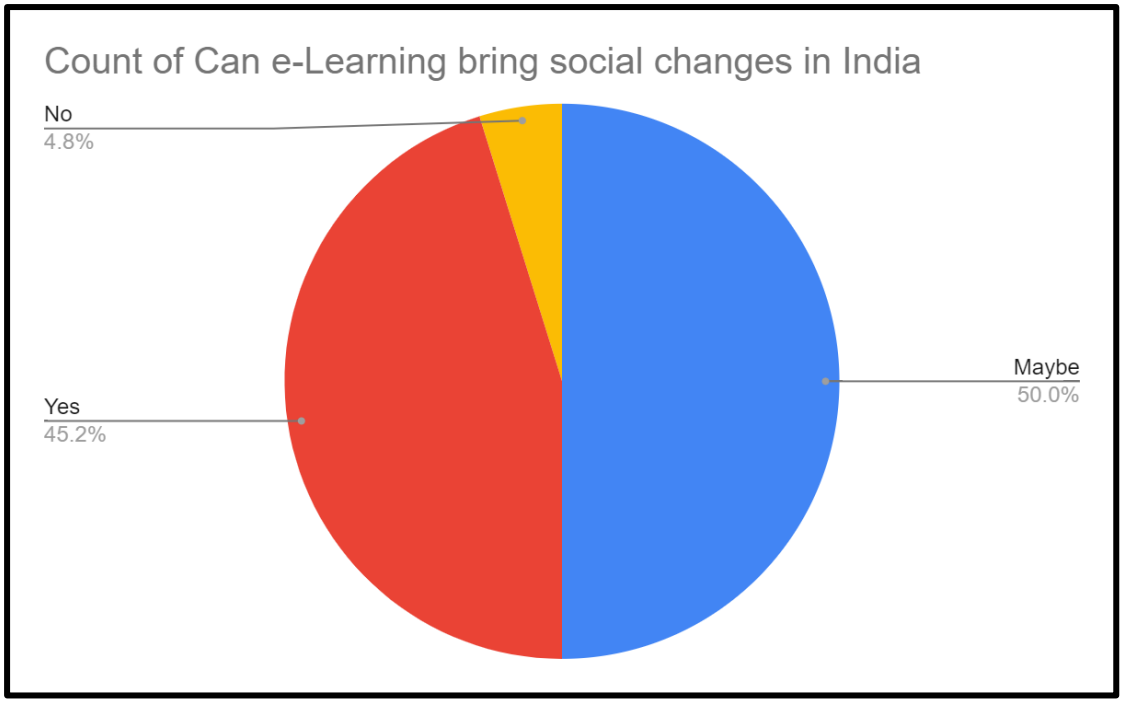

Figure 3.17 Sociability of E-learning

INFERENCE:

The chart above shows the belief of people on the power of e- learning as a tool to change the society. About 50% of the samples are not sure of the answer, they believe there is equal chance for the change.

3.18 CLASSIFICATION ON THE BASIS OF PREFERENCE OF E-LEARNING

This table shows the preference of e-learning among e-learners.

Table 3.18 Preference of E-learning

Preference	Number of responses	Units
Below 25%	9	9
25%-50%	38	38
50%-75%	46	46
Above 75%	13	13

(Source: Primary Data)

