"STATUS OF SIKKIM UNIVERSITY TOWARDS E-LEARNING: A CASE STUDY"

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STUDENT'S DECLERATION

I, ***Priscella Ghimiray*** hereby declare that the dissertation work entitled "***Status of Sikkim University towards e-learning: A Case Study***" is the original work done by me and submitted to the Sikkim University in partial fulfillment of requirements for the award of *Master of Philosophy in Education* under the supervision of *Dr. Anju Verma, Assistant Professor, Department of Education, Sikkim University, Gangtok-737102*, East District of Sikkim.

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CERTIFICATE

This is to certify that the dissertation entitled "Status of Sikkim University towards e-learning: A Case Study" undertaken by the investigator, Mrs. Priscella Ghimiray, a student of M.Phil , Department of Education, School of Professional Studies, Sikkim University, Sikkim has been completed under my guidance and supervision. The dissertation in nature and character is fit for submission in partial fulfillment of the requirement for the degree of Master of Philosophy, Department of Education. The data are original and personally collected by her. It is further certified that this piece of dissertation work has not been submitted to any university for the award of any degree or diploma.

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"E-learning refers to the use of the internet technologies to deliver a broad array of solutions that enhance knowledge and performance."

Rosenberg (2001)

CHAPTER I
INTRODUCTION

Education is the key to the knowledge, the most important tool which offers inner and outer strength to a person. It is the fundamental right of everyone and is capable of bringing any desired change and upliftment in the human mind and society. It aims in the full, whole and integrated development of an individuals' personality. Further, it is a way of igniting and enlightening the thought of an individual. Education upholds the power to create the sense of realization in an individual about the purpose of life, world and the universe and grasp the insight of the infinity. It, is a process which teaches everything with the logic and a way to reason why the other things are illogical. Education as a tool is of vital importance as it imparts a set of skills or knowledge that empowers an individual to be morally upright, intellectually sophisticated, and make a living in this competitive world. Thus, education is the very soul of knowledge which ignites the individual's personality and enables him/her to be a productive citizen.

Today, we are living in a constantly evolving digital world where technology plays a vital role in every sphere of human life .Technology is increasingly growing its importance, especially in the education sector be it in the primary education, secondary education and the higher education. With the quick emergence of computer and related technology, *Electronic learning (e-learning) and Information and Communication Technologies (ICTs)* have been the priority in the today's digital world and is also been extensively utilized in every sphere of life. ICTs and e-learning the key of technology, is making dynamic changes in society and the world at large. They are influencing almost all aspects of life. The advancement of ICTs is changing the education scenario and

transforming the teaching and learning process from the traditional physical environment to the digital environment. With the advancement of technology the education system has justified in its true sense to be learner centric. It is now possible to access vast amount of information online with a click of a button, and enable one to one communication without the confines of place and time.

The applications of *e-learning* and ICTs have become so attached to contemporary educational delivery worldwide that it has virtually become impossible to deliver or receive formal education without the application of such advance technology in the processes. ICTs and e-learning provides both students and teachers with more opportunities in adapting learning and teaching to individual needs. The more technology advances, the more benefits it provides to the educational sector and a greater part benefitted by it, is the higher education sector. The advancement of ICT and e-learning has highly enhanced the quality of higher education throughout the globe. Nowadays, the role of ICT especially internet in the education sector plays an important role, it acts as the process of empowering the technology into the educational activities. E-learning is helping in a big way in the existing educational system into alignment with the knowledge based information rich society by providing the services of sophisticated tools, techniques and methods at its disposal. The quality of education is immensely being maintained by the various modes of e-learning as it provides education to be completely learner centric keeping in mind the different potentialities of the individual. In a nutshell, e-learning is the proper mode of imparting quality education in the knowledge based society and knowledge based global world where knowledge is a great power, strength of the individual and the asset of the nation.

1.1 E-Learning: The Concept

What is E-learning?

E-learning having its abbreviation as *electronic learning* is a concept of learning electronically using the internet and other information and communication technologies. It covers a wide set of application and processes. This type of learning is particularly successful for higher studies. The internet opens new possibilities and now any type of learning content, be it for school, graduate or master level or any other type of academic offering is called e-learning. Traditionally written materials such as books, journals, monographs, manuals were supplemented with television and radio broadcasts, films and with the pass of time mobile phones, personal digital assistance, online information, online groups, audio tapes and CD ROMs, video conferencing, internet conferencing, e-mail support, e-books, e-journals is e-learning. In this sense, the type of learning carried out, facilitated or supported through electronic gadgets, media and resources can be termed as e-learning.

To have a clear concept of e-learning, it can be classified into synchronous or asynchronous mode. In *synchronous mode*, classes are real time, which is instructional and the students are connected through a chat room. On the other hand, *asynchronous* e-learning is that where a student can have an access to pre-packaged training, based on his requirement and convenience. A student who is learning in a way that uses information and communication technologies (ICTs) is using e-learning. These interactive technologies support many different types of capability: internet access to digital versions of materials unavailable locally, internet access to search, and transactional services, interactive diagnostic or adaptive tutorials, interactive educational games, remote control

access to local physical devices, personalized information and guidance for learning support, simulations or models of scientific systems, communications tools for collaboration with other students and teachers, tools for creativity and design, virtual reality environments for development and manipulation, data analysis, modeling or organisation tools and applications and electronic devices to assist disabled learners. E-learning is a computer based educational tool or system that enables a learner to learn anywhere and at anytime. Technology has advanced so much that the geographical gap is bridged with the use of tools that make us feel as if we are inside the classroom. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents and PDF. Conducting webinars (live online classes) and communicating with professor via chat and a message forum is also an option available to the users. E-learning provides the learners with the ability to fit learning around their lifestyle, affectively allowing even the busiest person to further a career and gain new qualification. Thus, e-learning offers an alternative that is faster, cheaper and potentially better.

In the simpler term e-learning is internet-enabled or computer enhanced learning. It clearly refers to learning that is facilitated using digital tools and contents. E-learning includes wide set of applications like the use of interactive learning packages, web base learning environments, communication applications like e-mail, discussion rooms, chat, video conferencing etc. In the case of web based training programmes, the learner follows a pre-designed process that includes programmes for practice, assessment and feedback activities. It can also be a blended learning approach where the learner goes through a mixture of face to face and on-learning activities (Allan, 2002). E-learning can

also be considered as a basic concept of educational delivery via technology or as an educational technique (pedagogy) (Catherall, 2005).

Hence, it can be termed as a network that enables transfer of skills and knowledge, and the delivery of education needed to a large number of recipients at the same of different time. It has proved to be the best in the educational sector as the schools which are using e-learning technologies are a step ahead of those which still have the traditional approach towards learning.

1.1.1 The contemporary concept of e-learning

The concept and the mechanisms of e-learning are very much associated with the use of internet and web-technology delivered to the end users, says students, via computers or laptops. However, there still remains certain doubt about the true nature and functioning of the term.

- The learners are found to make use of a variety of recorded CDs and DVDs for gaining the desired information and learning experiences in their concerned subjects. Should it be included in the category of e-learning or not?
- Lately there is an emergence development in the shape of mobile learning (m-learning). It has the advantages of allowing learners to be "on the move" while learning. As the result, the learners may reap the benefits of the recorded information/lectures or connect themselves with the internet and web pages while driving, jogging or doing some other work. This technique calls for the services of mobile (cell) phones, PDA (Palm Device Assistance) and MP3 players (example iPod and pod casting) so, now the learner can avail the services of e-banking, e-

booking and e-commerce, etc including e-learning while on move. The pertinent question that arises with the emergence of m-learning is that whether it should be included in the domains of e-learning or not.

While the use of the recorded CDs and DVDs for learning is concerned with the prior stage of the evolution of the concept of e-learning, the mobile learning maybe well regarded as an extension of e-learning. Therefore, where one is the past of the present day e-learning, the other is its promising future. It has been properly emphasized by Bhooma Krishnan, Director. Knowledge Quotient Education in his efforts directed to trace the history of e-learning. As a conclusion of his findings, he has mentioned four distinct stages in the evolution of the concept of e-learning (Krishnan, 2007) namely: Multimedia era (1984-1993), Web Infancy (1994-1999) Next Generation Web (2000-2005) and Mobile Learning. As a consequence, it is, therefore, no surprise at present to see the users of e-learning to make use of:

- ✓ The stored information and knowledge of the CDs and DVDs coupled with or devoid of the Internet and Web technology.
- ✓ The Internet and Web technology services delivered through their computers and laptops.
- ✓ The advanced m-learning technology delivered through Web TV, cell phones, pagers, PDA, Palms, iPods, etc.

In this way we can term the present day e-learning as a learning carried out supported and facilitated by the advanced multi-media facilities as

well as Internet and Web technology delivered to the end users via computers, laptops and mobile ICT appliances.

1.1.2 Definitions of E-learning:

Wentling et. al (2000) the term "e-learning refers to the attainment and use of knowledge that are predominantly facilitated and distributed by electronic means. The e-learning depends on computers and networks, but it is likely to progress into systems comprising of a variety of channels such as wireless and satellites and technology such as cellular phones."

European Commission (2001) described "e-learning as the use of new multimedia technologies and the internet to increase learning quality by easing access to facilities and services as well as distant exchanges and collaboration."

E-Learning Strategy Task Force (2002) U.K. has defined 'e-learning' as follows:

'E-learning is a relatively new tool with the potential to radically improve participation and achievement rates in education. Benefits include; the ability to customize learning to the needs of an individual and the flexibility to allow the individual to learn at their own pace, in their own time and from a physical location that suits them best.'

Twigg (2002) describes "e-learning as centered of the learner as well as it design as involving a system that is interactive, repetitious, self paced and customizable."

Bermejo (2005) "E-learning is education that uses computerized communication systems as an environment for communication, the exchange of information and interaction between students and instructors."

Guri Rosenvlit (2005) "E-learning is the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classroom to full substitution for the face-to-face meetings by online encounters."

Koohang and Harman (2005) "E-learning is the delivery of education (all activities relevant to instructing, teaching and learning) through various electronic media."

Maltz et. al (2005) described "e-learning as the term which is applied in different perspectives, included distributed learning, online distance learning and as well as hybrid learning."

OECD (2005) defined "e-learning as the use of information of communication technologies in diverse processes of education to support and enhance learning in institutions of higher learning, and includes the usage of information and communication technologies as a complement to traditional classrooms, online learning or the mixing of two modes."

Jereb and Smitek (2006) "E-learning refers to the educational process that utilizes information and communication technology to mediate synchronous as well as asynchronous learning and teaching activities."

Laurillard (2006) has been defined "e-learning as the use of any of the new technologies or applications in the service of learning or learner support, and it has been considered as *operational definition of e-learning*. It is important because e-learning can make a significant difference: to how learners learn, how quickly they master a skill, how easy it is to study; and, equally important, how much they enjoy learning." Such a complex set of technologies will make different kinds of impact on the experience of learning:

 Cultural – students are comfortable with E-learning methods, as they are similar to the forms of information search and communications methods they use in other parts of their lives.

 Intellectual – interactive technology offers a new mode of engagement with ideas via both material and social interactivity online.

 Social - the reduction in social difference afforded by online networking fits with the idea that students should take greater responsibility for their own learning.

 Practical – E-learning offers the ability to manage quality at scale, and share resources across networks; its greater flexibility of provision in time and place makes it good for widening participation.

Gonzalez-Videgaray(2007) "E-learning is learning based on information and communication technologies with pedagogical interaction between students and the content, students and the instructors or among students through the Web."

1.1.3 The History of E-learning:

In October 1999, during a CTB Systems seminar in Los Angeles, a strange new word was used for the first time in a professional environment-*'e-learning'*. Associated with such expressions as 'online learning' or 'virtual learning', this word was meant to qualify a way to learn based on the use of new technologies allowing access to online, interactive and sometimes personalized training through the Internet or other electronic media (intranet, extranet, TV, CD-ROM, etc), so as to develop competencies while the process of learning is independent from time and place. 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.

1.1.4 Basic Characteristics of E-learning:

The basic characteristics of e-learning maybe illustrated as follows:

1. E-Learning is a generic term used to refer computer enhanced learning.
2. Its use should be strictly limited to "on-line learning" carried out through the Internet or Web-enabled technology
3. It conveys broader meaning than the terms 'computer-based learning' and 'computer-aided instruction'.

4. It is broader in its meaning than that conveyed through the simple terms like "on-line learning" or "on-line education" (that may call for the absolute Web-based earning without any follow-up, communication and interaction between the teacher and students).
5. It should not be taken as synonymous to audio-visual earning, multimedia learning, distance education or distance learning. It is true that the audio-visual and multimedia technology and distance education programmes rest heavily nowadays on the use of the Internet and Web services provided through the computers, yet these are not identical but complementary.
6. It should be made absolutely clear that the use of the term E-Learning should be restricted to the type of learning carried out, facilitated or supported through Web-enhanced instructions and the Internet-based communication like e-mail, audio and video conferencing, mail list, live chats, and telephony. As a result, all types of non-Internet and non-Web technology should not be included in the domain of e-learning.

1.1.5 Various Modes and Styles of E-Learning:

The essential condition for calling a particular learning as e-learning lies in its characteristics of delivering the instructional contents through advanced electronic means like computers, multimedia and mobile ICT appliances. While fulfilling this condition, various e-learning situations may be seen to adopt any of the following delivery modes and styles.

1. Support Learning

E-Learning can play a mere supporting role to the teaching-learning activities organized in the class. As a result, a teacher may make its use for his or her better teaching and a learner for his needed learning to enhance their classroom activities.

2. Blended Learning

In this mode, attempts are made for making use of a combination of traditional and ICT enhanced e-learning practices. The programmes and activities are so planned and executed as to present a happy combination of both the traditional classroom teaching practices and e-learning-based instruction. Thus, one can reap the benefits of both the practices of traditional and e-learning.

3. Complete e-learning

In this mode of learning, the traditional classroom teaching-learning is totally replaced by the virtual classroom teaching-learning. There is no existence of classrooms, schools and teaching-learning environment as happens in the traditional set-up of school education. The learners are free to take their learning tasks independently with the help of the properly designed e-learning courses. Most of the learning activities are carried out entirely on-line, but at the same time, they may have also access to the well-stored information and learning packages available in the form of recorded CD-ROM, DVD, etc. Such type of e-learning activities may be found to adopt the following two distinctive communication style narrated:

Asynchronous communication style: In this style, the course information or learning experiences are passed to the learners through e-mail, discussion forum, web pages, web logs, blogs, and wikis or through the recorded CD-ROM and DVD. As a

result, the teachers and learners do not interact simultaneously. Instead, messages/information/ reading materials are posted on a forum or web page or are sent as e-mail. At an unspecified time later, a reply is provided. Any follow-up questions are dealt with through additional postings or messages with requisite delays. Where the reading material is available in the form of recorded CD and DVD, it neither provides any opportunity for the face-to-face dialogue nor any on-line direct timely interaction between the teacher and the students.

Synchronous Communication style: Here the communication between the teacher and students directly occurs in an on-line chat room or through live audio-video conferencing. It allows them properly to gather at a specified time for communicating with each other regarding the course material. As a result, a teacher can provide valuable information, lecture or share one or the other learning experiences with his students. He can immediately respond to the queries and questions put to him by the students. The follow-up questions can also be addressed immediately at an appropriate level of detail. Moreover, the teacher can inquire as to whether the students are clear on what has been communicated to them as a course material or learning experiences. In this way, synchronous communication offers proper opportunities of lively interaction between the teacher and students although in virtual reality in a system of e-learning only because the Web technologies can allow synchronous learning at a distance.

Thus, e-learning can have a variety of modes and styles for its operation serving as a support provider, collaborator or partner and substitute or alternative of the real time actual teaching-learning encounters of our classrooms. In all of its three forms,

e-learning tries to maintain its basic features, i.e. providing learning experiences to the students through the adoption of advanced learning and communication technologies involving multimedia, Internet, Web services and m-learning. Further, for adopting its styles of communication between the teacher and students, it may choose the synchronous style of communication held in real time setting or the asynchronous style to allow the students to undergo the desired experiences at their own pace and convenience.

1.1.6 Advantages and benefits of e-learning

E-learning as an innovative technique provides unique opportunities to the learner for gaining useful learning experiences both on the individual and group levels. Its advantages are summarized below:

1. Most of the learner who may not have time and resources for getting access to the traditional class-bound learning experiences may get it now easily at their convenience in the form of e-learning. A learner can now satisfy his desire and fulfill his ambition of getting access to school or higher education or take up a hobby course without leaving his job, compromising his or her comfort or feeling handicapped in one or the other sense on account of his limitations. The learners can access information and educational contents anytime, anyplace.
2. E-learning has enough potential to make the education, instructions and learning opportunities provided to the learners adaptable to their needs- mental and skill level-local needs and resources at their hands.

3. It has a unique feature of arranging an access to the same quality of the content that a full time student has. The best of the world's educational content, treasury of knowledge and the opportunities are available through e-learning to an increasing number of learners especially in the developing and underdeveloped countries.
4. Unlike traditional classroom education, e-learning can cater to different learning styles and promote collaboration among students from different localities, cultures, regions, states and countries.
5. E-learning can prove an effective media and tool for facing the problems of lack of the trained and competent teachers, paucity of schools and the needed infrastructure and material facilities for providing quality education to the number of students residing in the far and wide corners of the country.
6. The flexibility of e-learning in terms of delivery media (CD, DVD, Laptops and mobile phones), type of courses (modules or smaller learning objects) and access (real time or self-paced) may prove a big advantage and attractive option.
7. E-learning may make the students more interested and motivated towards learning as they may get a wide variety of learning experiences by having access to multimedia, Internet, Web technology and mobile-learning along with the verbal and non-verbal presentation of the learning contents.
8. The opportunities of having an on-line, offline and live interaction between the students and teachers and among the students themselves may make the task of e-learning a joy and best alternative to the lively face-to-face interaction and real time sharing of the experiences in a traditional classroom setting.

9. E-learning through audio-visual recording technology has a unique advantage of providing learning experiences that can be paused and reversed for observing, learning and imitating at the will and convenience of the learners. Such self-pacing provides a special weightage to the process of learning.
10. It may also provide opportunities for testing and evaluating the learning outcomes of the learners through teachers, peers and auto-instructional devices and software available with the reading material on-line, or through the Internet and mobile phone facilities. It may work them as a desired source for the proper feedback along with the needed diagnostic and remedial teaching.
11. Learning experiences via simulated and gaming techniques, may also provide the benefits of getting richer experiences on the useful pedagogical footings of play-way spirit and learning by doing or living.

1.1.7 Limitations and drawbacks of e-learning

E-learning is said to suffer from some serious limitations as mentioned below:

1. E-learning requires a sufficient level of knowledge and skills for the use of multimedia, Internet and Web technology on the part of its users. Lack of knowledge and skills on this account may prove futile in taking advantages from the valuable services of e-learning.
2. As a technique and tool on the part of the students e-learning requires that they must have a proper, easy and timely access to the needed resources, tools and equipment like computers, laptops, multimedia facilities, Internet and Web services, mobile learning tools, etc. quite affordable to them in terms of the cost

involved. However, in most cases, it does not happen so with the individual students and their schools also are not in a position to help them on this account.

3. Our schools are not at all ready, willing and equipped for making use of e-learning in the proper interest of the teachers and students. Leaving aside a few self-financing public schools meant for the rich segments of the society, most of the schools in our county cannot even imagine for venturing in the area of e-learning or m-learning. A few of them are equipped with the computer lab and a negligible few have any existence of the Internet and Web facilities for the use of their teachers and students. In such a situation, how can we expect from the students and teachers of our school to reap the desired benefits from e-learning?
4. There is no proper provision of equipping the teachers in their pre-service or in-service programmes for getting acquainted with the knowledge and skills required on their part for the use of e-learning at their workplaces. As a result, the teachers neither have any inclination towards e-learning nor have any competence for its organization in the school or providing guidance to their students in its use.
5. The feeling of isolation experienced by the users of e-learning is one of the major drawbacks quite visible in any system of distance learning including e-learning. They are found to be devoid with the face-to-face interaction and humanistic touch profoundly available in the traditional classroom set-up. Hence, the type of individual attention, diagnostic testing and remedial instruction, warmth of feelings towards each other and timely guidance, supervision and feedback as provided in the real time settings of the prevalent classroom system are hardly available in the e-learning programmes. Moreover, the lack of opportunities for

co-curricular, social participation and community sharing experiences may prove handicap to the students of e-learning in their proper physical, social and emotional development.

6. An overall attitude of the learners, teachers, parents, educational authorities, and society is usually found quite negative towards the processes and products of e-learning. It has resulted in disfiguring e-learning in terms of its cost-effectiveness. To arrange for a system of an effective e-learning proves quite costly either in terms of its installation, or the end users. It can only be successfully balanced through the economies of scale, i.e. its use in large scale by relatively large number of users. However, unfortunately it is not happening in the case of e-learning especially in the school education sector.

In this way, we may witness a number of limitations and drawbacks in the adoption of e-learning as a system of school education and classroom instruction. The installation and use of any new tool or technology is said to face some or the other handicaps and challenges before getting acceptance from its organizers and users in a proper way. Hence, we must not get disheartened with the present status of e-learning in educational sector particularly related to school education. With a changed scenario reflected in the rapid evolution in technology, competitive global economy, need for the universalization of school education and knowledge society, and lack of trained teachers, the citizens of the developing countries urgently require the support or alternative services for our existing system of education and instruction through a properly organized and guided system of e-learning and e-courses. However, we must try to follow the middle path in view of the strengths and limitations of both e-learning and the traditional

format. There should have a proper synthesis of e-learning (the machine factor involving advanced technologies- computers and ICT), teacher (the human factor involving his skilled and humane classroom interaction) and the book and learning material (the printing factor) for deriving the desired outcomes.

1.1.8 E-LEARNING ENHANCING THE QUALITY OF EDUCATION

Education is the key determinant to enhance the personality of any individual. The quality of education influences an individual to a great extent. Therefore, it is essential for the educational system to uphold good quality and meet the needs of an individual. Quality education reaches the inner side of the individual and develops all the hidden potentialities in an individual leading him/her to be an effective member of the world. As the world is advancing the education sector is also being changed from teacher centric to learner centric, from traditional forms of teaching to modern technologies of teaching.

Technology today is playing a pivotal role to enhance education to the fullest. The modern technologies like e-learning and Information and Communication Technologies (ICTs) are continuously increasing the quality of education. The various modes of e-learning such as mobile phones, personal digital assistance, online information, online groups, audio tapes and CD ROMs, video conferencing, internet conferencing, e-mail support, e-books, e-journals etc is taking education to the next level where quality is the first assurance. With the help of various e-learning technologies the education sector from primary, secondary and higher secondary is been able to fruitfully justify the rights of every individual. Today education focuses on the interest, capabilities and abilities of

the individual child and promises to bring the best of an individual. E-learning gives many opportunities for students as well as for the teachers. For students e-learning provides asynchronity in following the course content, accessibility of learning material anywhere and anytime, guaranteed content consistency, personalization of learning, availability of upto date learning resources, facilitated communication with the teacher and the group. On the other side, the teachers have the ability to structure his/her teaching time better, to easily update course content, to communicate with students more easily and to provide direction for their development and to assure the realization and assessment of learning outcomes. In a nutshell, we can say that the quality of education is greatly being maintained with the support of e-learning technologies.

1.2 HIGHER EDUCATION - INTRODUCTION

Higher education is the way to immense knowledge, the path which is more than the next level in the learning process and a critical component of human development. It provides not only the high-level skills necessary for every labour market but also the training essential for teachers, doctors, nurses, civil engineers, humanists, scientists, and a myriad of other personalities. As a result of higher education only the society and world at large is able to function properly as it gives the world its responsible future citizen who are trained and specialized to impart their duty fruitfully. Higher education includes the under graduate i.e. college, the P.G (Post graduate levels), B.Ed, M.Ed, MBA, M.Phil, PhD and other formal courses after graduation. It theoretically enables individuals to expand their knowledge and skills, express their thoughts clearly in their speech and

writings, grasp abstract concepts and theories, and increase their understanding of the world and community.

India has a long tradition of higher education. It has the inheritance of rich culture in the higher education. The Vedic rishis were the torch-bearers of this cherished cultural heritage. The Gurukuls run by the ancient sages were the higher education of learning. Takshashila was one of the most famous and earliest centre of higher learning in the 7^{th} century B.C. Higher education is the house of knowledge and great asset of the world. Higher education in India has always been a defining feature of education, be it in the pre-independence period and post-independence period as well. Several commissions like the University Education Commission, UGC, NCERT etc has always provided us with the knowledge and importance of higher education in India.