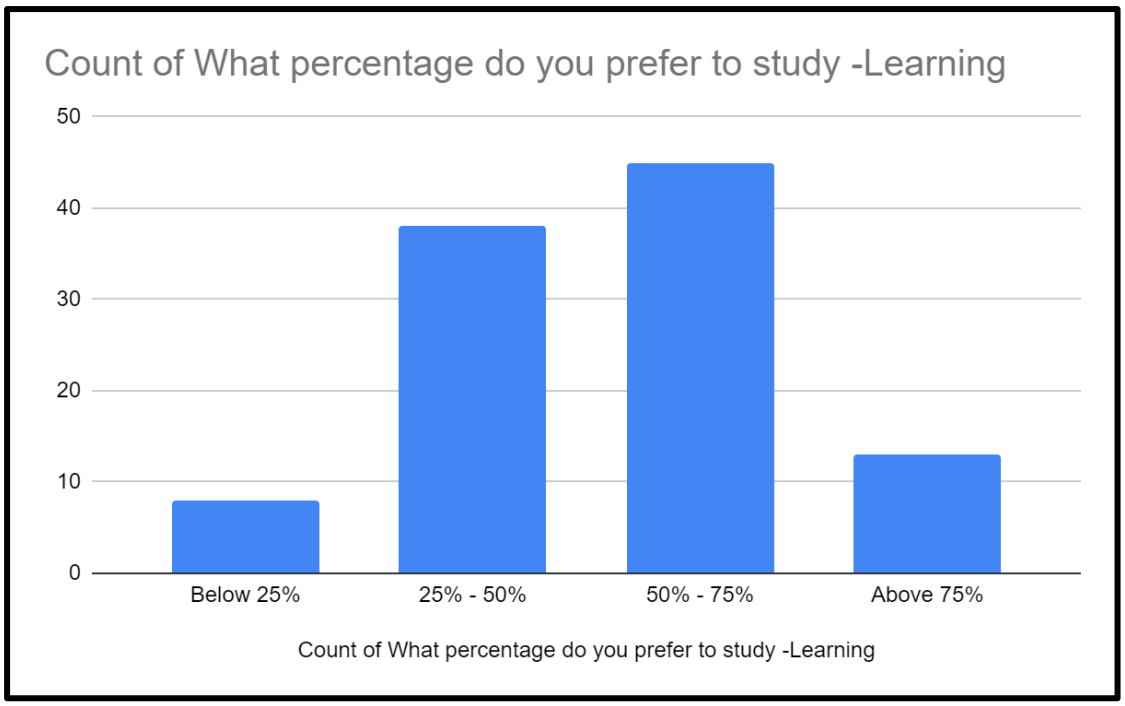

Figure 3.18 Preference of E-learning

INFERENCE:

The graph above shows the rate at which the respondents rated e- learning. About 43.8% voted for 50% - 75% as a percentage of preference for e- learning.

3.19 CLASSIFICATION ON THE BASIS OF EFFECTIVENESS OF E-LEARNING

This table shows the effectiveness of e-learning among e-learners.

Table 3.19 Effectiveness of E-learning

Effectiveness	Number of responses	Percentage
Effective	67	63.5%
Highly Effective	16	14.4%
Partially Effective	20	19.2%
Ineffective	3	2.9%

(Source: Primary Data)

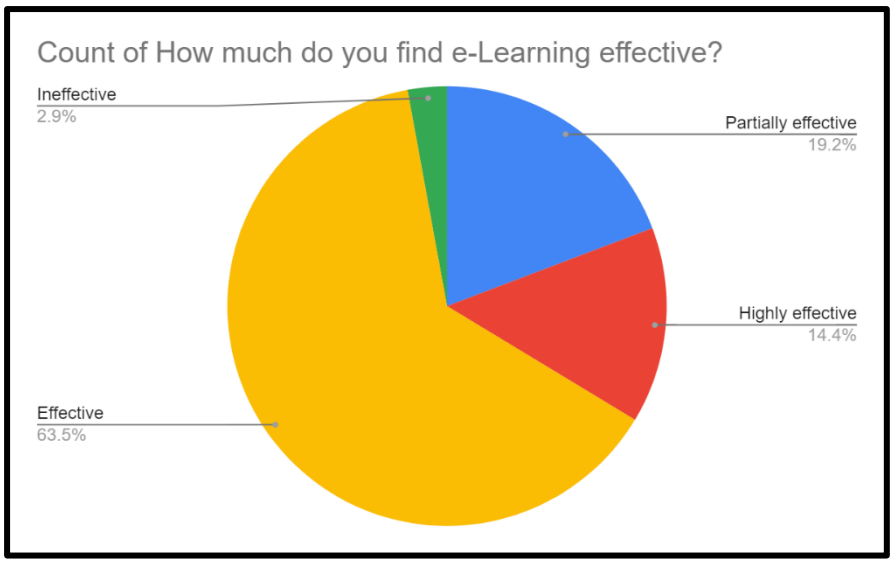

Figure 3.19 Effectiveness of E-learning

INFERENCE:

The above chart shows how effective e – learning is to the respondents. About 63.5% of the total samples believe e- learning is effective.

3.20 CLASSIFICATION ON THE BASIS OF SUITABILITY OF E-LEARNING

This table shows the suitability of e-learning among learners.

Table 3.20 Suitability of E-learning

Suitability	Number of responses	Percentage
Yes	40	36.5%
No	28	26.9%
Maybe	38	36.5%

(Source: Primary Data)

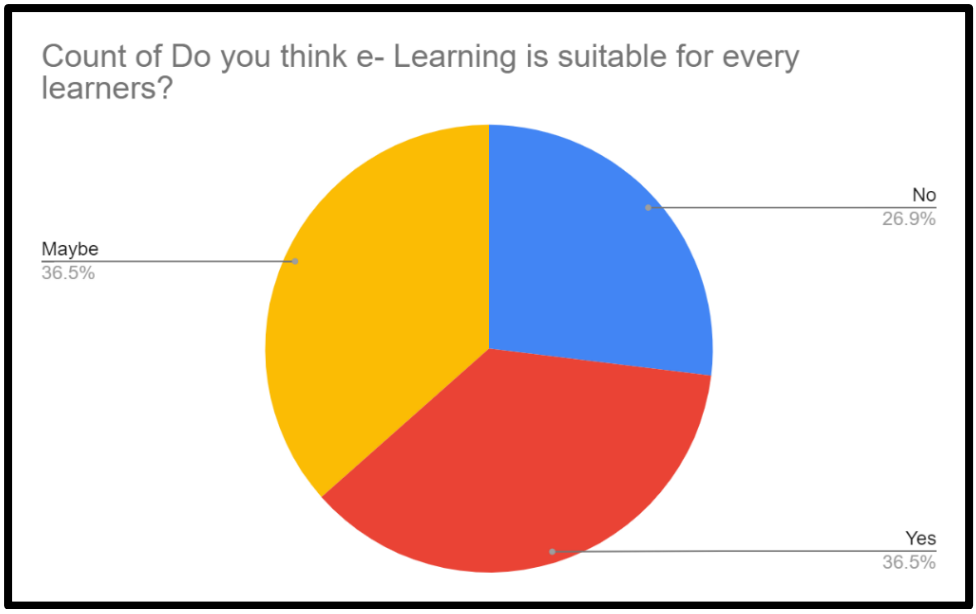

Figure 3.20 Suitability of E-learning

INFERENCE:

The above chart shows whether e- learning is suitable for learners of different categories. about 36.5 % of total respondents responded yes and maybe equally, from which we can interrupt e- learning is adaptable to every learner.

3.21 CLASSIFICATION ON THE BASIS OF CLARIFICATION OF DOUBTS

This table shows whether the clarification of doubts is possible through e-learning among learners

Table 3.21 Clarification of Doubts

Clarification of Doubts	Number of responses	Percentage
Yes	71	63.3%
No	5	4.8%
Maybe	30	28.8%

(Source: Primary Data)