1.2.1 THE IMPORTANCE OF HIGHER EDUCATION

Higher education has an important role both for the students, as an individual, and also for the society in which he lives. Higher education represents an aid for the growth and the development of the students and the key for a better life. For the society higher educational institutions can contribute to the creation of ideal citizens who will help in keeping the society peaceful.

In schools students very rarely get to experience life. When the students get enrolled in college they are first of all away from their families, this makes them independent and they learn how to be in their own. During the college years, if the students have the right attitude, that is they really want to learn and study, the scope for them is unlimited. They can increase their knowledge by reading lots of books or by

attending the lectures given by the experts in the field. The college life is such that it teaches the necessary life lessons to a lot of many students. Students get the opportunity to explore a lot of things and basically find themselves in true sense of the word in these three or four years of college.

With globalization taking place, the job market has become very much competitive. It is a well known fact that people who have a higher degree tend to earn more. People who are well educated are well paid and are more likely to live fruitful lives. They make better partners, parents and employees. They believe in following the societal norms and seldom indulge in anti-social behaviour. Educated people are more tolerant of other people and help in keeping the society peaceful. Higher standards of living, peace and good family life-all this thing helps in strengthening the country as a whole. Tertiary education contributes to social and economic development through four major missions:

- The formation of human capital (primarily through teaching);
- The building of knowledge basis (primarily through research and knowledge development);
- The dissemination and use of knowledge (primarily through interactions with knowledge users and);
- The maintenance of knowledge (inter-generational knowledge and transmission of knowledge).

Higher education is valuable for the individual and beneficial to an economy and society but not everyone is ready for higher education. The importance of higher

education can be judged from the way it benefits the person financially, emotionally, as well as socially.

1.3 HISTORY OF SIKKIM UNIVERSITY

Sikkim University was established by an Act of Parliament (Sikkim University Act 2006) in 2007. Its jurisdiction extends to the whole of Sikkim. It is fully funded by the University Grants Commission, New Delhi. The University is at present located in and around Gangtok, the capital of Sikkim, which borders on Bhutan, China and Nepal on its East, North and West respectively. Sikkim is also one of the world's richest and least exploited Bio-diversity hot spots. As an affiliating university, it is designed in such a way as to make it known for its academic excellence and innovative research. The university has 6 Schools of Studies and 29 departments offering various programmes of studies, which is an indication of the fact that it is one of the fastest growing universities in the country today. The total number of regular teachers are 130 but they are supported by over 30 guest faculty members and about the same number of adjunct faculty members for teaching various courses offered by the university. The total number of students at present is about 1300, which is likely to go up to 2200 in the coming semester. The departments are located in various hired buildings in an around Gangtok, but the students, teachers and administrative staffs are ferried from one end to the other free of cost by buses hired by the university. As the Central Government of India has taken land in Yangyang for the permanent residence of the university hence, soon the university will be having its own campus.

Despite, the absence of its own campus, the university has good classroom infrastructure, state of the art laboratories, rich collection of books in the library, Wi-Fi connectivity in the buildings and availability of e-library is also provided. Infact, being a newly established university the university its always giving its best to provide a better library for its members be it online journals, e books, and so on. In a nutshell, we can say that Sikkim University being the only Central University is doing its best to make higher education worth for each and every member of the campus.

1.4 CONCEPT OF STATUS

Status is an important criteria of a society. Status involves a position in social aggregriate identified with a pattern of prestige, symbols and actions. Status is one's place in the hierchacy of social relationships where some enjoy high status while others may have low status. It is an abstraction, a description of one's place in social group relative to others position in the group. Furthermore, it defines the position, wealth, quality of anything be it person, society, education and justifies it in its depth. Status is a very important elements in one's own life, it holds the traits of power, honesty and describes the in and out of the person. Status entitles great power than before, more understanding than before, more quality than before and so on. Status defines the importance of a thing, its effectiveness and the power of utilization as well. Thus, status is the overall package which defines the modern world and the modern man inculcated with the virtues and responsibilities to be an effective citizen.

1.5 E-LEARNING MODE AS AN IMPORTANT PART OF HIGHER EDUCATION:

Today e-learning has been a defining feature for higher education. As the world has reached over new technologies so has the higher education merged with the e-technologies to a great level. Infact, we can say that with the emergence of e-learning technologies, the quality of higher education has increased to a great level. The most effectively used e-learning modes is in the higher education sector. For instance- today we cannot give our presentation without using PPT or we cannot find notes without the help of computers, laptops, internet and so on. Virtual classes and Smart classes has become the reality of the higher education. With the facilities of laboratories and the various modes present in the laboratory our knowledge has expanded and the time has also been saved. E-learning is becoming increasingly prominent in tertiary education, with increasing universities provisions and more students signing up.

The importance of e-learning is greatly felt in higher education as e-learning acts as an facilitator for the higher education students, providing the students, scholars with correct information through the help of internet services ,Wi-Fi's, and even the dissertation and thesis work cannot be done without the use of e-technologies. It has become impossible for the scholars to do their work without using e-technologies, not only the students but teachers as well cannot complete their work without using e-learning modes. With the help of various e-learning modes we are able to successfully conduct seminars, workshop and so on. In a nutshell, we can say that e-learning technology is the reality of higher education.

1.6 NEED AND SIGNIFICANCE OF THE STUDY

Electronic learning (e-learning) and Information and Communication Technologies (ICTs) has been the priority in the today's digital world and is also been extensively utilized in every sphere of life. The advancement of ICTs is changing the education scenario and transforming the teaching and learning process from the traditional physical environment to the digital environment. Integration of ICTs at all levels of education has been a defining feature of the education system all over the world in recent years. The applications of e-learning and ICTs have become so attached to contemporary educational delivery worldwide that it has virtually become impossible to deliver or receive formal education without the application of such advance technology in the processes. ICTs and e-learning provides both students and teachers with more opportunities in adapting learning and teaching to individual needs. The more technology advances, the more benefits it provides to the educational sector and a greater part benefitted by it, is the higher education sector.

E-learning has been used very effectively in University teaching for enhancing the traditional forms for teaching administration. Students on many courses in many Universities now find they have web access to the lecture notes and selected digital resources in support of the study and this kind of access gives them much flexibility for study. The UGC, NCERT, NCTE etc are very keen in developing e-learning in Universities and is favorable in sanctioning grants for development of e-learning infrastructure and excellence in the institutions of higher learning. The different mode of e-learning has highly enhanced the quality of higher education.

Sikkim University, established in 2007 is a newly formed University in Sikkim by an Act of Parliament (Sikkim University Act 2006). The University being new is presently located in rented buildings in and around Gangtok, the capital of Sikkim, despite having its various problems, the University is taking its leap on the various modes of ICTs. Still there are various lacunas that are to be investigated on the initiation of e-learning in the various departments of Sikkim University. Hence, there is an urgent need for in-depth and pointed investigation of the use and development of ICTs or e-learning in the Sikkim University. Therefore, the study will be an attempt in this direction. Moreover, no worthwhile endeavor has been made so far to investigate the status of Sikkim University towards e-learning. To fulfill this purpose and to add more knowledge to the existing one a research study is proposed to address the following statement.

1.7 STATEMENT OF THE PROBLEM:

"STATUS OF SIKKIM UNIVERSITY TOWARDS E- LEARNING: A CASE STUDY"

1.8 OPERATIONAL DEFINITIONS:

The different key term used in the title of the study and used in the body of the proposal are operationally defined as follows –

1. **E-Learning**: E-Learning refers to the use of the new technologies or application in the service of learning or learner support. In the present study e-learning refers to the new technologies or applications used by Sikkim University.

2. **Status**: In the present study Status refers to the present condition in the use of different facilities of e-learning provided by Sikkim University.

1.9 RESEARCH QUESTIONS:

The research questions of the present study are as follows:

1. What is the status i.e. present condition in the use of different technologies of e-learning in Sikkim University?
2. What are the perception of students, teachers and administrators of Sikkim University towards e-learning?
3. What are the different modes of e-learning in Sikkim University?
4. What are the different steps that are being done by Sikkim University to facilitate e-learning?
5. What are the future initiation programs laid by Sikkim university towards e-learning?

1.10 OBJECTIVES OF THE STUDY:-

The objectives of the present study are as follows:

1. To study the status in the use of e-learning in Sikkim University.
2. To study the perception of students, teachers and administrators of Sikkim University towards e-learning.
3. To study the different modes of e-learning in Sikkim University.
4. To study the different steps that are being taken by Sikkim University to facilitate e-learning.

5. To study the future initiation programs that is to be laid by Sikkim University towards e-learning.

1.11 DELIMITATIONS OF THE STUDY:

The present study is delimited to the following conditions-

1. The present study is delimited to Sikkim University, Gangtok, East District of Sikkim.
2. The present study is delimited to the HODs of all the **29** departments and **58** teachers (Asst. Professors) taking 2 teachers from every department.
3. The present study is delimited to **174** students taking 6 students (3 Male and 3 Female) from every department.
4. The present study is delimited to **7** administrators of Sikkim University.
5. Therefore, the present study is delimited to **268** members of Sikkim University.

CHAPTER II

2.1 REVIEW OF RELATED LITERATURE – The Concept

For any worthwhile study in the field of knowledge the research worker needs an adequate familiarity with the work that has already been done in the area of his chosen field. The review of related literature helps the researcher to take advantage of the knowledge which has been accumulated in the past as a result of constant human endeavor. It can never be undertaken in isolation of the work that has already been done on the problems which are directly or indirectly related to a study proposed by a researcher. A careful review of the research journal, books, dissertations, thesis and other sources of information on the problem to be investigated is one of the important steps in the planning of any research study. The review of related literature enables the researcher to define the limit of his field. It helps the researcher to delimit and define problem. In this the researcher can select those areas in which positive findings are very likely to result and his endeavour would be likely to add to the knowledge in a meaningful way. The survey of related studies implies reading and analyzing the researchers already done and reported in dissertation, theses, journals, abstracts, encyclopedias, yearbooks, hand books or in any other published form. The related studies thus represent the collective body of the prior work which is referred to as research literature. Review of related literature is an important research effort as it provides comprehensive understanding of what is already known about the topic. The main functions of citing review of literature are to provide a basis for developing a frame work.

Familiarity with research work of others provides up-to-date knowledge of the latest developments, findings, recommendations, tools and loop holes of researches. It helps to avoid duplication of what has already been done, and provides useful directions and helpful suggestions for research work. Thus an attempt has been made in this chapter to review the studies related to this investigation.

2.2 Purpose of Related Literature:

Review of related literature, provides a comprehensive understanding about what has already been known about a topic. It forms the basis for subscribing rationale for having chosen the problem for the study. Review of related literature allows the researcher to acquaint himself/herself with the current knowledge in the field (or) area in which, he/she is going to conduct his research. It enables the researcher to define the limits of the study. It also helps the researcher to delimit and define his/her problem. The knowledge of the related literature helps the researcher update his knowledge on the work which others have done and thus states the objectives clearly and concisely. By reviewing the related literature the researcher can avoid unfruitful and useless problem areas. Through the review of related literature, the researcher can avoid unintentional duplication of well established findings. It is no use to replicate a study, when the stability, validity of its results has been clearly established. The review of related literature gives the researcher an understanding of the research methodology, which refers to the way; the study is to be conducted. It helps the researcher to know about the tools and instruments, which proved to be useful and promising in the previous studies. It also provides an insight into the statistical methods, through which the validity of the

results is to be established. The important specific reason for reviewing the related literature is to know about the recommendations of the previous researchers, listed in their studies for further research. Review of related -literature in the concerned field is of greater significance in locating the research problem. Hence it plays the pivotal role at the crucial juncture of planning of the study. Review of related literature is an intellectual pursuit "essential to the development of the problem and to the deviation of an effective approach to its solution". The importance of related literature cannot be denied in any research. It works as a guidepost, not only with regard to the quantum of work done in the field, but enables us to perceive the gaps and lacunae in the concerned field of research. The similar or related study carried out by research workers at various levels is called review of related literature.

Good, Barr and Scates (1941) analysed the purpose of review of related literature as given under.

- To show whether the available evidence material solves the problem adequately without further investigation.
- To provide ideas, theories, explanations (or) hypotheses valuable in formulating the present study.
- To suggest the research methods to the problems.
- To locate comparative data useful in interpretation of the results.
- To contribute to the general scholarship of the investigator.

- It helps the research worker to find what is already known, what others have attempted to find out, what methods of attack have been promising (or) disappointing and what problems remain to be solved.

- It furnishes him with indispensable suggestions about comparative data, good procedures, likely method and tried techniques.

- It makes him alert to research possibilities that have been over looked and research approaches that have proved to be sterile.

- It prevents pointless repetition of research.

Leem and Lim (2007) conducted a study entitled *'The Current Status of E-learning and Strategies to Enhance Educational Competitiveness in Korean Higher Education.'* The purpose of this study was to examine the current status of e-learning in Korean higher education and find ways to encourage the further use and development of e-learning systems that aim to enhance Korea's academic competitiveness. A total of 201 universities in Korea (27 National and Public, 163 Private, and 11 National Universities of education) were examined in the present study. At the time of the study, 85 percent of the universities and colleges had investigated implementing e-learning. There were special e-learning teams in most national and public universities, as well as private universities and colleges. Findings of the study showed that both teachers and learners are alike, lacked meaningful support systems and opportunities to actively participate in e-learning programs. Although, such lack of support and opportunity was found to be more acute in private universities, private colleges, universities of education, than mid-sized,

small-sized and provincial universities and colleges. Except from a few mid-and small-sized universities and colleges, most large universities were equipped technical support such as infrastructure and operational platforms. The same schools however, did not provide institutional support, nor did they employ appropriate policies needed to further the quality and enhancement of e-learning offerings. Also, there was no meaningful link found between schools and industry nor was there adequate financial support in place for the implementation of e-learning system, simply because many universities failed to allocate sufficient funding for e-learning. In conclusion, the strategies for enhancing university competitiveness through e-learning are as follows: (1) Establishing support strategies according to the types of universities; (2) Developing quality assurance systems for e-learning; (3) Enhancing support systems for professors and learners; (4) Developing knowledge sharing systems between schools and industry; (5) Enhancing international collaboration for e-learning; and (6) Developing and supporting e-communities of knowledge for research and education.

Afaneh (2008) conducted a study entitled *'The Impact of E-learning on Umm Al-Qura University.'* The study was conducted at the department of Science Information at Umm Al-Qura University. In order to review a scientific experiment in the use of e-learning through the department of Information Science at Umm Al-Qura University, which actually begin in providing this service to the students section, as well as review the views of faculty members in the section about e-learning and what are the pros and cons facing them during their service. To achieve these goals questionnaire was distributed to a sample of faculty members and students in the section, which was designed to measure the factors influencing the use of faculty, such kind of teaching and reflection on the

impact of the use of this type of education, and the result showd that the most important benefits of this kind are education for faculty members were permanent development in using technology and permanent development in teaching methods and update the article files with ease, confidence in using the technique, and the analysis showed a direct correlation between the faculty members and level of experience and permanent development in teaching methods. As regards constraints, including the lack of a sufficient number of qualified persons who support this service, plus the difficulty in using the program. Study give several recommendations: providing training courses as workshops for faculties and providing regular working professors in laboratories.

Elango, Gudep and Selvm (2008) conducted a study entitled *'Quality of E-learning: An Analysis based on e-Learners' perception of E-learning'.* The study was conducted to investigate the issues related to the quality dimensions of e-learning. Objective of the study was to analyze the e-learners' perception with regard to the commitment of the institution providing e-learning programs, curricular content, faculty support, students' commitment, delivery mode, evaluation and assessment of the e-learning system. A well structured questionnaire was designed to collect the relevant data. The sample size was 112 and it included the under graduate e-learning students who were chosen by simple random sampling method from two Arab countries namely UAE and Oman. The results revealed the presence of both strength and weaknesses in the e-learning system, it was interesting to note, that the e-learners had expressed diverse opinions with regard to administrative issues, instruction materials, instructors support, viper session (VIPER, Voice Internet Protocol, Extended, Reach is a software which helps interactive through the internet), grading and assessment. The findings of the study further demonstrated that

if the concept of e-learning with a better approach and perspective, the reach would be phenomenal. The study reiterates the relevance of imparting quality education through e-learning.

Kamba (2009) examined *the status of e-learning in 18 selected universities from different specialization areas in Nigeria.* The objective of the study was to find the level of awareness of e-learning among the universities and to examine the status of e-learning in different universities. Findings of the study showed a high degree of awareness of e-learning among the universities. But this notwithstanding, he established that adoption of e-learning was impeded by a low level of investment and lack of commitment to develop e-learning applications. The latter was describes as having been below expectation according to the study. What was intriguing was the fact that most of the staff and students in the universities used internet related e-learning sites mainly for the sake of finding related information for their research, since their libraries could not afford to provide them with adequate and current materials, but not for the sake of formal online learning. The study also found out that some of the universities have Web pages that are more often than not used for advertisement of the universities but not for e-learning activities. Encouraging though was the fact that some of the universities were planning to increase investment in e-learning.

Coleman (2011) conducted *a study on assessing the adoption of e-learning in Ghanaian Universities.* The objective of study was to find out the adoption of e-learning among Ghanaian Universities and to reach these objective four universities across Ghana was assessed. A structured questionnaire was developed to a sample of 103 people comprising students, university lecturers and management authorities of the four selected universities

which use e-learning in their educational curriculum. Based on an objective analysis of the obtained data, the major findings showed that the university managements and lecturers have not established broader e-learning facilities that would trigger students to adopt e-learning course. Also, the current facilities being used are very few and insufficient. Although, some of the universities have made provision for several e-learning delivery modes, yet students and lecturers are not all that familiar with them. Hence, most of those delivery modes are not being used at all. Students level of access to computers, internet connectivity and the lack of regular electric power supply on campus, appeared to be the major factors which are most lightly to impact negatively on students to hinder them from attending e-learning courses. It was also found out that the most important barriers likely to affect the implementation of e-learning include poor internet connectivity, fear of failure in internet/e-learning services, fear of internet fraud and the low speed of internet.

Kumar (2011) conducted a study entitled *'Attitude of Teachers' of Higher Education Towards E-Learning.'* The study focused on the attitude of teachers' of higher education towards e-learning. The objectives of the study was to find out the attitude of teachers working in colleges of engineering and technology and university departments towards e-learning; to find out whether the teachers differ in their attitude towards e-learning on the basis of certain background variables; to find out whether the teachers differ in their attitude towards e-learning on the basis of ICT familiarity. Survey method was adopted for the study. The sample was selected from the higher educational institutions where there is faculty for e-learning. The teachers were selected on the basis of purposive sampling, 255 teachers were selected for the study. The findings of the study revealed

that the teachers had a favorable attitude towards e-learning as well as teachers who are familiar about computer and ICT differ in their attitude towards e-learning when compared to the teachers who are not familiar with technology. It was concluded that teachers having net access at institution and both in the institution and at home differ significantly in their ICT familiarity. The mean difference was in favor of teachers those who have net access both in the institution and at home were having more ICT familiarity. The study recommended that e-learning environment are to be made popular among college and university teachers so as to enhance the quality of education. There must be scope for knowledge and making use of modern technology like interactive white boards, blogs, internet access etc.

Alenezi (2012) conducted a study entitled *'Faculty Members' Perception of E-learning in Higher Education in the Kingdom of Saudi Arabia (KSA).* The purpose of the study was to investigate faculty members' attitude towards e-learning in higher education in the kingdom of Saudi Arabia and the factors influencing their attitudes. This study examined differences in attitude between faculty members based on age, gender, education level, nationality and teaching experiences. This research was limited to two universities from different locations in the KSA. A survey questionnaire was used in this study to collect the data. The result showed that there is a difference between the levels of e-learning based on different components of identity. The gender perceptions were the first indicators of differences, with perceptions by female being more positive than that of males. This was followed by age differences in which the ages under 44 has the stronger perception of e-learning than those over the ages of 45. The educational level was also noted as being affected by the perceptions of e-learning being stronger with those who

had a bachelor's degree. The result showed that faculty members who had less teaching experience had a stronger perception than those who had been teaching for more than 10 years. Nationality was also influenced in terms of the positive outlook by non-Saudi. There was an overall positive outlook towards e-learning by the faculty members with the belief that it is a tool which enhances learning. When responding to questions about the challenges and obstructions of e-learning, participants revealed that a lack of tools and knowledge created impediments to teaching e-learning courses.

Bekale (2012) conducted *a study on the challenges and current status of e-learning in Ethiopian Higher Education Institutions: Case of Mekelle University*. The aim of this research was to assess the current status of e-learning application in Mekelle University, identify its main challenges and factors that play major role to its success and provide a recommendation for a successful implementation of e-learning technology in HELs of Ethiopia. Purposive sampling technique was employed and primary data was collected by means of structured questionnaires and interviews. The population of the study was academic staff, administrative officers and key informants of the Institute of Technology and College of Health Science of Mekelle University.

The research identified that the current status of e-learning in the institution is in its infant stage. No ICT policy at work was found in the institution. As the finding showed availability of hardware, faster internet connectivity, improved software, reliable electricity and open source software made e-learning more effective. Moreover, the result of the study indicated that there are several factors that hinder the implementation of e-learning at the institutions. These include infrastructure problem, lack of awareness and motivation, lack of ICT skill, lack of training facilities, lack of administrative

management and technical support and resistance of individuals to change. The result of this study showed that effective implementation of e-learning could be possible through policy consideration that favours e-learning, creation of awareness and motivation among the university community, using open source software, skill development and trainings, management support, resource accessibility and availability.

Holmstrom and Pitkanen (2012) conducted *a study on 'E-learning in Higher Education: A qualitative study examining Bolivian teachers' beliefs about e-learning in higher education*. The study dealth with e-learning in the context of developing country. The aim of the study was to describe and understand teachers' beliefs about e-learning in higher education at UMSA. Qualitative semi-structured interviews and observation were used to identify 10 teachers' beliefs about e-learning. The technological pedagogical content knowledge framework was used for analyzing the interview and observations. Teachers' showed varying levels of knowledge about technology, pedagogy and content, as well as varying knowledge levels about different combinations about these three knowledge domains. Despite the limited educational resources at Universidad Mayor ded San Andres (UMSA), most teachers' believed that e-learning is beneficial for themselves and their students. The result showed that the main problem of implementing e-learning at UMSA seemed to be rooted in the belief that Bolivia is regarded as a developing country with limited educational resources. A large number of teachers and students did not have access to sufficient number of computers and other forms of technology on which e-learning depends. The issue of poor bandwidth meant that teachers almost exclusively used asynchronous communication and therefore could not assess the benefits of the synchronous communication mode. To extend the use of e-learning, the study

recommended that e-learning must be promoted to those teachers who are sceptical towards and do not have enough knowledge and experience in learning technologies. It is also crucial to improve the internet connection, provide students with their own laptops, and establish a formal e-learning policy at UMSA. However, teachers' interest towards learning technologies is no doubt a positive sign for the future of e-learning at UMSA.

Quazaq (2012), conducted a study entitled *'A study on Readiness and Implementation of E-learning among academic staff at Jordanian Institutions of Higher Education.'* The study investigated the degree of the readiness of academic staff towards the implementation of e-learning in universities in Jordan. The questionnaire incorporated items that addressed psychological, administrative, technological, affective and change factors. The questionnaire was administered to 367 academic staff from the north, middle and the south of Jordan. In addition, the researcher interviewed 24 academic staff. Thus, the researcher integrated quantitative and qualitative methods which combined the use of questionnaire and interviews. The researcher used descriptive statistics, one way ANOVA, t-test, correlation and hierarchical regression to analyze the data. The study revealed that the academic staff readiness towards the implementation of e-learning was high. The study also showed that the academic staff was making progress, but more efforts should be made to overcome such hindrances related to infrastructure and lack of e-learning tools. The results also showed that there was no difference in the degree of readiness between academic staff in public and private universities towards applying e-learning. Furthermore, the results indicated that there was no statistically significant difference based on gender, age, experience, type of university and ranks in applying e-learning. On the other hand, the study revealed that technology policy moderated the

relationship between e-learning readiness and implementation. The research recommended that there should be more support from universities in providing the academic staff with sufficient tools that assist the adoption of e-learning. In addition, a strong legal policy should be established to support the mechanisms of adopting e-learning in universities. Upgrading computers in universities is very important to meet the increasing needs for speed and efficiency in adopting e-learning.

Yocab (2012) conducted a study entitled *'Student Awareness towards E-learning in TATI College, University in Malaysia.'* The objective of the study was to study was to examine the awareness of e-learning that involved students from TATI College, University of Malaysia. Multiple regression analysis was performed on the students' perceptions in relation to gender, year of study, faculty, technology usage and the awareness of e-learnig implementation. The findings of the study showed that males and females students have a significant awareness towards e-learning in education at TATI UC.