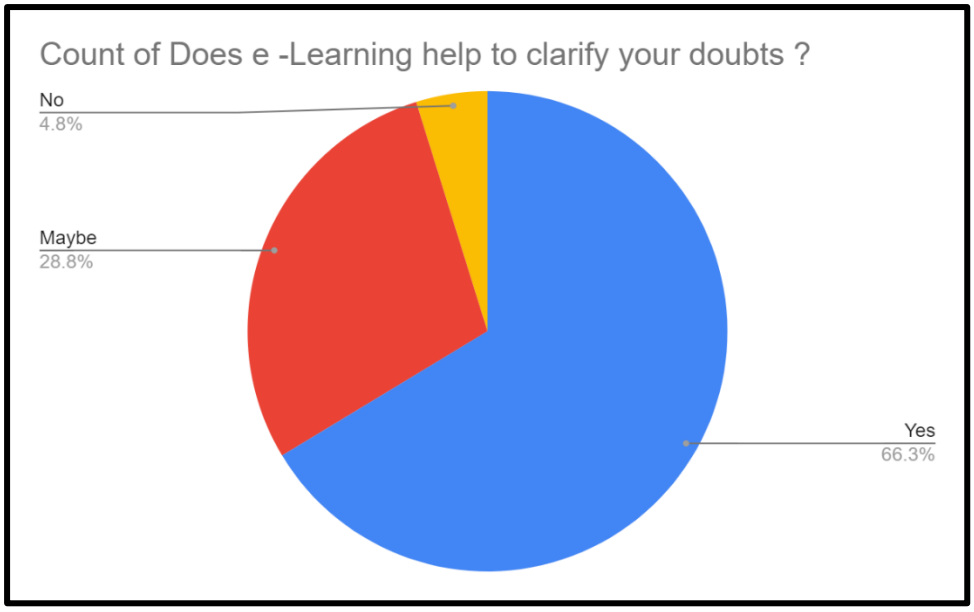

Figure 3.21 Clarification of Doubts

INFERENCE:

The chart above signifies how helpful e- learning is helpful in clarifying the doubts of the learners. About 66.3% of the total samples responded positively to the question, which shows e- learning is an effective teacher.

3.22 CLASSIFICATION ON THE BASIS OF ATTENTION

This table shows whether the learner get the individual attention from e-learning.

Table 3.22 Individual Attention for E-Learners

Attention	Number of responses	Percentage
Yes	42	37.9%
No	28	27.2%
Maybe	36	35.0%

(Source: Primary Data)

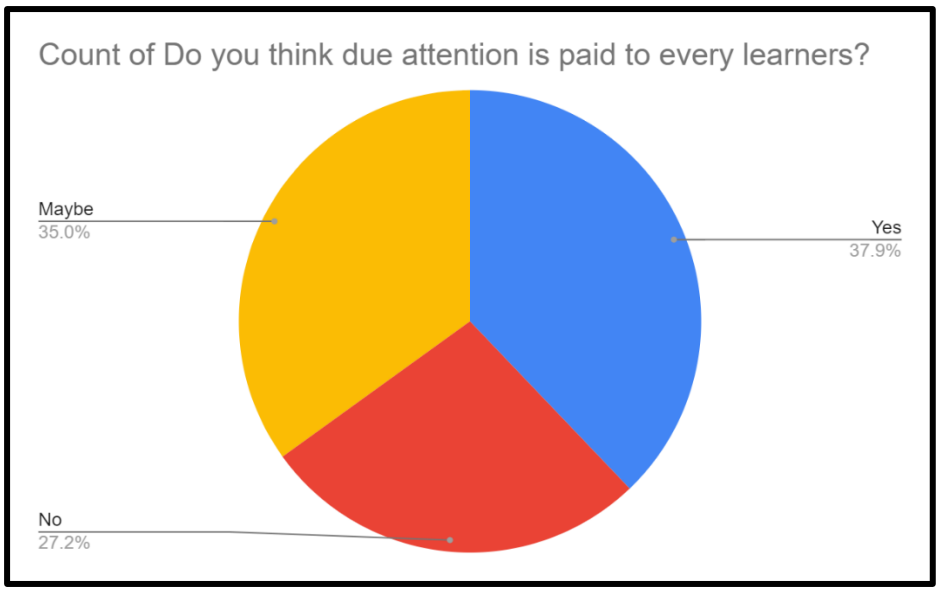

Figure 3.22 Individual Attention for E-Learners

INFERENCE:

The chart above tries to answer the question whether e- learning provide due attention to every learner, 37.9% of the total samples responded with the answer 'yes'.

3.23 CLASSIFICATION ON THE BASIS OF RECOMMENDATION OF E-LEARNING

This table shows whether e-learning is recommended to other learners.

Table 3.22 Individual Attention for E-Learners

Recommended	Number of responses	Percentage
Yes	**80**	**75.0%**
No	**26**	**25.0%**

(Source: Primary Data)

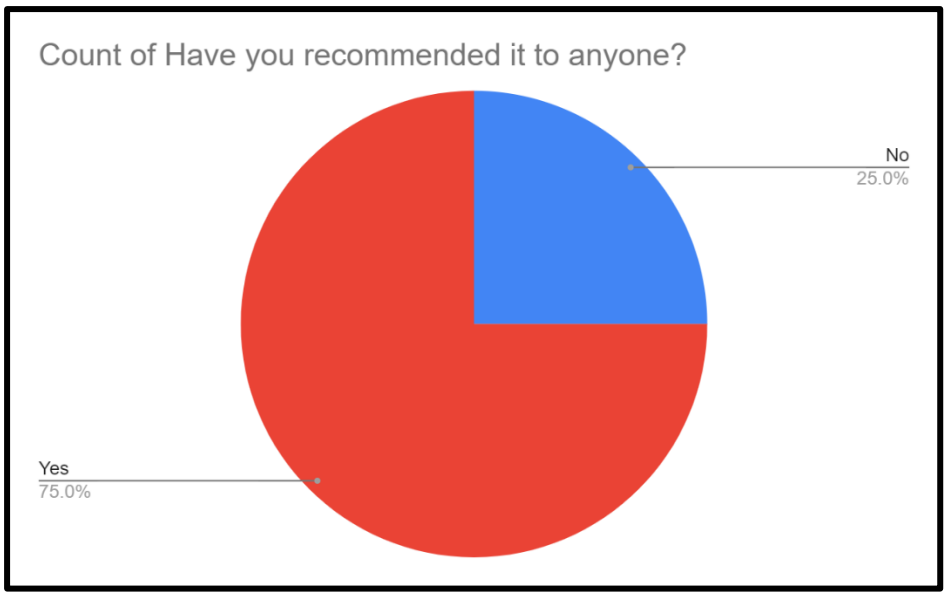

Figure 3.22 Individual Attention for E-Learners

INFERENCE:

The above chart shows whether the respondents have recommended the e- learning technique to anyone. 75% of the total population of samples responded positively, showing wide coverage of e- learning.

3.24 CLASSIFICATION ON THE BASIS OF PUBLIC'S RATING

This table represents the public's rating towards e-learning.

Table 3.24 Public's Rating Towards E-learning

Rating	Number of responses	Percentage
0-5	4	3.8%
5-10	26	24.8%
10-15	50	46.7%
15-20	26	24.8%

(Source: Primary Data)