Azimi (2013) conducted a study entitled *'Assessment of e-learning needs among students of colleges of education.'* The study is a descriptive and survey type work. The main objective of the study was to explore e-learning system components needs among students of colleges of education (One year Bachelor of Education or B.Ed degree programme) affiliated by university of Mysore, India. Based on this view the questionnaire was designed and validated by expert in teacher education, ICT and e-learning field. A total of 374 students were selected through stratifies random sampling. It was found that majority of respondents were required to learn web design software, learning management system and electronic resources, email and internet. Moreover,

students should be made aware of the potential of various e-learning technologies for enhancing the teaching and learning process.

Njagi (2013) conducted a study entitled *'Assessment of the Status of E-learning as Course in Delivery Method in Public Universities in Kenya.'* The major objectives of the study were six fold: Assess the e-learning components applied and status e-learning infrastructure in public universities in Kenya; identify the features that are associated with the current e-learning in public universities in Kenya; establish costs involved in development and production of e-learning courses, maintenance of e-learning courses in presentation, storage and delivery including transmission of e-learning courses and material in public universities in Kenya; determine the benefits of e-learning course modules from both the demand and the supply sites; identify the constraints faced by the public universities in implementing e-learning; and propose possible strategies and interventions that can be applied to improve dissemination of course modules via e-learning in Kenyan public universities. The study adopted an exploratory descriptive survey design. The units of sampling were the seven public universities in Kenya. The study utilized questionnaires, interview schedules, direct observation and observation schedules for data collections. Data analysis was done using both qualitative and quantitative approaches. The following conclusions were drawn on the basis of results obtained from the study; universities make use of a variety of hardware in production, storage and distribution of the e-learning courses. Universities endeavor to acquire the state of art hardware so as to be in line with changing technological trends; In reference to the software applied, it was concluded that universities make use of a variety of software. The use of assortment of software facilities in performance and execution of the

many e-learning activities; The features of the hardware and software are custom made and support e-learning activities. It was also found that different categories of staff are involved in development and transmission of e-learning course modules. It was also concluded that there are no students who undertake their courses purely via e-learning rather what is applied is blended learning where both the e-learning and face-to-face sessions are utilized. In terms of the overall costs involved in production, development, storage, maintenance and transmission of the e-learning course modules, it was found that the variables was not significant. The following recommendations were arrived at in the light of the study findings. E-learning coordination to be restructured under ICT department. It was also recommended that the server should be re-located to KENET offices. Students and staffs should be encouraged and motivated to use the e-learning systems through sensitization on matters related to e-learning and its importance through seminars and workshops. All lecturers should be trained and exposed to writing e-learning materials and content development tools. Lecturers should be sponsored to e-learning conferences and establish a directorate to specifically handle e-learning issues.

Kar, Saha and Mandol (2014) conducted *a study on 'Attitude of University Students towards E-learning in West Bengal.'* The study was conducted for measuring the attitude of university student towards e-learning in West Bengal by taking 308 university level students from four universities namely Sidho-Kanho-Birsha university, Jadavpur university, Visva-Bharati and Gourbanga university. Stratified random sampling technique had been adopted in selecting the samples for the survey. A well designed questionnaire developed by the investigator had been used to collect primary data. The major findings of the study revealed that students have high attitude towards e-learning

and their attitude scores did not differ significantly with their personal variables such as gender, stream of study and residence.

Lin, Chen and Nien (2014) conducted a study entitled *'The study of achievement and motivation by E-learning: A Case study.'* The study was designed for freshmen students of college in the e-learning method of an accounting course, so as to investigate different achievement and motivation implementation of this method. The study applied Quasi-experimental design, divided into an experimental and controlled group. Learners effect evaluation was done by using pretest and post test. In order to achieve the purpose of the study, the experimental group applied e-learning strategies and the controlled group applied traditional learning style. The study was based on a class at one private college and used as a unit. The study sample was a total of 31 students divided into two groups: 16 students in the experimental group and 15 students in the controlled group. After a six week period the effectiveness of learning was examined in the experimental group and the controlled group. The result were two fold; firstly, e-learning strategies is not different from the traditional learning methods in terms of achievement in accounting for freshmen students in colleges; secondly, e-learning strategies is superior to the traditional learning methods in terms of learning motivation. The study recommended that firstly, students must have computers and internet as they can learn anytime and anywhere, use materials repeatedly and study the different parts by themselves. Secondly, a college teacher should use e-learning strategy to strengthen students' learning motivation. Moreover, teacher should improve their skills in using e-learning strategy to enhance learning effectiveness.

Gaikwad and Virshali (2015) conducted a *study on E-learning in India: Wheel of Change.* The basic objectives of this research paper was to understand the concept of e-learning and to examine the types of e-learning being used, to compare between traditional learning and modern learning technique. The research paper also focused on classroom learning and e-learning in India as a main wheel of development of education. The research findings showed that the rapid increase in internet connectivity is an important catalyst for the growth of e-learning. It was proved that the developing wave of adaptive learning will help higher education, women, and government. E-learning is increasing the percentage of literate population in the total population of India. E-learning plays a vital role in educational development as a wheel of growth in education sector.

Jaiswal (2015) conducted *a study on the current status of e-learning in Higher education – A case study of Uttar Pradesh.* The study was conducted to find out the current status of e-learning in Higher education. Thus, in order to study the objective 2919 teachers (839 teachers from Professional courses and 2080 teachers from non-professional courses) and 7717 students (4512 students from professional courses and 3205 from non-professional courses at UG and PG levels) were selected as sample from the eleven state universities of U.P for the present study. It was found that below average number of professional courses' teachers in higher education are using e-learning mode whereas only a few number of non-professional courses' teachers are using e-learning mode. There are three modes of e-learning viz. online mode, hybrid/blended mode and enhancement mode but only e-enhancement mode is being presently used by the

professional and non-professional courses' teachers in higher education.

Tarus, Gichoya and Muumbo (2015) conducted a study entitled *'Challenges of Implementing e-learning in Kenya: A Case of Kenyan Public universities.*' The study focused on the challenges experienced by Kenyan public universities in implementation of e-learning and recommend possible solutions towards its successful implementations. The research presented the findings from a survey of 148 staffs of three Kenyan public universities who are currently using e-learning in blended mode approach. The purpose of the study wax to investigate the challenges hindering the implementation of e-learning in Kenyan public universities. Data was collected through questionnaires, in-depth-interviews and document analysis. The findings of the study revealed that e-learning comes with some challenges that must be addressed by Kenyan public universities before successful implementation can be realized. However, the benefits and opportunities presented by e-learning far outweigh the challenges. The paper finally recommended some possible solutions that public universities could embrace towards successful implementation of e-learning.

Makokha and Mutisya (2016) conducted a study entitled '*Status of E-learning in Public Universities in Kenya'.* The purpose of this study was to assess the status of e-learning in public universities in Kenya. For the study data were collected using questionnaires which was administered to both students and lecturers through random-sampling method from seven public universities. Questionnaire responses were triangulated with interviews from key informants and focus group discussion (FGDs). The data were analyzed qualitatively and through the use of descriptive statistics. The findings of the study revealed that e-learning is at it's infant stage in universities in Kenya. Majority of universities lacked senate approved e-learning policies to guide structured

implementation. A few lecturers (32%) and students (35%) used e-learning and few courses (10%) were offered online. Majority of online uploaded modules (87%) were simply lecture notes and not interactive. Again, universities in Kenya lacked requisite ICT infrastructure and skills. The study recommended that universities partner with the private sector to improve ICT infrastructure, built capacity and standardized e-learning programs in the country.

Mamattah (2016), conducted *a study entitled Students' Perceptions of E-learning.* The purpose of the present study was to discover students' opinions of e-learning, which is an alternative to traditional classroom teaching and learning. The main objective of the study was to know what students make of the idea of e-learning, as they are the target and the main beneficiaries of this technology enabled learning. The research data was collected at Ho Polytechnic, Ghana, with 80 questionnaires. The results of the study showed that majority of the students think e-learning is an innovative idea and must be encouraged, however, few concerns such as the fear of employers' discrimination against those who study through e-learning were discovered. It was also realized that hybrid learning, which is a combination of online learning and face-to-face learning, is the preferred mode of learning for the respondents. The research recommended that as students preferred hybrid learning, educational institutions in Ghana should make more effort to invest in tools that make e-learning possible and not to be opening satellite campuses all over the country as is currently the case.

2.3 SUMMARY OF REVIEW OF RELATED LITERATURE

After analyzing the above studies it can be stated that there has been various studies on the status of e-learning on several universities throughout the globe. Some of the studies conducted in India and abroad states that e-learning holds greater status in the universities. Students and teachers are aware of the various e-learning technologies and thereafter members of those universities are greatly benefitted by the e-learning gadgets. However some studies show that there is unawareness and lack of e-learning modes, hence e-learning is still in its infancy stage in those universities Therefore in order to reach at a decisive conclusion in this respect, the present study is conducted and designed to investigate the status of Sikkim University towards e-learning.

CHAPTER III

METHODOLOGY

Methods and procedure constitutes an important part of research. No research can be undertaken successfully without any thinking of planning. There are many convincing proofs on the pages of research literature where investigator reached different conclusion by using different methods in the study of the problems. Method is a style of conducting a research work which is determined by the nature of the problem. Research methodology is a way to systematically solve the research problem. The methods to be used in a research work have the common characteristics of facilitating the systematic collection of data than can be used to formulate an evidence report. The methodology with reference to research means that it is a type of inquiry. The role of the methodology is to carry on the research work in a scientific and valid manner. The methodology consists of procedures and techniques for conducting a study.

Planning broadly includes methods of research to be adopted, population to be selected, sample to be drawn, instruments or tools to be considered for use, procedure and cautions to be followed for the collection of data and interpretation to be given to data for its meaningful information. In the present chapter above mentioned dimensions of the research are discussed in details under the following heads:

1. Research Method

2. Population

3. Sample

4. Tools used

5. Procedure of data collection

6. Techniques used

3.1 RESEARCH METHOD

In order to carry out any type of research, the researcher must gather data to cite findings of the questions and study as well. Many different methods and procedures have been developed to aid in the acquisition of data. For the present study, the investigator decided to adopt descriptive survey method .To accomplish the objectives of the present study the descriptive survey method was considered appropriate for gathering data about status of Sikkim University towards e-learning.

Descriptive survey method is designed to obtain pertinent and precise information concerning the current status of phenomenon and whenever possible to draw a valid general conclusion from the fact discovered

3.2 POPULATION

The entire group from which the sample is drawn is known as population. A population is a well defined group of individuals or observations. It consists of all aspects of individuals of their attributes that can be described as having as unique type characteristics or qualities. A population refers to any collection of specified group of humans and non-human entities such as objects, institutions, time units, geographical areas or events. For the present study all the students, teachers and administrators of Sikkim University has comprise the population of the study.

3.3 SAMPLE:

The representative proportion of the population is called sample. A good sample ensures three things; freedom from bias, representativeness of population, characteristics and adequacy in terms of population qualities. Sampling is the process by which a relatively small numbers of individuals, objects or events is selected and analyzed to find out something about the total population from which the sample was drawn. It helps to reduce expenditure, time and energy of the researcher and can produce greater precision and accuracy due to better controlling.

In view of the objectives of the present study, the investigator decided to collect data using Purposive sampling method. As such it is proposed to draw **87 teachers (taking HOD's of every department i.e., 29, 2 teachers from every department i.e., 58 teachers) and 174 students (taking 6 students from every department, 3 Male and 3 Female students) and different administrators (i.e., 7) of the university through purposive sampling method.** A detailed structure of the sample has been provided in the following table No.

Table - 3.1

Sl.No	NO. OF DEPARTMENTS	NO. OF GROUPS	NO. OF INDIVIDUALS	TOTAL
1.	**29**	**H.O.Ds**	**29 (1 from each Department)** **29 x 1**	**29**

2.	**29**	**Assistant Professors**	**58 (2 from each Department) 29 x 2**	**58**
3.	**29**	**Students**	**174 (3 Male students and 3 female students from each Department) 29 x 6**	**174**
	GROUP – ADMINISTRATORS			
4.	**Junior Engineer (Engineering Cell)**			**1**
5.	**Civil Junior Engineer (Engineering Cell)**			**1**
6.	**Assistant Registrar (Administration)**			**1**
7.	**Librarian**			**1**
8.	**System Analyst (System Management)**			**1**
9.	**Account Officer**			**1**
10.	**Assistant Registrar (Establishment)**			**1**
GRAND TOTAL				**268**

3.3.1 SAMPLE AREA:

Sikkim is a very small hilly state in the eastern Himalayas with a rich biodiversity and formidable physical features. It is bounded by vast stretches of Tibetan plateaus in the north, the chumbi valley of Tibet and the Kingdom of Bhutan in the east, the Kingdom of Nepal in the west and Darjeeling district of West Bengal in the south. Sikkim has total area of only 7,096 square kilometers and is stretched over 112 Kms from

north to south and 64 kms from east to west. It lies in the north-eastern Himalayas between 27º00‟46” to 28º07‟48” north latitude and 88º00‟58” to 88º55‟25” east longitude. It is the second smallest in India. On the eastern part of Sikkim, lies Gangtok. Gangtok is the capital of Sikkim and Sikkim University is the only Central University located in Gangtok. Hence, Gangtok, East District of Sikkim has been chosen as the sample area for survey.

3.4 TOOLS USED:

In conducting a research many data gathering tools are required. The tools selected must be appropriate for the collection of certain type of evidence or information of data from the relevant field. Thus the research tools are the data gathering devices. Keeping in view the above mention requirements of effective research tools, the investigator in the present study developed questionnaire as the tool of the study.

Henceforth, in order to collect the data for the present study a questionnaire was developed to collect information from the students, teachers and different administrators of Sikkim University.

- **Questionnaire on Status of Sikkim University towards e-learning.**

  A brief description of the tool is given below-

3.4.1 CONSTRUCTION OF TOOL:

The first and foremost construction of the tool was prepared by the researcher on the basis of the different research questions and objectives as laid down to find out the current status of Sikkim University towards e-learning. Hence, keeping in view the aims

and objectives in mind, 50 self-made questions were prepared for study to be carried on. The question was then modified under the guidance of the supervisor. After that the question was send to 4 of the experts. Previously the total number of questions sent to the experts was 45 in number. After the examination of the questions by the experts, 15 questions were removed and it was decreased to 30. Of the 30 self-made questions, 29 questions were finalized as Close-ended questions and 1 question was finalized as Open-ended question.

3.4.2 OBJECTIVE-WISE METHODOLOGY

For this purpose a set of 30 self-made questions has been prepared giving due attention to the research question and objectives of the study.

1. To study the status in the use of e-learning in Sikkim University.

   For the first objective a set of 6 questions were developed. Question No. 2,3,4,9,22,23 and was administered.

2. To study the perception of students, teachers and administrators of Sikkim University towards e-learning.

   For the Second objective a set of 14 questions were developed. Question No. 1,11,12,13,14,15,18,20,21,24,25,26,27,29 and was administered.

3. To study the different modes of e-learning in Sikkim University.

   For the Third objective a set of 11 questions were developed. Question No. 2,3,4,5,6,7,8,9,10,22,23 and was administered.

4. To study the different steps that are being taken by Sikkim University to facilitate e-learning.

   For the Fourth objective a set of 4 questions were developed. Question No. 16,17,19,28 and was administered.

5. To study the future initiation programs towards e-learning that is to be laid by Sikkim University.

   For the Fifth objective an open-ended question was developed. Question No. 30 and was administered.

3.5 PROCEDURE FOR DATA COLLECTION:

The questionnaire after being completely prepared was then administered to the teachers, students and administrators of Sikkim University. Each department and every individual of the sample was personally visited by the researcher and sufficient time was given to each and every individual of the sample. Furthermore, the testees were asked to clarify their doubts initially. Thus all the precautions and procedure of data collection was followed by the investigator.

3.6 TECHNIQUES USED:

The main objective of the study is to study the status of Sikkim University towards e-learning. The technique of the study is therefore testing through questionnaire/ statement. Scoring from Question 1 to 29 is done through percentage wise analysis and histogram depicting the results of the each items is also given. Question No. 30 is an

Open-ended question and hence the feedback of each item are carefully studied and discussed in the following paragraph.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

4.0 Introduction

Analysis and interpretation is considered as the heart of the research work. Analysis of data means studying the organized material in order to discover inherent facts. These data are studied from various angles in accordance with the objectives of the study either to explore new facts or to interpret already existing facts. The utility of collected information is in its proper analysis and interpretation.

The main objective of the present study is to find out the status of Sikkim University towards e-learning. Here the investigator utilized percentage wise analysis for interpretation of data. The status of Sikkim University towards e-learning is analyzed with respect to the different items included in it.

4.1 Item No. 1. Do you think that the different mode of e-learning is an important tool for effective teaching at the University level?

The data pertaining to this item has been presented in Table 4.2

Table-4.2 Percentage wise analysis of item no. 1

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant	87	49.43%	50.57%	0%

Professors)				
Male Students	87	57.5%	37.9%	4.6%
Female Students	87	54%	46%	0%
Administrators	7	43%	57%	0
Total	268	53.4%	45.1%	1.5%

The above table no. 4.2, Item No. 1 indicates that out of 87 H.O.Ds & Assistant Professors, 49.43% responded to Always, 50.57% responded to Sometimes and 0% responded to Never on the statement- *Do you think that the different mode of e-learning is an important tool for effective teaching at University level?*

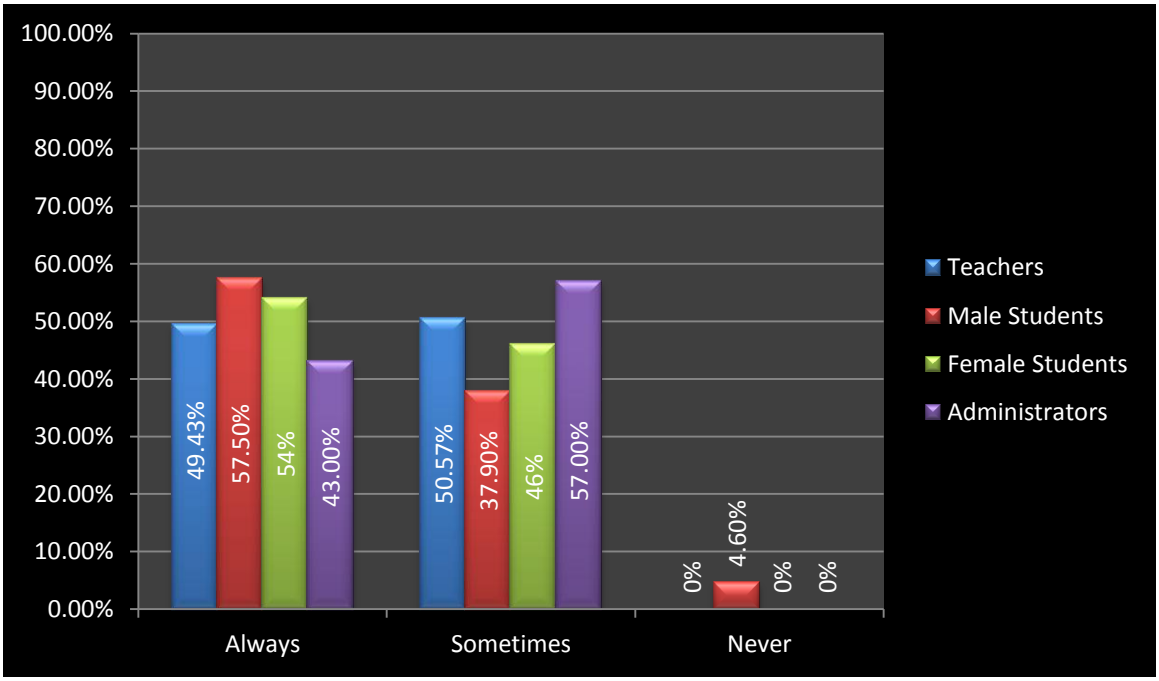
Out of 87 Male Students 57.5% responded to Always, 37.9% responded to Sometimes and 4.6% responded to Never and Out of 87 Female Students 54% responded to Always, 46% responded to Sometimes and 0% responded to Never on the statement- *Do you think that the different mode of e-learning is an important tool for effective teaching at University level?*

Out of 7 Administrators 43% responded to Always, 57% responded to Sometimes and 0% responded to Never on the statement- *Do you think that the different mode of e-learning is an important tool for effective teaching at University level?*

Therefore, out of 268 Teachers, Students and Administrators 53.4% responded to Always, 45.1% responded to Sometimes and 1.5% responded to Never on the statement - Do you think that the different mode of e-learning is an important tool for effective teaching at University level?

Figure- 1

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 1: Do you think that the different mode of e-learning is an important tool for effective teaching at University level?



4.2 Item No. 2. Do you have access to computers in your department?

The data pertaining to this item has been presented in Table 4.3

Table-4.3 Percentage wise analysis of item no. 2

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant	87	81.61%	18.39%	0%

Professors)				
Male Students	87	38%	33.3%	28.7%
Female Students	87	24.14%	42.5%	33.33%
Administrators	7	71.43%	28.6%	0%
Total	268	48.51%	31.34%	20.15%

The above table no. 4.3, Item No. 2 indicates that out of 87 H.O.Ds & Assistant Professors, 81.61% responded to Always, 18.39% responded to Sometimes and 0% responded to Never on the statement- *Do you have access to computers in your department?*

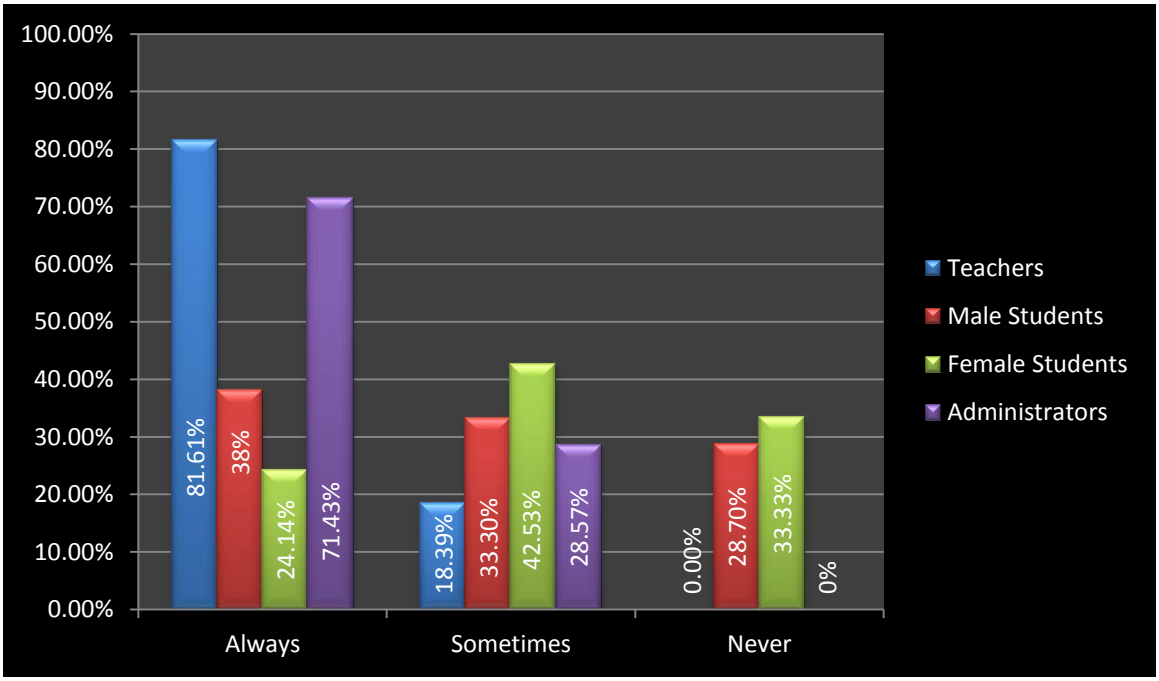
Out of 87 Male Students 38% responded to Always, 33.3% responded to Sometimes and 28.7% responded to Never and Out of 87 Female Students 24.14% responded to Always, 42.53% responded to Sometimes and 33.33% responded to Never on the statement- *Do you have access to computers in your department?*

Out of 7 Administrators 71.43% responded to Always, 28.57% responded to Sometimes and 0% responded to Never on the statement- *Do you have access to computers in your department?*

Therefore, out of 268 Teachers, Students and Administrators 48.51% responded to Always, 31.34% responded to Sometimes and 20.15% responded to Never on the statement- *Do you have access to computers in your department?*

Figure- 2

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 2: Do you have access to computers in your department?



4.3 Item No. 3. If yes, do you use the computer for developing the work, study etc?

The data pertaining to this item has been presented in Table 4.4

Table-4.4 Percentage wise analysis of item no. 3

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	69%	31%	0%

Male Students	87	39.1%	40.2%	20.7%
Female Students	87	22%	49%	29%
Administrators	7	86%	14%	0%
Total	268	44.4%	39.6%	16%

The above table no. 4.4, Item No. 3 indicates that out of 87 H.O.Ds & Assistant Professors, 69% responded to Always, 39% responded to Sometimes and 0% responded to Never on the statement- *If yes, do you use the computer for developing the work, study etc?*

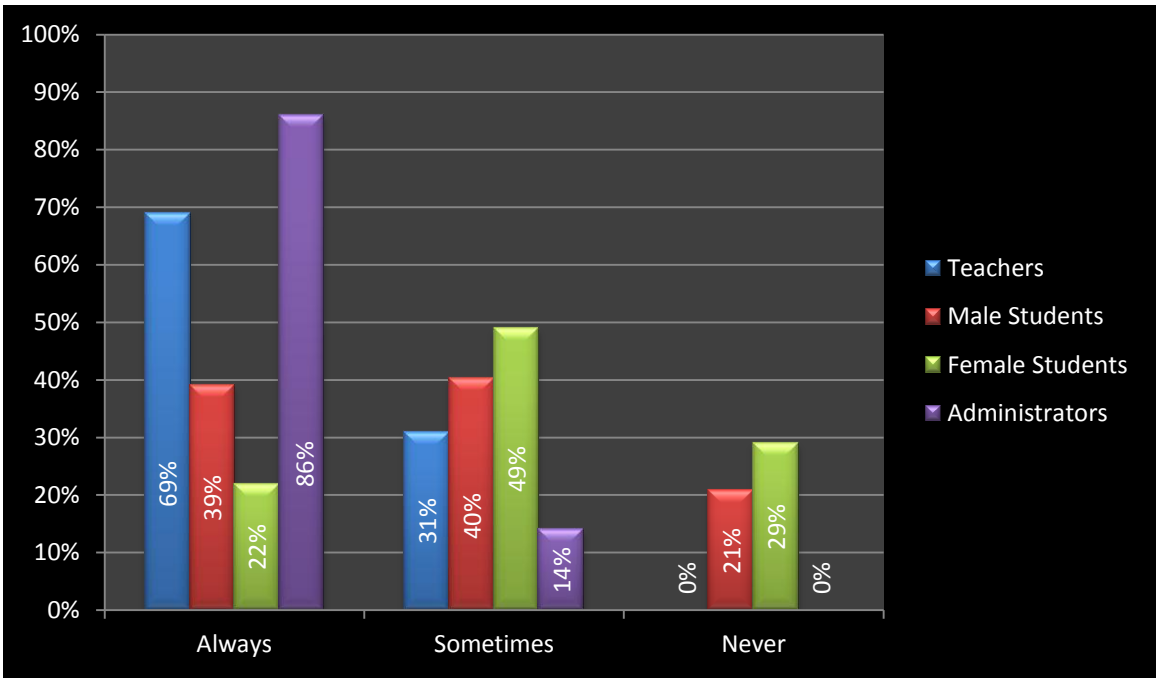
Out of 87 Male Students 39.1% responded to Always, 40.2% responded to Sometimes and 20.7% responded to Never and Out of 87 Female Students 22% responded to Always, 49% responded to Sometimes and 29% responded to Never on the statement- *If yes, do you use the computer for developing the work, study etc?*

Out of 7 Administrators 86% responded to Always, 14% responded to Sometimes and 0% responded to Never on the statement- *If yes, do you use the computer for developing the work, study etc?*

Therefore, out of 268 Teachers, Students and Administrators 44.4% *responded to Always, 39.6% responded to Sometimes and* 16% *responded to Never* on the statement- *If yes, do you use the computer for developing the work, study etc?*

Figure- 3

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 3: If yes, do you use the computer for developing your work, study etc?



4.4 Item No. 4. Do you have access to internet in your department?

The data pertaining to this item has been presented in Table 4.5

Table-4.5 Percentage wise analysis of item no. 4

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	57.5%	42.5%	0%
Male Students	87	69%	26.4%	4.6%
Female Students	87	77%	20.7%	2.3%
Administrators	7	71.4%	28.6%	0%
Total	268	67.9%	29.9%	2.2%

The above table no. 4.5, Item No. 4 indicates that out of 87 H.O.Ds & Assistant Professors, 57.5% responded to Always, 42.5% responded to Sometimes and 0% responded to Never on the statement- *Do you have access to internet in your department?*

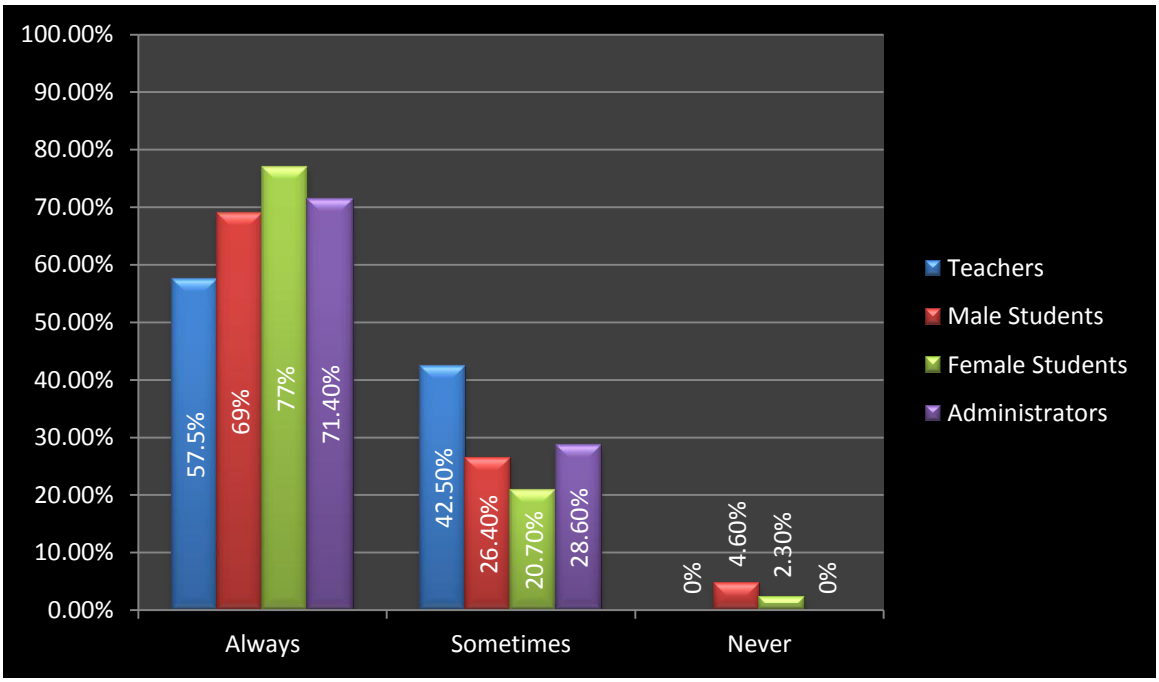
Out of 87 Male Students 69% responded to Always, 26.4% responded to Sometimes and 4.6% responded to Never and Out of 87 Female Students 77% responded to Always, 20.7% responded to Sometimes and 2.3% responded to Never on the statement- *Do you have access to internet in your department?*

Out of 7 Administrators 71.4% responded to Always, 28.6% responded to Sometimes and 0% responded to Never on the statement- *Do you have access to internet in your department?*

Therefore, out of 268 Teachers, Students and Administrators 67.9*% responded to Always,* 29.9*% responded to Sometimes and* 2.2*% responded to Never* on the statement- *Do you have access to internet in your department?*

Figure- 4

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 4: Do you have access to internet in your department?



4.5 Item No. 5. Does the University library provide access to e-journals, e-books etc?

The data pertaining to this item has been presented in Table 4.6

Table-4.6 Percentage wise analysis of item no. 5

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	63.2%	34.5%	2.3%
Male Students	87	49.5%	39%	11.5%
Female Students	87	57.5%	34.5%	8%
Administrators	7	100%	0%	0%
Total	268	57.8%	35.1%	7.1%

The above table no. 4.6, Item No. 5 indicates that out of 87 H.O.Ds & Assistant Professors, 63.2% responded to Always, 34.5% responded to Sometimes and 2.3% responded to Never on the statement- *Does the University library provide access to e-journals, e-books etc?*

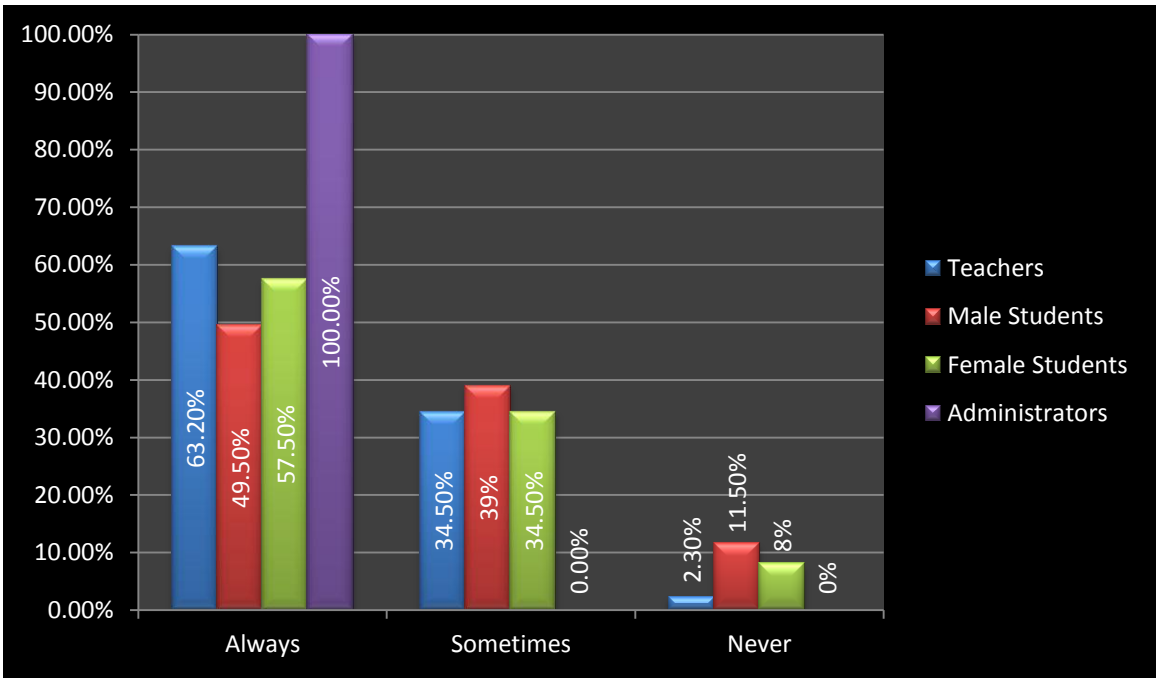
Out of 87 Male Students 49.5% responded to Always, 39% responded to Sometimes and 11.5% responded to Never and Out of 87 Female Students 57.5% responded to Always, 34.5% responded to Sometimes and 8% responded to Never on the statement- *Does the University library provide access to e-journals, e-books etc?*

Out of 7 Administrators 100% responded to Always, 0% responded to Sometimes and 0% responded to Never on the statement- *Does the University library provide access to e-journals, e-books etc?*

Therefore, out of 268 Teachers, Students and Administrators 57.8*% responded to Always,* 35.1*% responded to Sometimes and* 7.1*% responded to Never* on the statement- *Does the University library provide access to e-journals, e-books etc?*

Figure- 5

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 5: Does the University library provide access to e-journals, e-books etc?



4.6 Item No. 6. Does the University provide smart classes in the department?

The data pertaining to this item has been presented in Table 4.7

Table-4.7 Percentage wise analysis of item no. 6

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	10.3%	41.4%	48.3%
Male Students	87	13.8%	46%	40.2%
Female Students	87	11.5%	50.6%	37.9%
Administrators	7	0%	57.1%	42.9%
Total	268	11.6%	46.3%	42.1%

The above table no. 4.7, Item No. 6 indicates that out of 87 H.O.Ds & Assistant Professors, 10.3% responded to Always, 41.4% responded to Sometimes and 48.3% responded to Never on the statement- *Does the University provide smart classes in the department?*

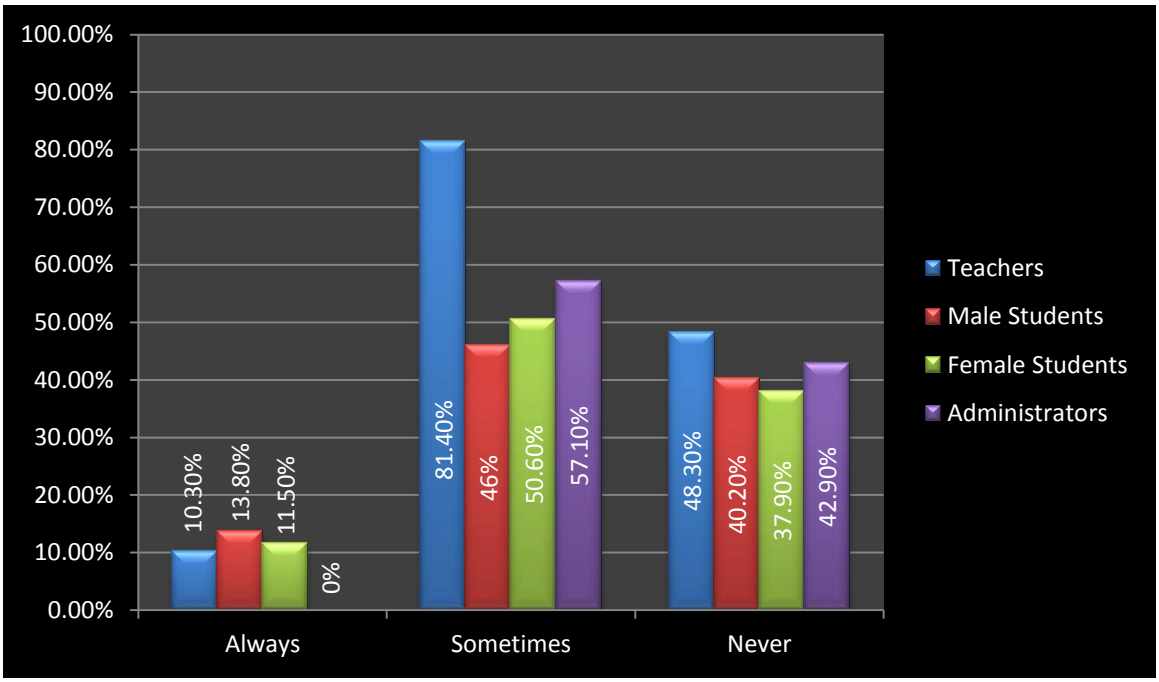
Out of 87 Male Students 13.8% responded to Always, 46% responded to Sometimes and 40.2% responded to Never and Out of 87 Female Students 11.5% responded to Always, 50.6% responded to Sometimes and 37.9% responded to Never on the statement- *Does the University provide smart classes in the department?*

Out of 7 Administrators 0% responded to Always, 57.1% responded to Sometimes and 42.9% responded to Never on the statement- *Does the University provide smart classes in the department?*

Therefore, out of 268 Teachers, Students and Administrators 11.6*% responded to Always,* 46.3*% responded to Sometimes and* 42.1*% responded to Never* on the statement- *Does the University provide smart classes in the department?*

Figure- 6

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 6: Does the University provide smart classes in the department?



4.7 Item No. 7. Does the University provide computer labs in the department?

The data pertaining to this item has been presented in Table 4.8

Table-4.8 Percentage wise analysis of item no. 7

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	43.7%	19.5%	36.8%
Male Students	87	43.7%	8%	48.3%
Female Students	87	36.8%	15%	48.2%
Administrators	7	42.9%	57.1%	0%
Total	268	41.4%	15.3%	43.3%

In the above table no. 4.8, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 43.7% responded to Always, 19.5% responded to Sometimes and 36.8% responded to Never on the statement- *Does the University provide computer labs in the department?*

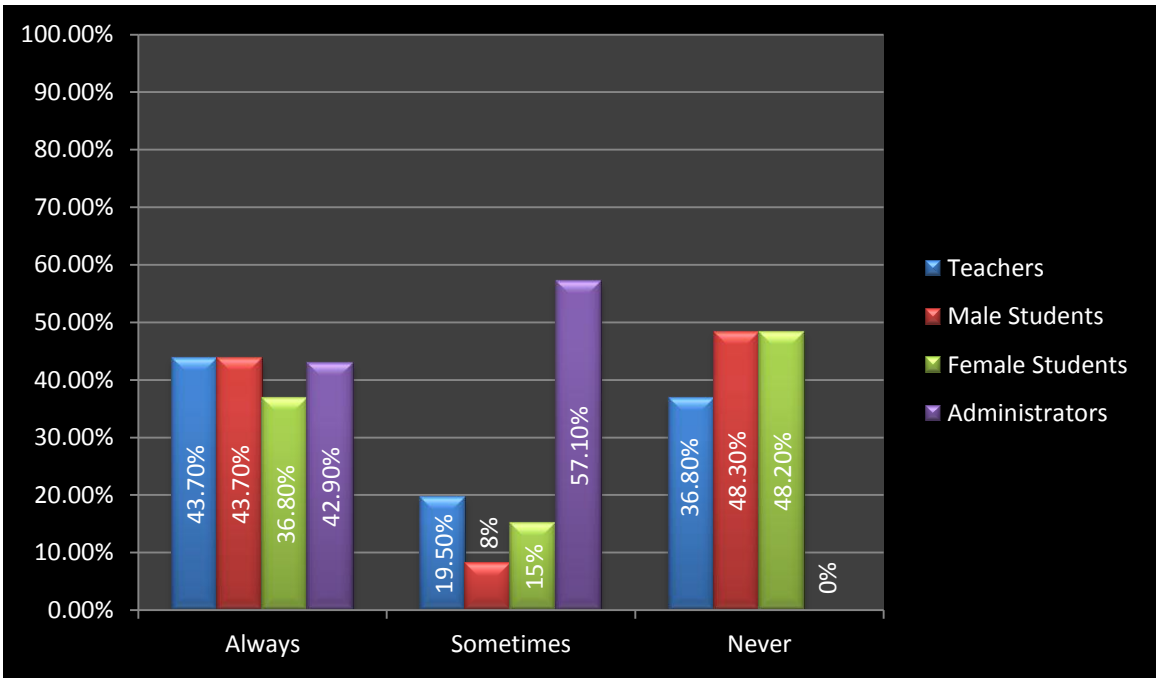
Out of 87 Male Students 43.7% responded to Always, 8% responded to Sometimes and 48.3% responded to Never and Out of 87 Female Students 36.8% responded to Always, 15% responded to Sometimes and 48.2% responded to Never on the statement- *Does the University provide computer labs in the department?*

Out of 7 Administrators 42.9% responded to Always, 57.1% responded to Sometimes and 0% responded to Never on the statement- *Does the University provide computer labs in the department?*

Therefore, out of 268 Teachers, Students and Administrators 41.4*% responded to Always,* 15.3*% responded to Sometimes and* 43.3*% responded to Never* on the statement- *Does the University provide computer labs in the department?*

Figure- 7

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 7: Does the University provide computer labs in the department?



4.8 Item No. 8. If yes, is every student allowed to use the computer labs?

The data pertaining to this item has been presented in Table 4.9

Table-4.9 Percentage wise analysis of item no. 8

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	44.8%	31%	24.2%
Male Students	87	40.2%	20.7%	39.1%
Female Students	87	42.5%	12.6%	44.9%
Administrators	7	100%	0%	0%
Total	268	44%	20.9%	35.1%

In the above table no. 4.9, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 44.8% responded to Always, 31% responded to Sometimes and 24.2% responded to Never on the statement- *If yes, is every student allowed to use the computer labs?*

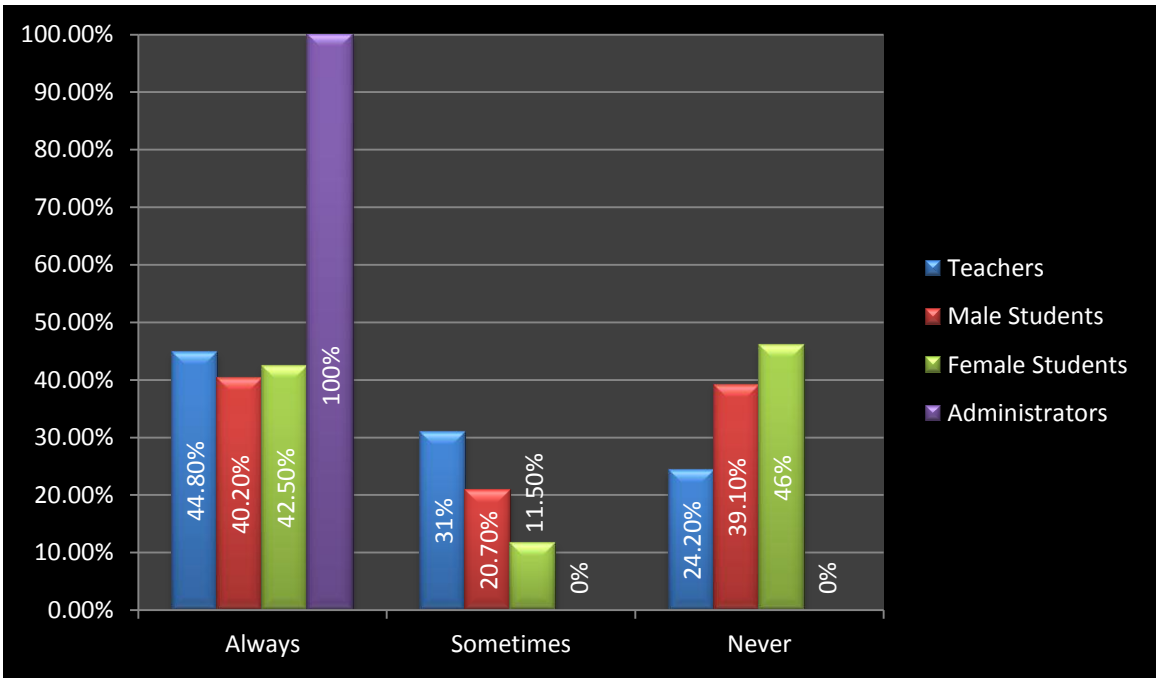
Out of 87 Male Students 40.2% responded to Always, 20.7% responded to Sometimes and 39.1% responded to Never and Out of 87 Female Students 42.5% responded to Always, 12.6% responded to Sometimes and 44.9% responded to Never on the statement- *If yes, is every student allowed to use the computer labs?*

Out of 7 Administrators 100% responded to Always, 0% responded to Sometimes and 0% responded to Never on the statement- *If yes, is every student allowed to use the computer labs?*

Therefore, out of 268 Teachers, Students and Administrators 44*% responded to Always,* 20.9*% responded to Sometimes and* 35.1*% responded to Never* on the statement- *If yes, is every student allowed to use the computer labs?*

Figure- 8

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 8: If yes, is every students allowed to use the computer labs?



4.9 Item No. 9. Do you give your presentation on PPT?

The data pertaining to this item has been presented in Table 4.10

Table-4.10 Percentage wise analysis of item no. 9

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	27.6%	66.7%	5.7%
Male Students	87	34.5%	51.7%	13.8%
Female Students	87	29.9%	58.6%	11.5%
Administrators	7	28.6%	71.4%	0%
Total	268	30.6%	59.3%	10.1%

In the above table no. 4.10, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 27.6% responded to Always, 66.7% responded to Sometimes and 5.7% responded to Never on the statement- *Do you give your presentation on PPT?*

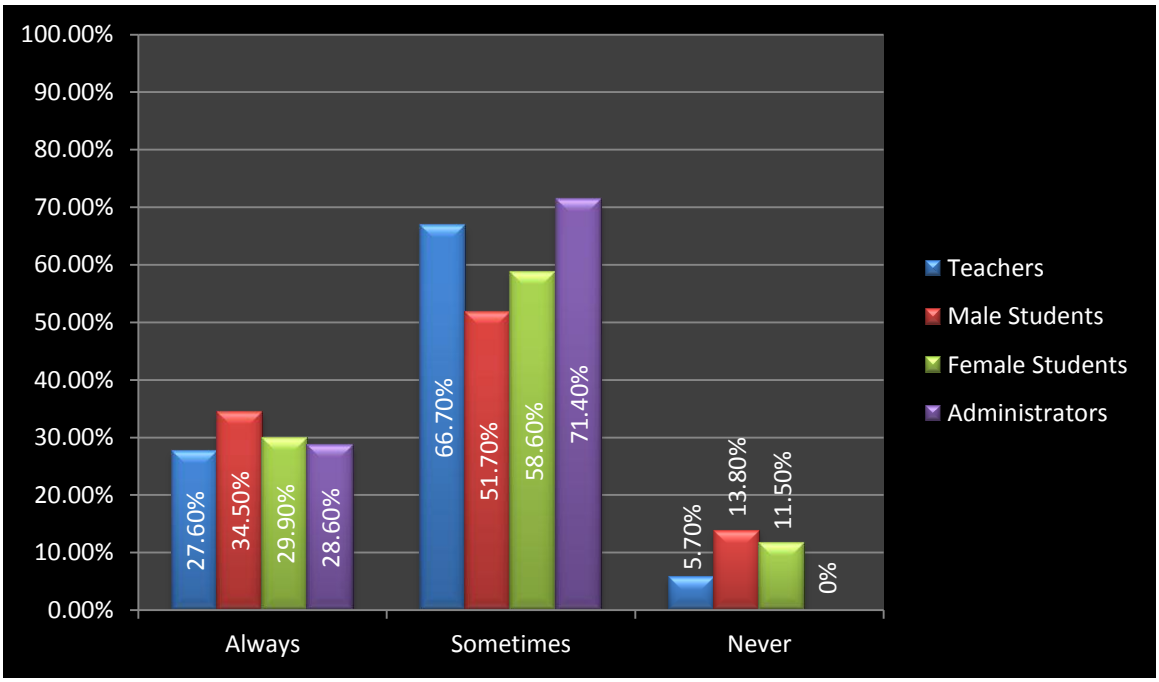
Out of 87 Male Students 34.5% responded to Always, 51.7% responded to Sometimes and 13.8% responded to Never and Out of 87 Female Students 29.9% responded to Always, 58.6% responded to Sometimes and 11.5% responded to Never on the statement- *Do you give your presentation on PPT?*

Out of 7 Administrators 28.62% responded to Always, 71.4% responded to Sometimes and 0% responded to Never on the statement- *Do you give your presentation on PPT?*

Therefore, out of 268 Teachers, Students and Administrators 30.6*% responded to Always,* 59.3*% responded to Sometimes and* 10.1*% responded to Never* on the statement- *Do you give your presentation on PPT?*

Figure- 9

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 9: Do you give your presentation on PPT?



4.10 Item No. 10. Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?

The data pertaining to this item has been presented in Table 4.11

Table-4.11 Percentage wise analysis of item no. 10

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	47.1%	48.3%	4.6%
Male Students	87	31%	51.7%	17.3%
Female Students	87	26.4%	66.7%	6.9%
Administrators	7	100%	0%	0%
Total	268	37%	54%	9%

In the above table no. 4.11, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 47.1% responded to Always, 48.3% responded to Sometimes and 4.6% responded to Never on the statement- *Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?*

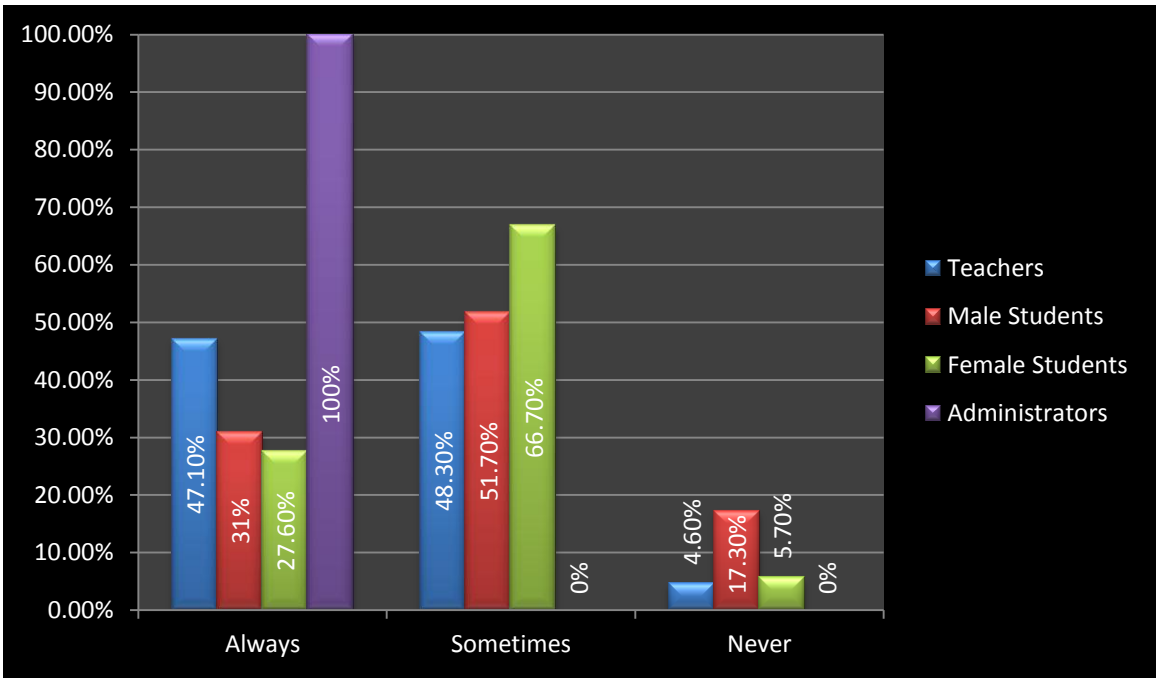
Out of 87 Male Students 31% responded to Always, 51.7% responded to Sometimes and 17.3% responded to Never and Out of 87 Female Students 26.4% responded to Always, 66.7% responded to Sometimes and 6.9% responded to Never on the statement- *Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?*

Out of 7 Administrators 100% responded to Always, 0% responded to Sometimes and 0% responded to Never on the statement- *Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?*

Therefore, out of 268 Teachers, Students and Administrators 37*% responded to Always,* 54*% responded to Sometimes and* 9*% responded to never* on the statement- *Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?*

Figure- 10

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 10: Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?



4.11 Item No. 11. How prepared do you feel you are to use the e-learning facilities such as computers, projectors, e-library etc?

The data pertaining to this item has been presented in Table 4.12

Table-4.12 Percentage wise analysis of item no. 11

Category	Number	Very much Prepared%	Somewhat Prepared%	Not Prepared%
Teachers (H.O.Ds & Assistant Professors)	87	55.2%	41.4%	3.4%
Male Students	87	26.5%	63.2%	10.3%
Female Students	87	15%	72.4%	12.6%
Administrators	7	42.9%	57.1%	0%
Total	268	32.5%	59%	8.5%

In the above table no. 4.12, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 55.2% responded to Very much prepared, 41.4% responded to Somewhat prepared and 3.4% responded to Not prepared on the statement- *How prepared do you feel you are to use the e-learning facilities such as computers, projectors, e-library etc?*

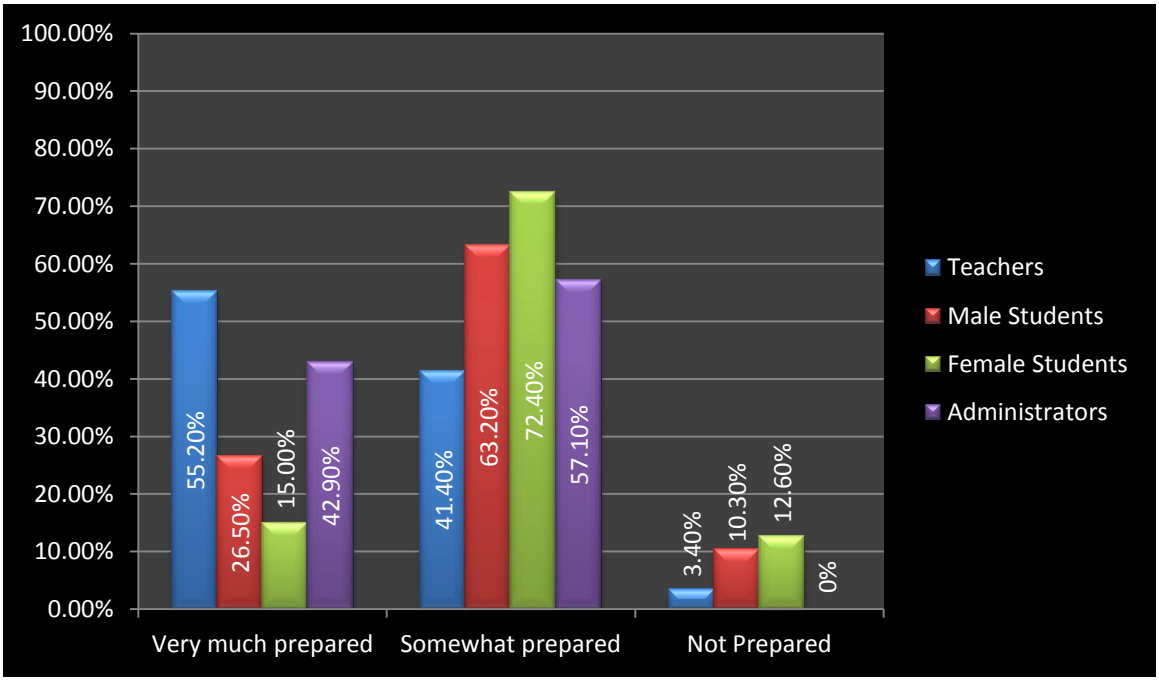
Out of 87 Male Students 26.5% responded to Very much prepared, 63.2% responded to Somewhat prepared and 10.3% responded to Not prepared and Out of 87 Female Students 15% responded to Very much prepared, 72.4% responded to Somewhat prepared and 12.6% responded to Not prepared on the statement- *How prepared do you feel you are to use the e-learning facilities such as computers, projectors, e-library etc?*

Out of 7 Administrators 42.9% responded to Very much prepared, 57.1% responded to Somewhat prepared and 0% responded to Not prepared on the statement- *How prepared do you feel you are to use the e-learning facilities such as computers, projectors, e-library etc?*

Therefore, out of 268 Teachers, Students and Administrators 32.5*% responded to Very much prepared,* 59*% responded to Somewhat prepared and* 8.5*% responded to Not prepared* on the statement- *How prepared do you feel you are to use the e-learning facilities such as computers, projectors, e-library etc?*

Figure- 11

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 11: How prepared do you feel you are to use the e-learning platform provided at your university?



4.12 Item No. 12. Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?

The data pertaining to this item has been presented in Table 4.13

Table-4.13 Percentage wise analysis of item no. 12

Category	Number	Very much Satisfied %	Satisfied %	Not Satisfied %
Teachers (H.O.Ds & Assistant	87	12.7%	67.8%	19.5%

Professors)				
Male Students	87	5.7%	49.5%	44.8%
Female Students	87	9.2%	63.2%	27.6%
Administrators	7	42.9%	57.1%	0%
Total	268	10.1%	60.1%	29.8%

In the above table no. 4.12, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 12.7% responded to Very much Satisfied, 67.8% responded to Satisfied and 19.5% responded to Not Satisfied on the statement- *Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?*

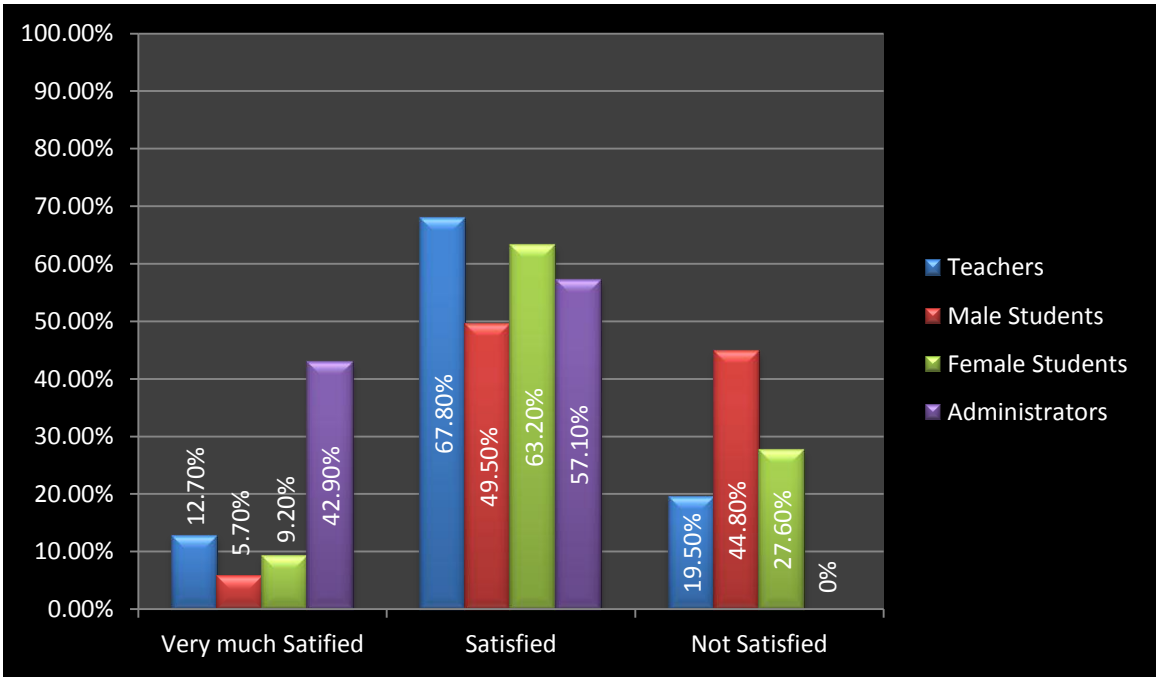
Out of 87 Male Students 5.7% responded to Very much Satisfied, 49.5% responded to Satisfied and 44.8% responded to Not Satisfied and Out of 87 Female Students 9.2% responded to Very much Satisfied, 63.2% responded to Satisfied and 27.6% responded to Not Satisfied on the statement- *Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?*

Out of 7 Administrators 42.9% responded to Very much Satisfied, 57.1% responded to Satisfied and 0% responded to Not Satisfied on the statement- *Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?*

Therefore, out of 268 Teachers, Students and Administrators 10.1*% responded to Very much Satisfied,* 60.1*% responded to Satisfied and* 29.8*% responded to Not Satisfied* on the statement- *Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?*

Figure- 12

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 12: Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?



4.13 Item No. 13. Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?

The data pertaining to this item has been presented in Table 4.14

Table-4.14 Percentage wise analysis of item no. 13

Category	Number	Very Good Status %	Good Status %	Not Satisfied Status%
Teachers (H.O.Ds & Assistant Professors)	87	8%	69%	23%
Male Students	87	10.3%	50.6%	39.1%
Female Students	87	3.4%	61%	35.6%
Administrators	7	28.6%	71.4%	0%
Total	268	7.8%	60.5%	31.7%

In the above table no. 4.13, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 8% responded to Very good status, 69% responded to Good status and 23% responded to Not satisfied status on the statement- *Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?*

Out of 87 Male Students 10.3% responded to Very good status, 50.6% responded to Good status and 39.1% responded to Not satisfied status and Out of 87 Female Students 3.4% responded to Very good status, 61% responded to Good status and 35.6% responded to Not satisfied status on the statement- *Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?*

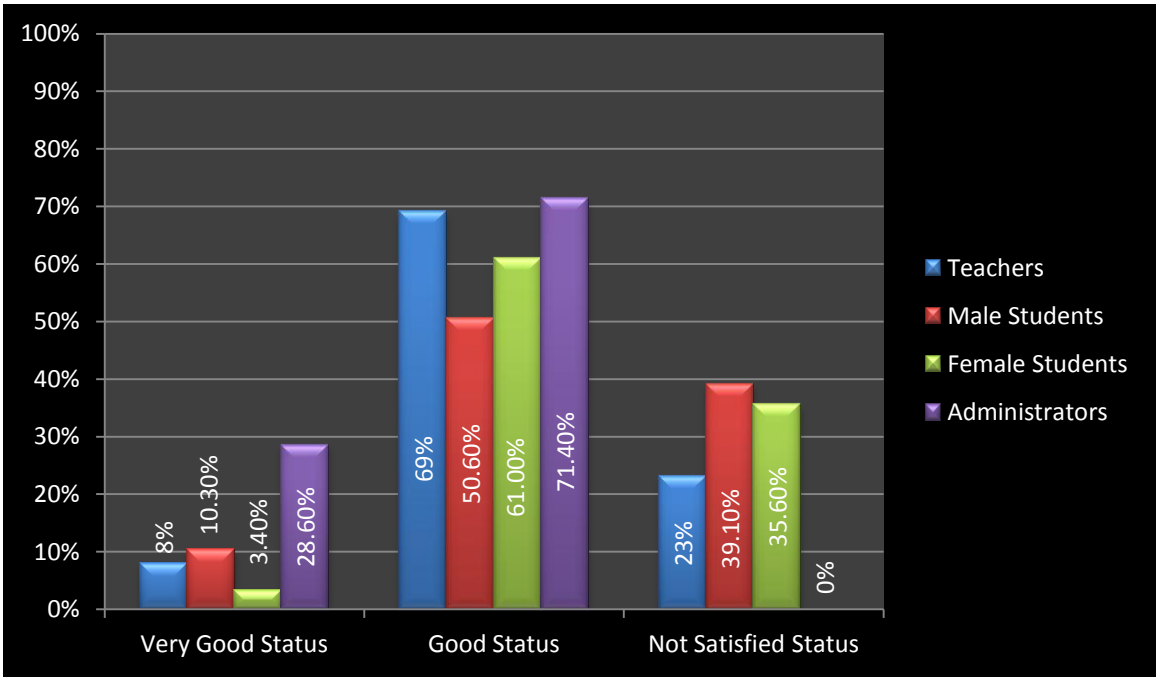
Out of 7 Administrators 28.6% responded to Very good status, 71.4% responded to Good status and 0% responded to Not satisfied status on the statement- *Do you think*

that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?

Therefore, out of 268 Teachers, Students and Administrators 7.8% *responded to Very good status,* 60.5% *responded to Good status and* 31.7% *responded to Not satisfied status* on the statement- *Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?*

Figure- 13

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 13: Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?



4.14 Item No. 14. What is your level of expertise in using computers, internets?

The data pertaining to this item has been presented in Table 4.15

Table-4.15 Percentage wise analysis of item no. 14

Category	Number	Very Good%	Good %	Not Good %
Teachers (H.O.Ds & Assistant Professors)	87	43.7%	51.7%	4.6%
Male Students	87	25.3%	65.5%	9.2%
Female Students	87	9.2%	86.2%	4.6%
Administrators	7	42.9%	57.1%	0%
Total	268	26.5%	67.5%	6%

In the above table no. 4.14, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 43.7% responded to Very Good, 51.7% responded to Good and 4.6% responded to Not Good on the statement- *What is your level of expertise in using computers, internets?*

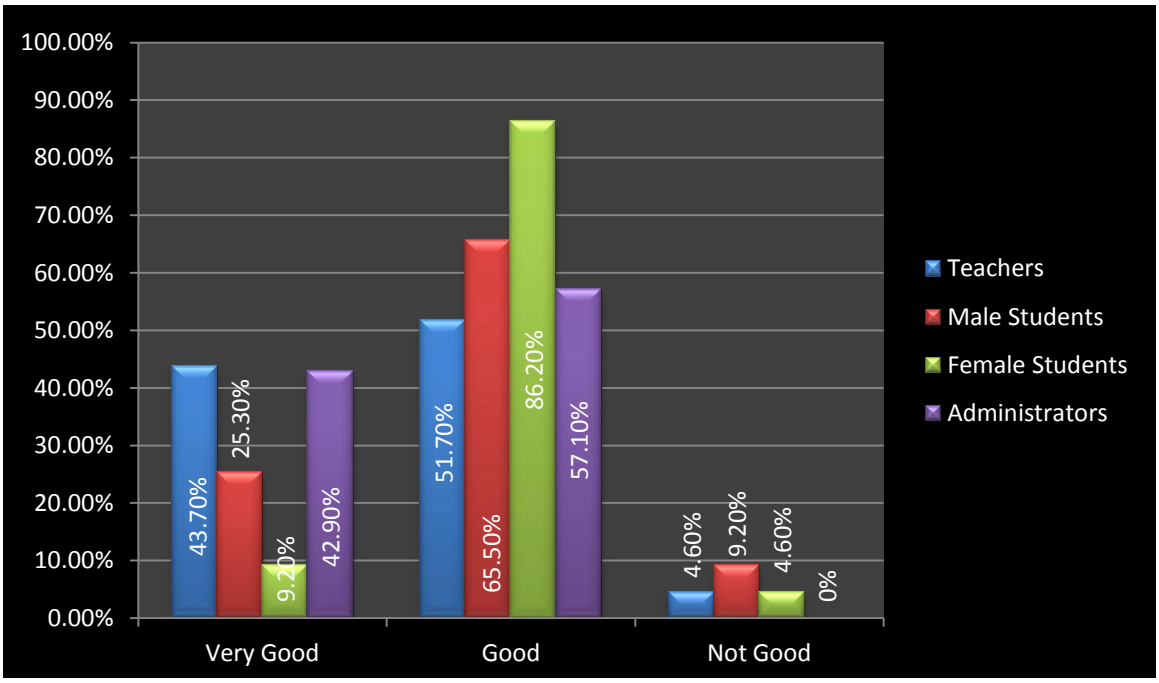
Out of 87 Male Students 25.3% responded to Very Good, 65.5% responded to Good and 9.2% responded to Not Good and Out of 87 Female Students 9.2% responded to Very Good, 86.2% responded to Good and 4.6% responded to Not Good on the statement- *What is your level of expertise in using computers, internets?*

Out of 7 Administrators 42.9% responded to Very Good, 57.1% responded to Good and 0% responded to Not Good on the statement- *What is your level of expertise in using computers, internets?*

Therefore, out of 268 Teachers, Students and Administrators 26.5% *responded to Very Good,* 67.5% *responded to Good and* 6% *responded to Not Good* on the statement- *What is your level of expertise in using computers, internets?*

Figure- 14

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 14: What is your level of expertise in using computers, internets?



4.15 Item No. 15. Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?

The data pertaining to this item has been presented in Table 4.16

Table-4.16 Percentage wise analysis of item no. 15

Category	Number	Aware %	Somewhat Aware %	Not Aware %
Teachers (H.O.Ds & Assistant Professors)	87	44.8%	43.7%	11.5%
Male Students	87	36.8%	54%	9.2%
Female Students	87	50.6%	47%	2.4%
Administrators	7	71.4%	28.6%	0%
Total	268	44.8%	47.8%	7.4%

In the above table no. 4.15, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 44.8% responded to Aware 43.7% responded to Somewhat Aware and 11.5% responded to Not Aware on the statement- *Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?*

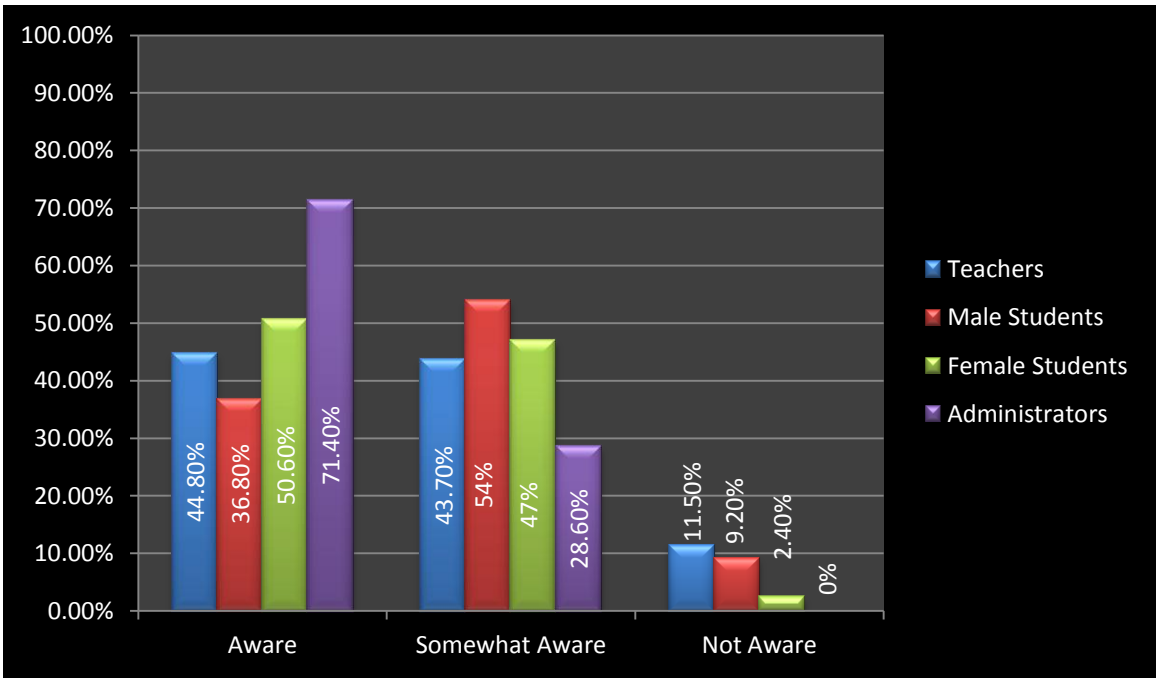
Out of 87 Male Students 36.8% responded to Aware, 54% responded to Somewhat Aware and 9.2% responded to Not Aware and Out of 87 Female Students 50.6% responded to Aware, 47% responded to Somewhat Aware and 2.4% responded to Not Aware on the statement- *Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?*

Out of 7 Administrators 71.4% responded to Aware, 28.6% responded to Somewhat Aware and 0% responded to Not Aware on the statement- *Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?*

Therefore, out of 268 Teachers, Students and Administrators 44.8% responded to Aware, 47.8% responded to Somewhat Aware and 7.4% responded to Not Aware on the statement- *Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?*

Figure- 15

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 15: Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?



4.16 Item No. 16. Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?

The data pertaining to this item has been presented in Table 4.17

Table-4.17 Percentage wise analysis of item no. 16

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	13.8%	62.1%	24.1%
Male Students	87	9.2%	67.8%	23%
Female Students	87	11.5%	55.2%	34.5%
Administrators	7	28.6%	71.4%	0%
Total	268	11.6%	61.9%	26.4%

In the above table no. 4.16, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 13.8% responded to Always, 13.8% responded to Sometimes and 24.1% responded to Never on the statement- *Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?*

Out of 87 Male Students 9.2% responded to Always, 67.8% responded to Sometimes and 23% responded to Never and Out of 87 Female Students 11.5% responded to Always, 55.2% responded to Sometimes and 34.5% responded to Never on the statement- *Is the University giving orientation programs on different technologies of*

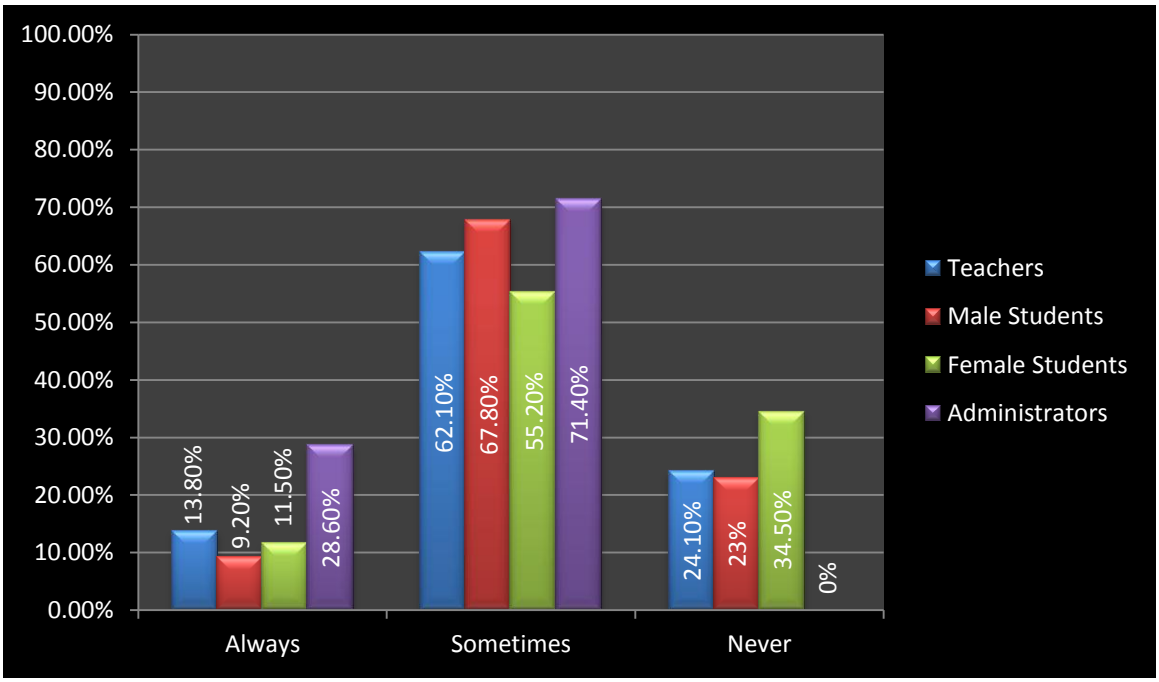
e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?

Out of 7 Administrators 28.6% responded to Always, 71.4% responded to Sometimes and 0% responded to Never on the statement- *Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?*

Therefore, out of 268 Teachers, Students and Administrators 11.2*% responded to Always,* 61.9*% responded to Sometimes and* 26.9*% responded to Never* on the statement- *Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?*

Figure- 16

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 16: Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?



4.17 Item No. 17. Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?

The data pertaining to this item has been presented in Table 4.18

Table-4.18 Percentage wise analysis of item no. 17

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	4.6%	65.5%	29.9%
Male Students	87	3.4%	55.2%	41.4%
Female Students	87	2.2%	40.3%	57.5%

Administrators	7	42.9%	42.9%	14.2%
Total	268	4.5%	53.4%	42.1%

In the above table no. 4.17, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 4.6% responded to Always, 65.5% responded to Sometimes and 29.9% responded to Never on the statement- *Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?*

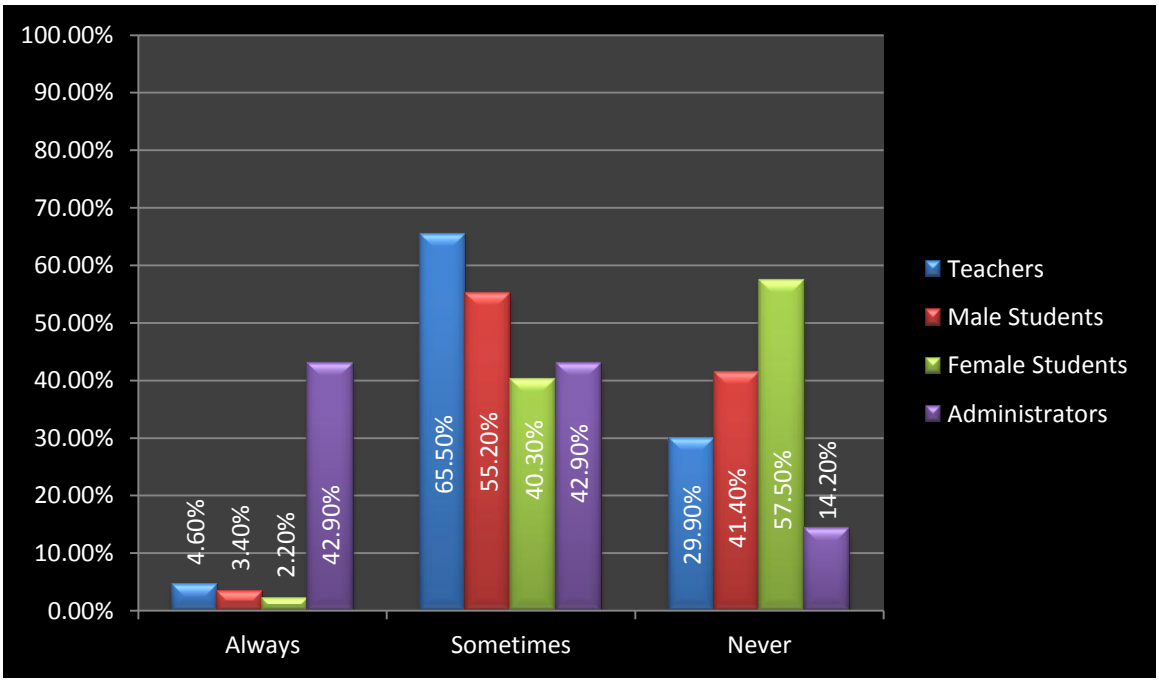
Out of 87 Male Students 3.4% responded to Always, 55.2% responded to Sometimes and 41.4% responded to Never and Out of 87 Female Students 2.2% responded to Always, 40.3% responded to Sometimes and 57.5% responded to Never on the statement- *Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?*

Out of 7 Administrators 42.9% responded to Always, 42.9% responded to Sometimes and 41.2% responded to Never on the statement- *Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?*

Therefore, out of 268 Teachers, Students and Administrators 4.5*% responded to Always,* 53.4*% responded to Sometimes and* 42.1*% responded to Never* on the statement- *Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?*

Figure- 17

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 17: Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?



4.18 Item No. 18. Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?

The data pertaining to this item has been presented in Table 4.19

Table-4.19 Percentage wise analysis of item no. 18

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	13.8%	77%	9.2%
Male Students	87	27.6%	65.5%	6.9%
Female Students	87	14.9%	79.4%	5.7%
Administrators	7	28.6%	71.4%	0%
Total	268	19%	73.9%	7.1%

In the above table no. 4.18, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 13.8% responded to Always, 77% responded to Sometimes and 9.2% responded to Never on the statement- *Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?*

Out of 87 Male Students 27.6% responded to Always, 65.5% responded to Sometimes and 6.9% responded to Never and Out of 87 Female Students 14.9% responded to Always, 79.4% responded to Sometimes and 5.7% responded to Never on the statement- *Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?*

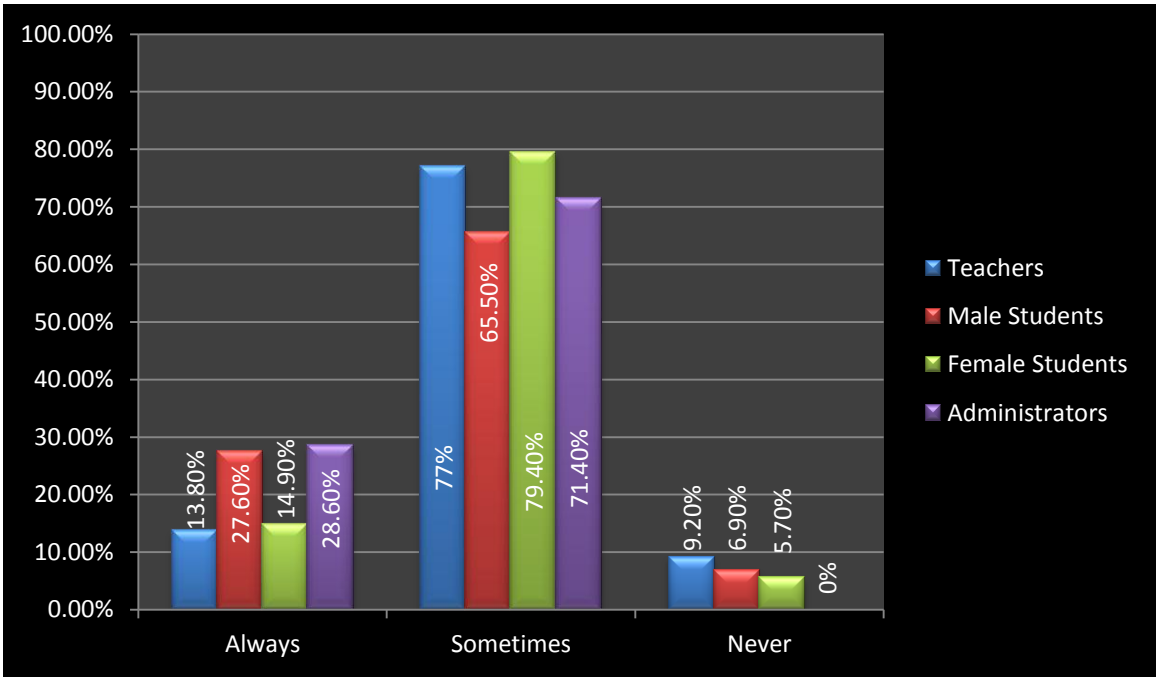
Out of 7 Administrators 28.6% responded to Always, 71.4% responded to Sometimes and 0% responded to Never on the statement- *Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?*

Therefore, out of 268 Teachers, Students and Administrators 19*% responded to Always,* 73.9*% responded to Sometimes and* 7.1*% responded to Never* on the statement-

Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?

Figure- 18

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 18: Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?



4.19 Item No. 19. Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?

The data pertaining to this item has been presented in Table 4.20

Table-4.20 Percentage wise analysis of item no. 19

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	9.2%	75.9%	14.9%
Male Students	87	8%	59.8%	32.2%
Female Students	87	10.3%	61%	28.7%
Administrators	7	42.9%	42.9%	14.2%
Total	268	10.1%	65%	25%

In the above table no. 4.19, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 9.2% responded to Always, 75.9% responded to Sometimes and 14.9% responded to Never on the statement- *Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?*

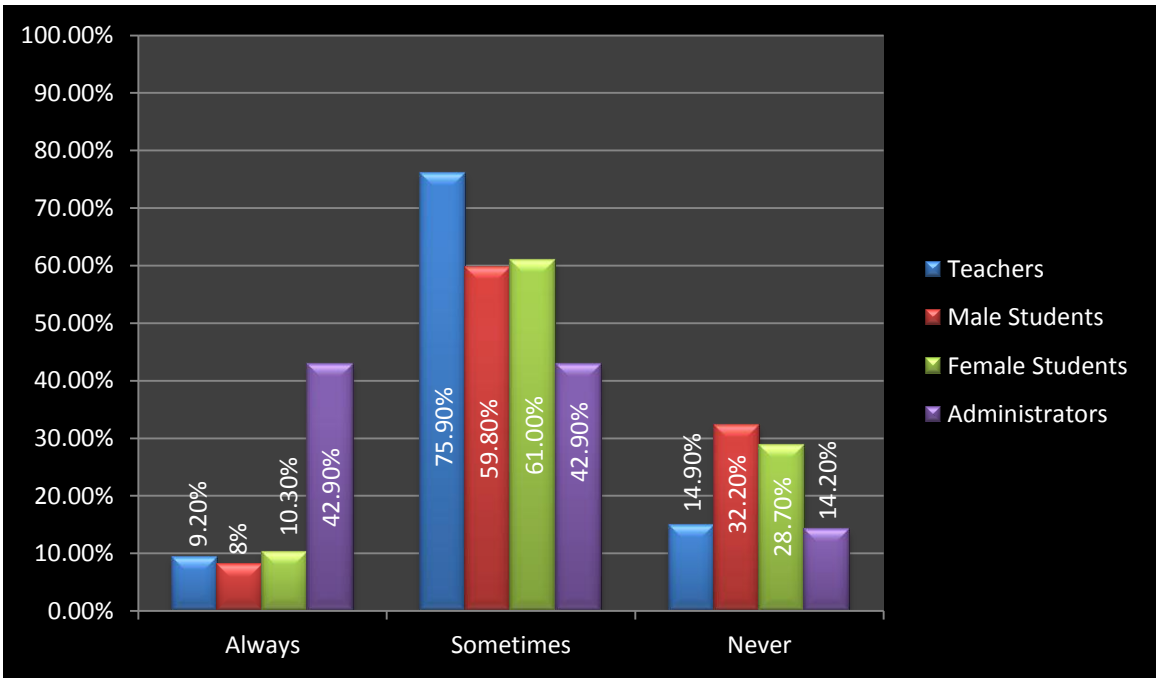
Out of 87 Male Students 8% responded to Always, 59.8% responded to Sometimes and 32.2% responded to Never and Out of 87 Female Students 10.3% responded to Always, 61% responded to Sometimes and 28.7% responded to Never on the statement- *Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?*

Out of 7 Administrators 42.9% responded to Always, 42.9% responded to Sometimes and 14.2% responded to Never on the statement- *Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?*

Therefore, out of 268 Teachers, Students and Administrators 10.1% *responded to Always,* 65% *responded to Sometimes and* 25% *responded to Never* on the statement- *Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?*

Figure- 19

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 19: Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?



4.20 Item No. 20. Do you think that learning becomes flexible with the use of e-learning?

The data pertaining to this item has been presented in Table 4.21

Table-4.21 Percentage wise analysis of item no. 20

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	36.8%	59.8%	3.4%
Male Students	87	46%	49.4%	4.6%
Female Students	87	46%	54%	0%
Administrators	7	14.3%	71.4%	14.3%
Total	268	42.2%	54.8%	3%

In the above table no. 4.21, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 36.8% responded to Always, 59.8% responded to Sometimes and 33.4% responded to Never on the statement- *Do you think that learning becomes flexible with the use of e-learning?*

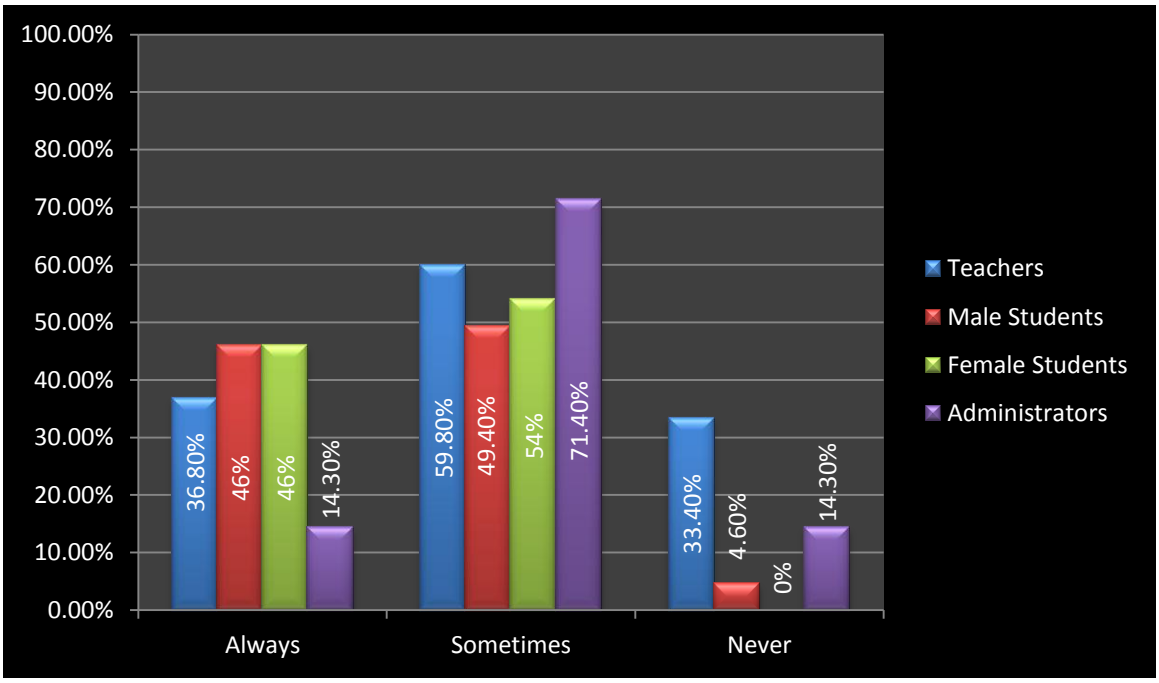
Out of 87 Male Students 46% responded to Always, 49.4% responded to Sometimes and 4.6% responded to Never and Out of 87 Female Students 46% responded to Always, 54% responded to Sometimes and 0% responded to Never on the statement- *Do you think that learning becomes flexible with the use of e-learning?*

Out of 7 Administrators 14.3% responded to Always, 71.4% responded to Sometimes and 14.3% responded to Never on the statement- *Do you think that learning becomes flexible with the use of e-learning?*

Therefore, out of 268 Teachers, Students and Administrators 42.2% *responded to Always,* 54.8% *responded to Sometimes and 3% responded to Never* on the statement- *Do you think that learning becomes flexible with the use of e-learning?*

Figure- 20

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 20: Do you think that learning becomes flexible with the use of e-learning?



4.21 Item No. 21. As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?

The data pertaining to this item has been presented in Table 4.22

Table-4.22 Percentage wise analysis of item no. 21

Category	Number	Highly Advanced University %	Advance University %	Not Advanced University %
Teachers (H.O.Ds & Assistant Professors)	87	13.8%	73.6%	12.6%
Male Students	87	18.4%	75.9%	5.7%
Female Students	87	21.8%	72.5%	5.7%
Administrators	7	0%	100%	0%
Total	268	17.5%	74.7%	7.8%

In the above table no. 4.22, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 13.8% responded to Highly Advanced University, 73.6% responded to Advanced University and 12.6% responded to Not Advanced University on the statement- *As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?*

Out of 87 Male Students 18.4% responded to Highly Advanced University, 75.9% responded to Advanced University and 5.7% responded to Not Advanced University and Out of 87 Female Students 21.8% responded to Highly Advanced University, 72.5% responded to Advanced University and 5.7% responded to Not

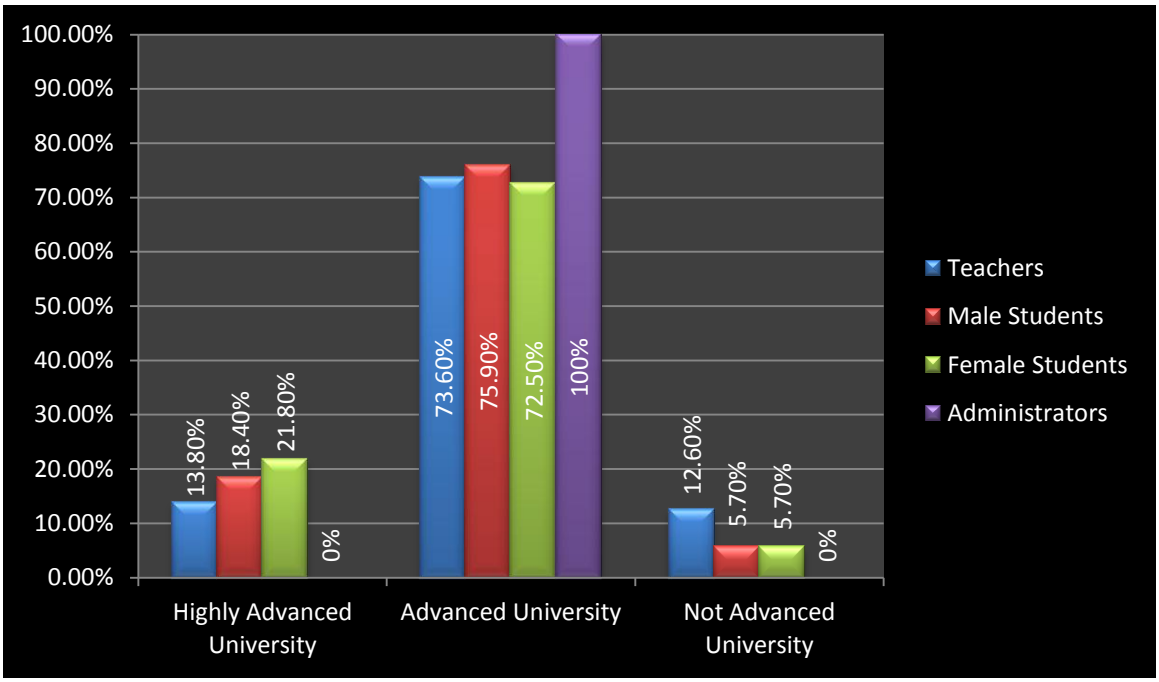
Advanced University on the statement- *As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?*

Out of 7 Administrators 0% responded to Highly Advanced University, 100% responded to Advanced University and 0% responded to Not Advanced University on the statement- *As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?*

Therefore, out of 268 Teachers, Students and Administrators 17.5*% responded to Highly Advanced University*, 74.7*% responded to Advanced University and* 7.8*% responded to Not Advanced University* on the statement- *As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?*

Figure- 21

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 21: As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?



4.22 Item No. 22. Does the university provide online or virtual classes related to some crucial topics?

The data pertaining to this item has been presented in Table 4.23

Table-4.23 Percentage wise analysis of item no. 22

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	2.3%	50.6%	47.1%
Male Students	87	6.9%	37.9%	55.2%
Female Students	87	3.4%	40.2%	56.4%
Administrators	7	0%	42.9%	57.1%
Total	268	4.5%	42.9%	52.6%

In the above table no. 4.23, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 2.3% responded to Always, 50.6% responded to Sometimes and 47.1% responded to Never on the statement- *Does the university provide online or virtual classes related to some crucial topics?*

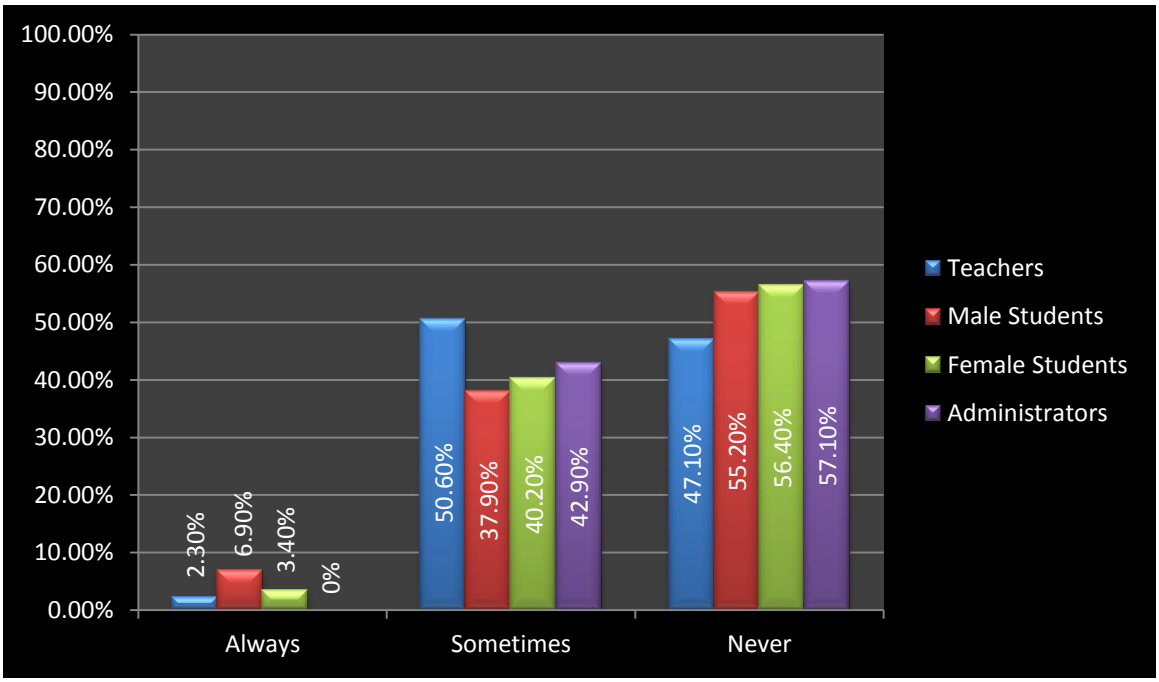
Out of 87 Male Students 6.9% responded to Always, 37.9% responded to Sometimes and 55.2% responded to Never and Out of 87 Female Students 3.4% responded to Always, 40.2% responded to Sometimes and 56.4% responded to Never on the statement- *Does the university provide online or virtual classes related to some crucial topics?*

Out of 7 Administrators 0% responded to Always, 42.9% responded to Sometimes and 57.1% responded to Never on the statement- *Does the university provide online or virtual classes related to some crucial topics?*

Therefore, out of 268 Teachers, Students and Administrators 4.5*% responded to Always,* 42.9*% responded to Sometimes and* 52.6*% responded to Never* on the statement- *Does the university provide online or virtual classes related to some crucial topics?*

Figure- 22

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 22: Does the university provide online or virtual classes related to some crucial topics?



4.23 Item No. 23. If yes, do you think that online classes is as effective as real time classes?

The data pertaining to this item has been presented in Table 4.24

Table-4.24 Percentage wise analysis of item no. 23

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	6.9%	65.5%	27.6%
Male Students	87	25.3%	44.8%	29.9%
Female Students	87	20.7%	52 %	28%
Administrators	7	0%	100%	0%
Total	268	17.2%	55.6%	27.2%

In the above table no. 4.24, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 6.9% responded to Always, 65.5% responded to Sometimes and 27.6% responded to Never on the statement- *If yes, do you think that online classes is as effective as real time classes?*

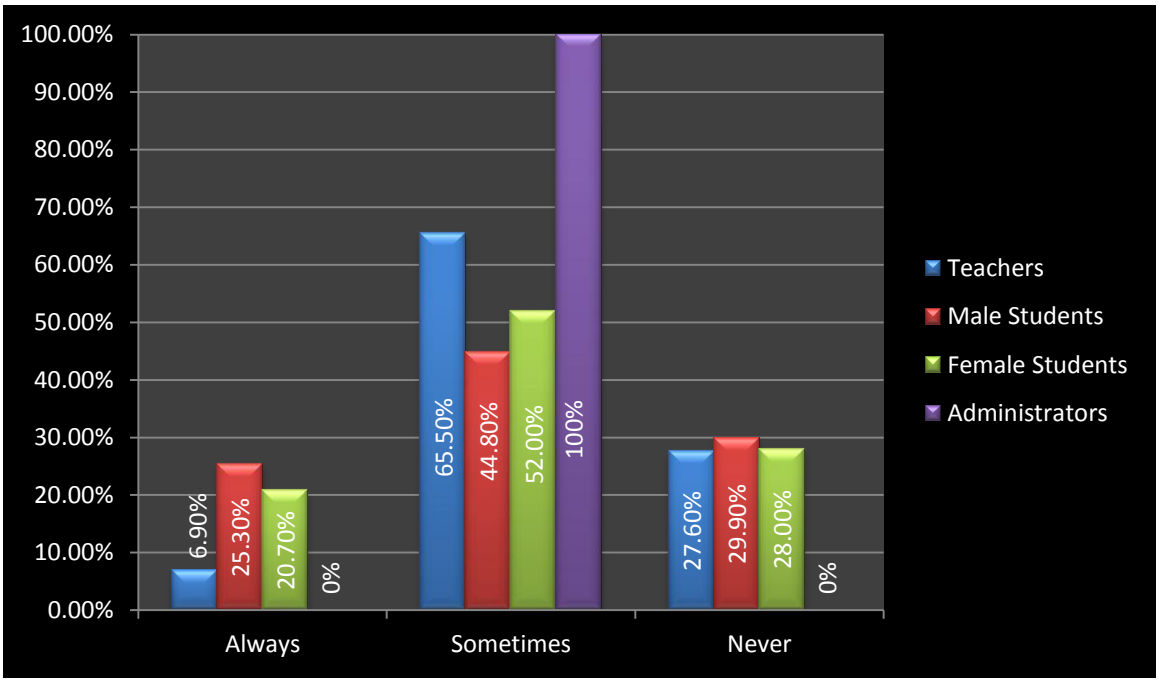
Out of 87 Male Students 25.3% responded to Always, 44.8% responded to Sometimes and 29.9% responded to Never and Out of 87 Female Students 20.7% responded to Always, 52% responded to Sometimes and 28% responded to Never on the statement- *If yes, do you think that online classes is as effective as real time classes?*

Out of 7 Administrators 0% responded to Always, 100% responded to Sometimes and 0% responded to Never on the statement- *If yes, do you think that online classes is as effective as real time classes?*

Therefore, out of 268 Teachers, Students and Administrators 17.2*% responded to Always,* 55.6*% responded to Sometimes and* 27.2*% responded to Never* on the statement- *If yes, do you think that online classes is as effective as real time classes?*

Figure- 23

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 23: If yes, do you think that online classes is as effective as real time classes?



4.24 Item No. 24. Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?

The data pertaining to this item has been presented in Table 4.25

Table-4.25 Percentage wise analysis of item no. 24

Category	Number	Very much Enough%	Enough %	Not Enough %
Teachers (H.O.Ds & Assistant Professors)	87	4.6%	46%	49.4%
Male Students	87	8%	34.5%	57.5%
Female Students	87	0%	34.5%	65.5%
Administrators	7	0%	100%	0%
Total	268	4%	40%	56%

In the above table no. 4.25, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 4.6% responded to Very much enough, 46% responded to Enough and 49.4% responded to Not enough on the statement- *Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?*

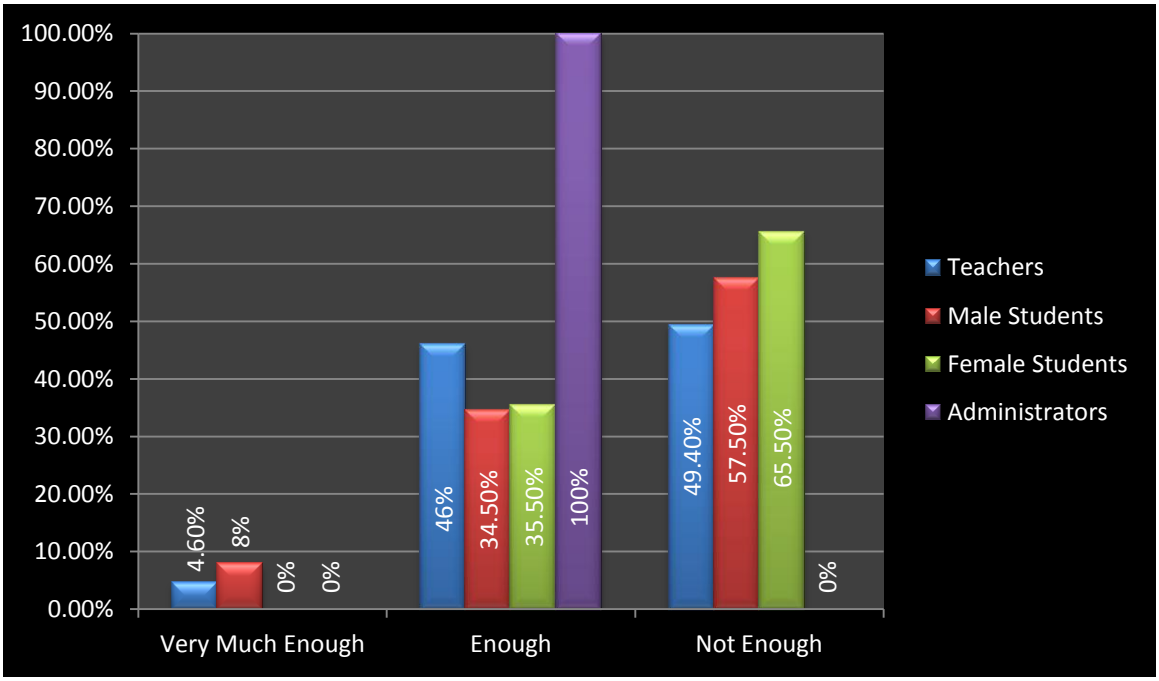
Out of 87 Male Students 8% responded to Very much enough, 34.5% responded to enough and 57.5% responded to Not enough and Out of 87 Female Students 0% responded to Very much enough, 35.5% responded to enough and 65.5% responded to Not enough on the statement- *Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?*

Out of 7 Administrators 0% responded to Always, 100% responded to Sometimes and 0% responded to Never on the statement- *Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?*

Therefore, out of 268 Teachers, Students and Administrators 4*% responded to Very much enough*, 40*% responded to enough and* 56*% responded to Not enough* on the statement- *Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?*

Figure- 24

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 24: Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?



4.25 Item No. 25. Are you satisfied with the e-journals and e-books that are provided in the University?

The data pertaining to this item has been presented in Table 4.26

Table-4.26 Percentage wise analysis of item no. 25

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant	87	21.8%	65.6%	12.6%

Professors)				
Male Students	87	8%	70.2%	21.8%
Female Students	87	9.2%	66.7%	24.1%
Administrators	7	100%	0%	0%
Total	268	15.3%	65.7%	19%

In the above table no. 4.26, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 21.8% responded to Always, 65.6% responded to Sometimes and 12.6% responded to Never on the statement- *Are you satisfied with the e-journals and e-books that are provided in the University?*

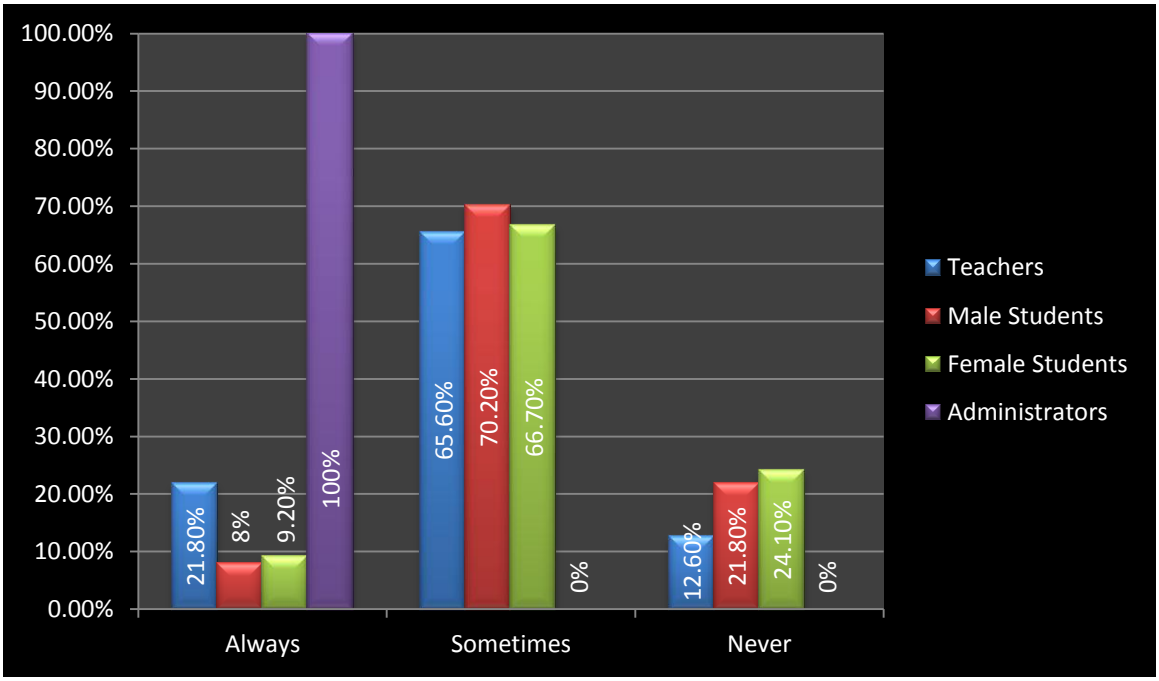
Out of 87 Male Students 8% responded to Always, 70.2% responded to Sometimes and 21.8% responded to Never and Out of 87 Female Students 9.2% responded to Always, 66.7% responded to Sometimes and 24.1% responded to Never on the statement- *Are you satisfied with the e-journals and e-books that are provided in the University?*

Out of 7 Administrators 100% responded to Always, 0% responded to Sometimes and 0% responded to Never on the statement- *Are you satisfied with the e-journals and e-books that are provided in the University?*

Therefore, out of 268 Teachers, Students and Administrators 15.3*% responded to Always,* 65.7*% responded to Sometimes and* 19*% responded to Never* on the statement- *Are you satisfied with the e-journals and e-books that are provided in the University?*

Figure- 25

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 25: Are you satisfied with the e-journals and e-books that are provided in the University?



4.26 Item No. 26. Do you think that the digital library is much more accessible than the traditional library?

The data pertaining to this item has been presented in Table 4.27

Table-4.27 Percentage wise analysis of item no. 26

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant	87	34.5%	52.9%	12.6%

Professors)				
Male Students	87	51.7%	40.3%	8%
Female Students	87	39.1%	60.9%	0%
Administrators	7	28.6%	71.4%	0%
Total	268	41.4%	51.9%	6.7%

In the above table no. 4.27, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 34.5% responded to Always, 52.9% responded to Sometimes and 12.6% responded to Never on the statement- *Do you think that the digital library is much more accessible than the traditional library?*

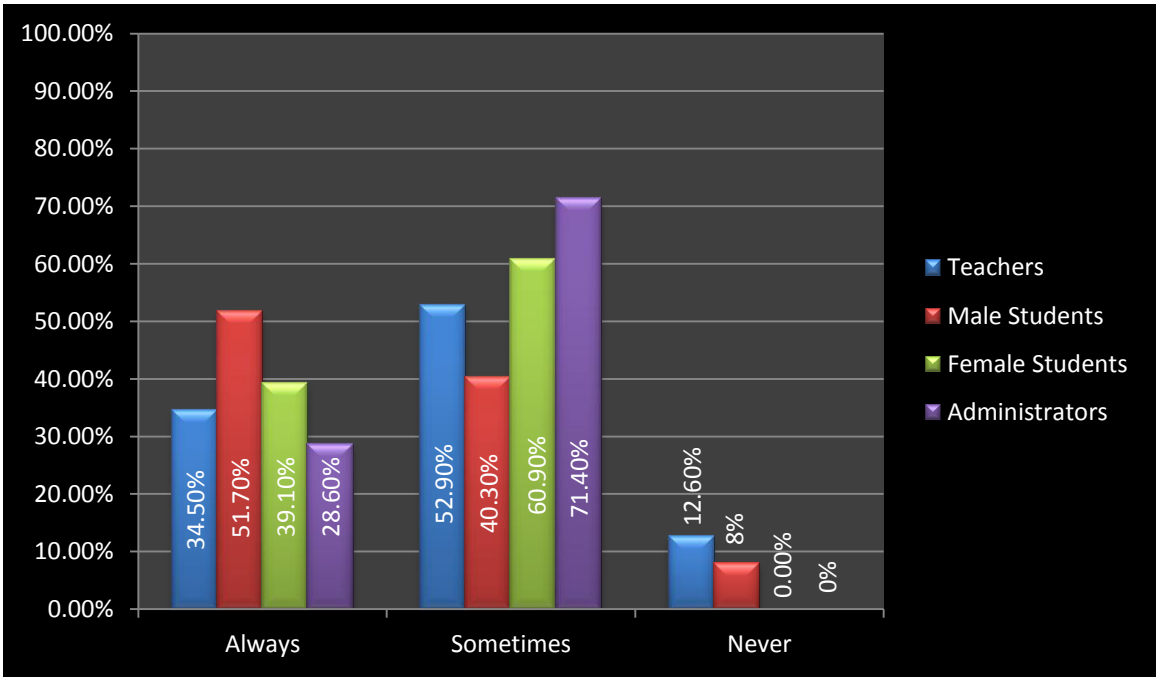
Out of 87 Male Students 51.7% responded to Always, 40.3% responded to Sometimes and 8% responded to Never and Out of 87 Female Students 39.1% responded to Always, 60.9% responded to Sometimes and 0% responded to Never on the statement- *Do you think that the digital library is much more accessible than the traditional library?*

Out of 7 Administrators 25.6% responded to Always, 71.4% responded to Sometimes and 0% responded to Never on the statement- *Do you think that the digital library is much more accessible than the traditional library?*

Therefore, out of 268 Teachers, Students and Administrators 41.4*% responded to Always,* 51.9*% responded to Sometimes and* 6.7*% responded to Never* on the statement- *Do you think that the digital library is much more accessible than the traditional library?*

Figure- 26

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 26: Do you think that the digital library is much more accessible than the traditional library?



4.27 Item No. 27. How do you feel about the digital library provided in your university?

The data pertaining to this item has been presented in Table 4.28

Table-4.28 Percentage wise analysis of item no. 27

Category	Number	Very Good %	Good %	Not Good %
Teachers (H.O.Ds & Assistant	87	17.2%	63.2%	19.6%

Professors)				
Male Students	87	20.7%	63.2%	16.1%
Female Students	87	14.9%	64.2%	20.9%
Administrators	7	42.9%	57.1%	0%
Total	268	18.3%	63%	18.7%

In the above table no. 4.28, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 17.2% responded to Very good, 63.2% responded to good and 19.6% responded to Not good on the statement- *How do you feel about the digital library provided in your university?*

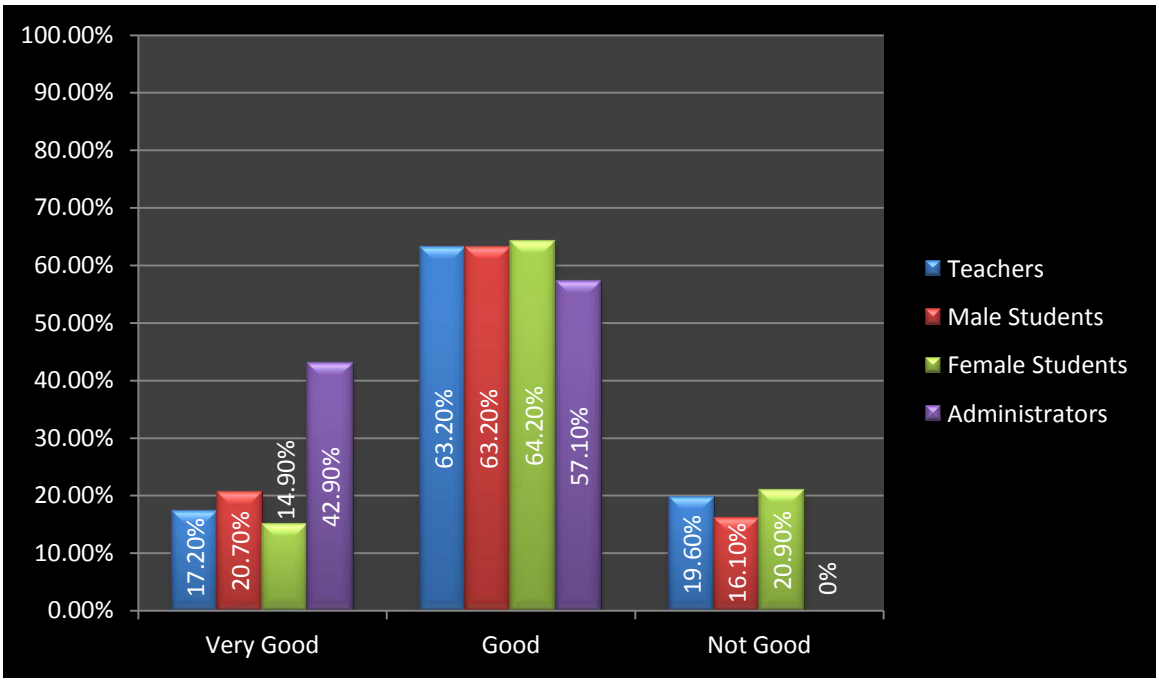
Out of 87 Male Students 20.7% responded to Very good, 63.2% responded to good and 16.1% responded to Not good and Out of 87 Female Students 14.9% responded to Very good, 64.2% responded to good and 20.9% responded to Not good on the statement- *How do you feel about the digital library provided in your university?*

Out of 7 Administrators 42.9% responded to Very good, 57.1% responded to good and 0% responded to Not good on the statement- *How do you feel about the digital library provided in your university?*

Therefore, out of 268 Teachers, Students and Administrators 18.3*% responded to Very good,* 63*% responded to good and* 18.7*% responded to Not good* on the statement- *How do you feel about the digital library provided in your university?*

Figure- 27

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 27: How do you feel about the digital library provided in your university?



4.28 Item No. 28. Are you being able to have access to e-journals from the digital library that is being provided by the University?

The data pertaining to this item has been presented in Table 4.29

Table-4.29 Percentage wise analysis of item no. 28

Category	Number	Always %	Sometimes %	Never %
Teachers (H.O.Ds & Assistant Professors)	87	31%	65.5%	3.5%
Male Students	87	19.5%	60.9%	19.6%
Female	87	11.5%	63.2%	25.3%

Students				
Administrators	7	71.4%	28.6%	0%
Total	268	22%	62.3%	15.7%

In the above table no. 4.29, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 31% responded to Always, 65.5% responded to Sometimes and 3.5% responded to Never on the statement- *Are you being able to have access to e-journals from the digital library that is being provided by the University?*

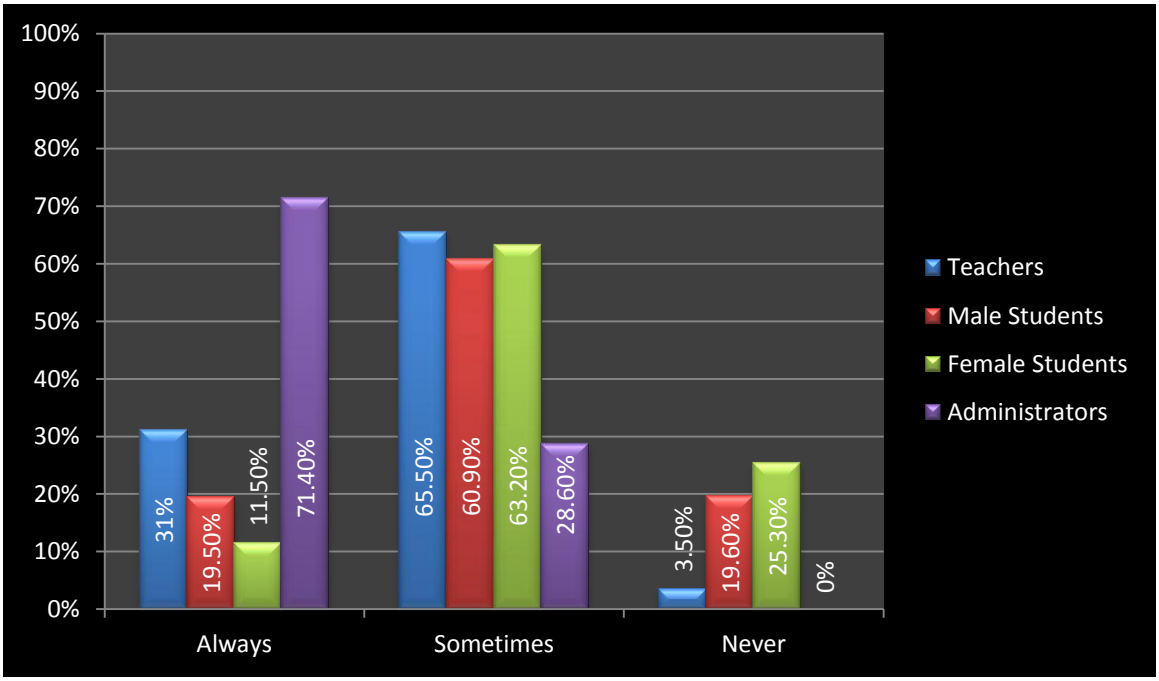
Out of 87 Male Students 19.5% responded to Always, 60.9% responded to Sometimes and 19.6% responded to Never and Out of 87 Female Students 11.5% responded to Always, 63.2% responded to Sometimes and 25.3% responded to Never on the statement- *Are you being able to have access to e-journals from the digital library that is being provided by the University?*

Out of 7 Administrators 71.4% responded to Always, 28.6% responded to Sometimes and 0% responded to Never on the statement- *Are you being able to have access to e-journals from the digital library that is being provided by the University?*

Therefore, out of 268 Teachers, Students and Administrators 22*% responded to Always,* 62.3*% responded to Sometimes and* 15.7*% responded to Never* on the statement- *Are you being able to have access to e-journals from the digital library that is being provided by the University?*

Figure- 28

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 28: Are you being able to have access to e-journals from the digital library that is being provided by the University?



4.29 Item No. 29. Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?

The data pertaining to this item has been presented in Table 4.30

Table-4.30 Percentage wise analysis of item no. 29

Category	Number	Very True %	True %	Not True %
Teachers (H.O.Ds & Assistant Professors)	87	27.6%	64.4%	8%
Male Students	87	31%	59.8%	9.2%
Female Students	87	20.7%	71.3%	8%
Administrators	7	0%	100%	0%
Total	268	25.7%	66%	8.3%

In the above table no. 4.30, it indicates that on this item out of 87 H.O.Ds & Assistant Professors, 27.6% responded to Very True, 64.4% responded to True and 8% responded to Not True on the statement- *Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?*

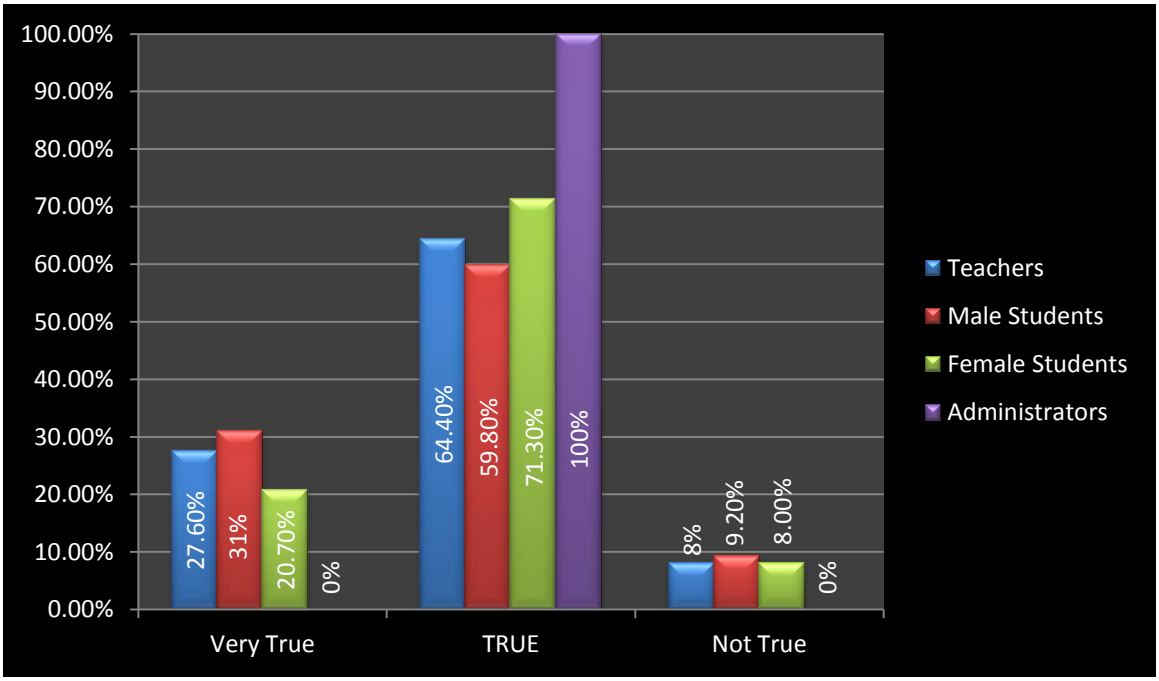
Out of 87 Male Students 31% responded to Very True, 59.8% responded to True and 9.2% responded to Not True and Out of 87 Female Students 20.7% responded to Very True, 71.3% responded to True and 8% responded to Not True on the statement- *Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?*

Out of 7 Administrators 0% responded to Very True, 100% responded to True and 0% responded to Not True on the statement- *Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?*

Therefore, out of 268 Teachers, Students and Administrators 25.7% *responded to Very True,* 66% *responded to True and* 8.3% *responded to Not True* on the statement- *Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?*

Figure- 29

Histogram depicting total scores of Teachers, Students and Administrators on the item no. 29: Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?



4.30 Item No. 30. In regard to provide e-learning facilities and technologies, do you think that the university has various agendas for future programs to initiate e-learning to the next level. State the reason?

The data pertaining to this open-ended question are as under:

Feedbacks from HODs of the 29 Department.

Since, question no. 30 is an open-ended questionnaire there were diverse statement from the HODs of the different departments of Sikkim University. Some of the HODs believed that the status of e-learning in Sikkim University could be initiated only when the University will be able to have a permanent campus. They were of the believe that the university can have more and more e-technologies, only when it will have its own campus. Most of the HODs have written the common statement about the university having its own campus. The statements of the HODs regarding the permanent campus of the university as a hurdle to initiate e-learning are given below:

It is only possible once our campus will start functioning at Yangyang. Most of the time either there is no light or no internet, were difficult to sustain or depend on e-learning. Therefore supporting infrastructure is pre-requisite to the implementation of various agendas and future programs of e-learning.

At present, in scattered and hired buildings the technology for e-learning is somewhat better. The e-learning facilities will be improved with more excellence only when the university will be shifted to Yangyang.

The university definitely has future agendas to extend and modernize e-learning facilities which it cannot undertake at present because of the rented accommodation and scattered premises.

While some of the HODs stated that Sikkim University has various lacunas in the use of e-learning technologies in the university as their prevail no use of smart classes and virtual classes and the geographical location of the university is also a major hindrance, thereafter creating errors in the connectivity of Wi-Fi's, Internet and hence breaking the availability to use the different modes of e-learning. Some of the HODs did not have any idea about the agendas of Sikkim University and the other HODs strongly believed that the university is providing its best to facilitate e-learning to the next level. The common statement of the HODs were - in spite of the university being running on the rented buildings, the university has always given its best to facilitate the students and the staff to have the best use of e-learning modes and in the upcoming years the place of e-learning modes will extend to a great level to benefit its members.

Feedbacks from Assistant Professors of 29 Departments:

Assistant professors also have their diverse statement. Some of the Asst. Professors stated that the university is located in a remote area and this is a great hindrance to support e-learning modes. There is lack of smooth internet connection and this leads to be the first and foremost drawback of the university. The online journals also cannot be accessed due to error in Wi-Fi-connection. Some of the Asst. Professors stated that they are not aware of the e-learning facilities provided by the university as they do

not have computer labs in their department. The Asst. Professors also stated that there is lack of orientation facilities regarding the use of e-learning modes in the University

While the other asst. professor stated that the university is providing good e-learning facilities. Their statements are as follows: Although, the departments of University is scattered all over Gangtok, the university is providing computer lab in almost every department and access to e-journals and e-books are also there. Being a newly established university, Sikkim University is doing its best to provide e-learning facilities to its members.

The most common statement among the Assistant Professors was the need to have a permanent campus and this will lead to the enhancement of the use of e-learning to the next level. They stated that- Presently the university is running on hired buildings which is scattered all over Gangtok, and with this condition it is hardly possible for the university to provide better e-learning facilities. Therefore, the university to have a permanent campus is a must.

Feedbacks from the Students of the 29 Department.

The most diverse statement was obtained from the students of the Sikkim University. Most of the students were of the belief that the university is still at its infant stage and hence talking about the initiation of e-learning to the next level in Sikkim University is way behind. The students stated that the university must have its permanent campus and hence only e-learning infrastructure can be used fully. The university cannot afford to provide smart classes on rented buildings. As a matter of fact, the university apart from providing free Wi-Fi has done nothing to promote e-learning to the next level.

While some of the other students stated that- they have no idea about e-learning modes and its future initiation in Sikkim University. They stated that we don't have computer labs in our department and the university hardly talks about orientation and awareness programs in the use of e-learning modes therefore, we have no idea about this.

The students of Sikkim University also mentioned the slow connectivity of Wi-Fi's and henceforth they cannot have access to e-journals. They mentioned that the university should be initiating e-learning to the next level through the use of smart classes, better connection of Wi-Fi's and more accessibility to journals as well. This way the university could meet the needs of the modern society.

While some of the students were satisfied with the prevalent condition of various e-learning facilities in Sikkim University. Some of the common statements are as under:

Sikkim University being a newly established one is the only central university of Sikkim and the University is doing its best to keep the students upgraded with the e-learning technologies be it free Wi-Fi's, e-libraries, e-journals and computer labs in most of the departments. The University always seeks to provide better e-learning facilities as it is getting older day by day. Yes, the university has various initiation programs to make the members advanced in the modern world. The university has already planned to have its own campus within the coming five to ten years and with this only the university will be fully flourishing the use of e-learning with the coming years.

Sikkim University is one of the fastest growing university in a very small span of time. The University has provided e-library, e-journals, Wi-Fi's so that we can use the

different e-learning mode and compete with the modern world. The University in the coming years will be even more flourished in providing better e-learning facilities.

Feedbacks from the Administrators

The administrators of the Sikkim University almost had a common statement that the university has various agendas to initiate e-learning modes to the next level. They stated that soon the university will be having its own campus and in the new campus the various e-learning modes will be provided to its fullest. They further stated that even if the university is running in the rented campus, the university is always providing e-learning modes to its members be it connectivity of Wi-Fi, availability of computer labs and e-library as well.

Hence, after all the opinions given by the HODs, Assistant Professors, Students and Administrators, the results were thus obtained through the diverse statements of the different members of the Sikkim University.

CHAPTER V

SUMMARY, FINDINGS OF THE STUDY, EDUCATIONAL IMPLICATIONS AND RECOMMENDATIONS

5.0 SUMMARY

This chapter is devoted towards finding out the summary of the total investigation as carried out by the investigator. As such it gives a clear picture about the details of the work as conducted by the investigator

5.1 INTRODUCTION

Education is the key to the knowledge, the most important tool which offers inner and outer strength to a person. It is the fundamental right of everyone and is capable of bringing any desired change and upliftment in the human mind and society. It aims in the full, whole and integrated development of an individuals' personality. Further, it is a way of igniting and enlightening the thought of an individual. Education upholds the power to create the sense of realization in an individual about the purpose of life, world and the universe and grasp the insight of the infinity. It, is a process which teaches everything with the logic and a way to reason why the other things are illogical. Education as a tool is of vital importance as it imparts a set of skills or knowledge that empowers an individual to be morally upright, intellectually sophisticated, and make a living in this competitive world. Thus, education is the very soul of knowledge which ignites the individual's personality and enables him/her to be a productive citizen.

Today, we are living in a constantly evolving digital world where technology plays a vital role in every sphere of human life .Technology is increasingly growing its importance, especially in the education sector be in primary education, secondary education and the higher education. With the quick emergence of computer and related technology, Electronic learning (e-learning) and Information and Communication Technologies (ICTs) have been the priority in the today's digital world and is also been extensively utilized in every sphere of life. ICTs and e-learning the key of technology, is making dynamic changes in society and the world at large. They are influencing all aspects of life. The advancement of ICTs is changing the education scenario and transforming the teaching and learning process from the traditional physical environment to the digital environment. With the advancement of technology the education system has justified in its true sense to be learner centric. It is now possible to access vast amount of information online with a click of a button, and enable one to one communication without the confines of place and time.

E-learning having its abbreviation as electronic learning is a concept of learning electronically using the internet and other information and communication technologies. It covers a wide set of application and processes. This type of learning is particularly successful for higher studies. The internet opens new possibilities and now any type of learning content, be it for school, graduate or masters level or any other type of academic offering is called e-learning. Traditionally written materials such as books, journals, monographs, manuals were supplemented with television and radio broadcasts, films and with the pass of time mobile phones, personal digital assistance, online information, online groups, audio tapes and CD ROMs, video conferencing, internet conferencing, e-

mail support, e-books, e-journals is e-learning. In this sense, the type of learning carried out, facilitated or supported through electronic gadgets, media and resources can be termed as e-learning.

Education is the key determinant to enhance the personality of any individual. The quality of education influences an individual to a great extent. Therefore, it is essential for the educational system to uphold good quality and meet the needs of an individual. Quality education reaches the inner side of the individual and develops all the hidden potentialities in an individual leading him/her to be an effective member of the world. As the world is advancing the education sector is also being changed from teacher centric to learner centric, from traditional forms of teaching to modern technologies of teaching. Technology today is playing a pivotal role to enhance education to the fullest. The modern technologies like e-learning and Information and Communication Technologies (ICTs) are continuously increasing the quality of education. The various modes of e-learning such as mobile phones, personal digital assistance, online information, online groups, audio tapes and CD ROMs, video conferencing, internet conferencing, e-mail support, e-books, e-journals etc is taking education to the next level where quality is the first assurance. With the help of various e-learning technologies the education sector from primary, secondary and higher secondary is been able to fruitfully justify the rights of every individual. Today education focuses on the interest, capabilities and abilities of the individual child and promises to bring the best of an individual. E-learning gives many opportunities for students as well as for the teachers. For students e-learning provides asynchronity in following the course content, accessibility of learning material anywhere and anytime, guaranteed content consistency, personalization of

learning, availability of upto date learning resources, facilitated communication with the teacher and the group. On the other side, the teachers have the ability to structure his/her teaching time better, to easily update course content, to communicate with students more easily and to provide direction for their development and to assure the realization and assessment of learning outcomes. Thus the quality of education is greatly being maintained with the support of e-learning technologies.

Higher education has an important role both for the students, as an individual, and also for the society in which he lives. Higher education represents an aid for the growth and the development of the students and the key for a better life. For the society higher education institutions can contribute to the creation of ideal citizens who will help in keeping the society peaceful.

In schools students very rarely get to experience life. When the students get enrolled in college they are first of all away from their families, this makes the independent and they learn how to be in their own. During the college years, if the students have the right attitude, that is they really want to learn and study, the scope for them is unlimited. They can increase their knowledge by reading lots of books or by attending the lectures given by the experts in the field. The college life is such that it teaches the necessary life lessons to a lot many students. Students get the opportunity to explore a lot of things and basically find themselves in true sense of the word in these three or four years of college.

Sikkim University was established by an Act of Parliament (Sikkim University Act 2006) in 2007. Its jurisdiction extends to the whole of Sikkim. It is fully funded by the University Grants Commission, New Delhi. The University is at present located in

and around Gangtok, the capital of Sikkim, which borders on Bhutan, China and Nepal on its East, North and West respectively. Sikkim is also one of the world's richest and least exploited Bio-diversity hot spots. As an affiliating university, it is designed in such a way as to make it known for its academic excellence and innovative research. The university has 6 Schools of Studies and 29 departments offering various programmes of studies, which is an indication of the fact that it is one of the fastest growing universities in the country today. The total number of regular teachers in 130 but they are supported by over 30 guest faculty members and about the same number of adjunct faculty members for teaching various courses offered by the university. The total number of students at present is about 1300, which is likely to go up to 2200 in the coming semester. The departments are located in various hired buildings in an around Gangtok, but the students, teachers and administrative staffs are ferried from one end to the other free of cost by buses hired by the university. As the Central Government of India has taken land in Yangyang for the permanent residence of the university hence, soon the university will be having its own campus.

Despite, the absence of its own campus, the university has good classroom infrastructure, state of the art laboratories, rich collection of books in the library, Wi-Fi connectivity in the buildings and availability of e-library is also provided. Infact, being a newly established university the university its always giving its best to provide a better library for its members be it online journals, e books, and so on. In a nutshell, we can say that Sikkim University being the only Central University is always doing its best to make higher education worth for each and every member of the campus.

The importance of e-learning is greatly felt in higher education as e-learning acts as an facilitator for the higher education students, providing the students, scholars with correct information through the help of internet services ,Wi-Fi's, and even the dissertation and thesis work cannot be done without the use of e-technologies. It has become impossible for the scholars to do their work without using e-technologies, not only the students but teachers as well cannot complete their work without using e-learning modes. With the help of various e-learning modes we are able to successfully conduct seminars, workshop and so on. In a nutshell, we can say that e-learning technologies are the reality of higher education.

5.1.1 NEED AND SIGNIFICANCE OF THE STUDY

Electronic learning (e-learning) and Information and Communication Technologies (ICTs) has been the priority in the today's digital world and is also been extensively utilized in every sphere of life. The advancement of ICTs is changing the education scenario and transforming the teaching and learning process from the traditional physical environment to the digital environment. Integration of ICTs at all levels of education has been a defining feature of the education system all over the world in recent years. The applications of e-learning and ICTs have become so attached to contemporary educational delivery worldwide that it has virtually become impossible to deliver or receive formal education without the application of such advance technology in the processes. ICTs and e-learning provides both students and teachers with more opportunities in adapting learning and teaching to individual needs. The more technology

advances, the more benefits it provides to the educational sector and a greater part benefitted by it, is the higher education sector.

E-learning has been used very effectively in University teaching for enhancing the traditional forms for teaching administration. Students on many courses in many Universities now find they have web access to the lecture notes and selected digital resources in support of the study and this kind of access gives them much flexibility for study. The UGC, NCERT, NCTE etc are very keen in developing e-learning in Universities and is favorable in sanctioning grants for development of e-learning infrastructure and excellence in the institutions of higher learning. The different mode of e-learning has highly enhanced the quality of higher education.

Sikkim University, established in 2007 is a newly formed University in Sikkim by an Act of Parliament (Sikkim University Act 2006). The University being new is presently located in rented buildings in and around Gangtok, the capital of Sikkim, despite having its various problems, the University is taking its leap on the various modes of ICTs. Still there are various lacunas that are to be investigated on the initiation of e-learning in the various departments of Sikkim University. Hence, there is an urgent need for in-depth and pointed investigation of the use and development of ICTs or e-learning in the Sikkim University. Therefore, the study will be an attempt in this direction. Moreover, no worthwhile endeavor has been made so far to investigate the status of Sikkim University towards e-learning. To fulfill this purpose and to add more knowledge to the existing one a research study is proposed to address the following statement.

5.1.2 STATEMENT OF THE PROBLEM:

Keeping in view in the rationale of the study the problem is stated as: - ***"STATUS OF SIKKIM UNIVERSITY TOWARDS E- LEARNING: A CASE STUDY".***

5.1.3 RESEARCH QUESTIONS:

The research questions of the present study are as follows:

1. What is the status i.e. present condition in the use of different technologies of e-learning in Sikkim University?
2. What are the perception of students, teachers and administrators of Sikkim University towards e-learning?
3. What are the different modes of e-learning in Sikkim University?
4. What are the different steps that are being done by Sikkim University to facilitate e-learning?
5. What are the future initiation programs laid by Sikkim university towards e-learning?

5.1.4 OBJECTIVES OF THE STUDY:-

The present investigation will focus on realizing the following objectives:

1. To study the status in the use of e-learning in Sikkim University.

2. To study the perception of students, teachers and administrators of Sikkim University towards e-learning.
3. To study the different modes of e-learning in Sikkim University.
4. To study the different steps that are being taken by Sikkim University to facilitate e-learning.
5. To study the future initiation programs towards e-learning that is to be laid by Sikkim University.

5.1.5 DELIMITATIONS OF THE STUDY:

The present study is delimited to the following conditions-

1. The present study is delimited to Sikkim University, Gangtok, east District of Sikkim.
2. The present study is delimited to the HODs of all the **29** departments and **58** teachers (Asst. Professors) taking 2 teachers from every department.
3. The present study is delimited to **174** students taking 6 students (3 Male and 3 Female) from every department.
4. The present study is delimited to **7** administrators of Sikkim University.
5. Therefore, the present study is delimited to **268** members of Sikkim University.

5.1.6 RESEARCH METHOD

In order to carry out any type of research, the researcher must gather data to cite findings of the questions and study as well. Many different methods and procedures have

been developed to aid in the acquisition of data. For the present study, the investigator decided to adopt descriptive survey method. To accomplish the objectives of the present study the descriptive survey method was considered appropriate for gathering data about status of Sikkim University towards e-learning.

5.1.7 POPULATION

The entire group from which the sample is drawn is known as population. A population is a well defined group of individuals or observations. It consists of all aspects of individuals of their attributes that can be described as having as unique type characteristics or qualities. A population refers to any collection of specified group of humans and non-human entities such as objects, institutions, time units, geographical areas or events. For the present study all the students, teachers and administrators of Sikkim University will comprise the population of the study.

5.1.8 SAMPLE:

The representative proportion of the population is called sample. A good sample ensures three things; freedom from bias, representativeness of population, characteristics and adequacy in terms of population qualities. Sampling is the process by which a relatively small numbers of individuals, objects or events is selected and analyzed to find out something about the total population from which the sample was drawn. It helps to reduce expenditure, time and energy of the researcher and can produce greater precision and accuracy due to better controlling.

In view of the objectives of the present study, the investigator decided to collect data using Purposive sampling method. As such it is proposed to draw **87 teachers (taking HOD's of every department i.e., 29, 2 teachers from every department i.e., 58 teachers) and 174 students (taking 6 students from every department, 3 Male and 3 Female students) and different administrators (i.e., 7) of the university through purposive sampling method.**

5.1.9 TOOLS USED:

In conducting a research many data gathering tools are required. The tools selected must be appropriate for the collection of certain type of evidence or information of data from the relevant field. Thus the research tools are the data gathering devices. Keeping in view the above mention requirements of effective research tools, the investigator in the present study developed questionnaire as the tool of the study.

Henceforth, in order to collect the data for the present study a questionnaire was developed to collect information from the students, teachers and different administrators of Sikkim University.

- **Questionnaire on Status of Sikkim University towards e-learning.**

5.1.10 TECHNIQUES USED:

The main objective of the study is to study the status of Sikkim University towards e-learning. The technique of the study is therefore testing through questions/ statement. Scoring from Question 1 to 29 is done through percentage wise analysis and histogram depicting the results of the each item is also given. Question No. 30 is an

Open-ended question and hence the feedback of each item are carefully studied and discussed in the following paragraph.

5.2 FINDINGS OF THE STUDY:

After logical analysis of the present study the investigator has arrived on the following major findings-

1. 49.43% Teachers, 57.5% Male students, 54% Female students and 43% Administrators *responded to* ***Always***, 50.57% Teachers, 37.9% Male students, 46% Female students and 57% Administrators responded to ***Sometimes*** and 0% Teachers, 4.6% Male students, 0% Female students and 0% Administrators responded to ***Never*** on the statement - ***Do you think that the different mode of e-learning is an important tool for effective teaching at University level?***
2. 81.61% Teachers, 38% Male Students, 24.14% Female students and 71.43% Administrators responded to ***Always***, 18.39% Teachers, 33.3% Male students, 42.5% Female students and 28.6% Administrators responded to ***Sometimes*** and 0% Teachers, 28.7% Male students, 33.33% Female students and 0% Administrators responded to ***Never*** on the statement - ***Do you have access to computers in your department?***
3. 69% Teachers, 39.1% Male students, 22% Female Students and 86% Administrators responded to ***Always***, 31% Teachers, 40.2% Male students, 49% Female students and