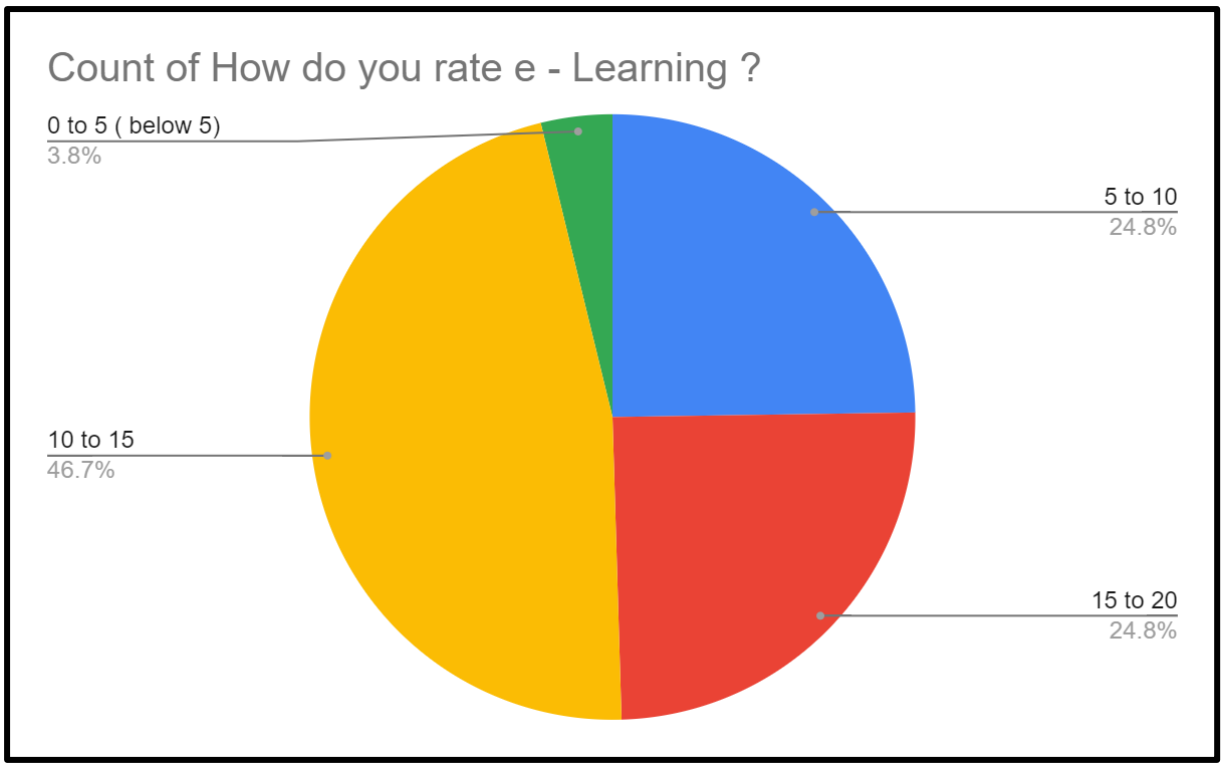

Figure 3.24 Public's Rating Towards E-learning

INFERENCE:

The graph above shows rating given by different users to e- learning. Around 47.1% of total samples gave a rating of 10- 15 range.

CHAPTER-4

FINDINGS, SUGGESTIONS AND CONCLUSION.

4.1 FINDINGS

1- On the basis of study conducted regarding effectiveness of e learning with reference to Kottayam town it has been found that the samples or respondents in general prefer e- learning and believe in its capabilities.

2- On the basis of study conducted it has been observed that 91.3% majority of respondent are aware of e learning.

3- On the basis of the study the majority of respondent that is 58.7% are familiar with Biju's – The learning app.

4- The study conducted depicts that majority of respondent prefer e learning for purpose of reference.

5- The study also reveals that majority of respondent 92.3% are clear of e learning concepts.

6- On the basis of study respondent revealed that majority of 71.2% not receive any training in e-learning environment.

7- On the basis of study conducted it has been founded that about 9.7% prefer e-learning for learning purpose.

8- It has been observed that respondent of about 52.9% received support from campus for e-learning purpose.

9- On the basis of study it has been revealed that about 76.9% respondent responded as face to face learning is important for in depth learning.

10- The study depicted that majority of respondent responded positively for internet facility of e-learning and about 2.9% responded negatively.

11- The study revealed that about 86.5% respondent have achieved their goals because of e-learning and about 13.5%respondant failed in achieving goals.

12- The study shows that about 76.9%respondant have been able to self-analyse themselves through e-learning.

13- The study shows that about majority of respondent of 51.4% had not attended the online courses.

14- The study reveals that about 56.7% respondent view e-learning as economic expense.

15- The study shows that about 63.5% respondent believe e-learning as effective.

16- The study also shows that 75% respondent have recommended e-learning to others.

4.2 SUGGESTIONS

1- The majority of respondent are aware of Biju's – The learning app, people are unaware of other apps. People must be aware of other apps too.

2- The respondent of about 49% prefer e-learning for reference purpose. people must prefer e-learning for other purpose too.

3- 92.3% of respondent have responded that e-learning is capable of making concepts clears. So, remaining respondent doubt must also be cleared.

4- The study shows that only 9.7% respondent prefer e-learning on regular basis remaining respondent must also prefer e-learning on regular basis.

5- The majority of respondent have responded negatively for attending online courses. Every respondent must prefer online courses for education purpose.

6- about 50% of total respondent is not aware of whether e-learning will bring social changes to society. E-learning tools must be innovative to bring changes to our society.

4.3 CONCLUSIONS

This research critically reviewed the literature related to e-learning systems and identified some of the most influential factors used in the field of information systems research. More specifically, this paper had an insight on the origins, characteristics as well as the limitations, weaknesses and strengths of web-based learning systems. Student variables, such as behaviors and attitudes, cultural backgrounds and other demographic characteristics are important variables that influence student learning, especially in a collaborative e-learning environment. Understanding these variables is now helpful for instructors to design meaningful educational activities to promote student knowledge construction and make learning more effective and appealing. In particular, this research helps to better understand the characteristics of students in Kottayam District respectively, which can help policy makers, educators and experts to understand what the students expect from the learning management systems. This can help the management achieve the most effective deployment of such system and also helps them improve their strategic decision making about technology in the future, they can decide on the best approach that fit their students before implementing any new technology

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APPENDIX

A STUDY ON THE EFFECTIVENESS OF E- LEARNING WITH SPECIAL REFERENCE TO KOTTAYAM DISTRICT

1.Name

Your answer:

2. Age:

- Below 10
- 10-15
- 15-20
- Above 20

3.Gender:

- Female
- Male
- Other:

4. Category:

- Student
- Teacher
- Other:

5. Awareness:

- Yes
- No

6. Familiarity of E-learning Apps

- Biju's - The Learning App
- Udemy
- Merit nation
- Other:

7. Purpose of Use

- Reference
- Study Material
- Learn Courses
- All of the above

8. User Friendliness

- Yes
- No

9. Training Provided

- Yes
- No

10.Time Span of E-learning

- Rarely
- Sometimes
- Often
- Regularly

11.Support from Campus Towards E-learning

- Yes
- No

12. Preference of Face-to-Face Learning

- Yes
- No

13. Availability of Internet

- Yes
- No

14. Establishment of goals

- Yes
- No

15. Possibility of Self Analysis

- Yes
- No

16. Online Course Attended

- Yes
- No

17.Money Expenditure

- Cheap
- Convenient
- Expensive

18. Bring Social changes in India

    - Yes
    - No
    - Maybe

19. Preference of E-learning

    - Below 25%
    - 25% - 50%
    - 50% - 75%
    - Above 75%

20. Effectiveness of E-learning

    - Highly effective
    - Effective
    - Partially effective
    - Ineffective

21. Suitability of E-learning

    - Yes
    - No
    - Maybe

22. Clarification your Doubts in E-learning

    - Yes
    - No
    - Maybe

23. Individual attention to E-learner

    - Yes
    - No
    - Maybe

24. Recommendation to others

    - Yes
    - No

25. Public's Ratings towards E- Learning

    - 0 to 5 (below 5)
    - 5 to 10
    - 10 to 15
    - 15 to 20

26.While using e - Learning tools, what are the barriers you faced?

Your answer:

27.In your opinion what is required to be done to make e- Learning reachable to every individual?

Your answer: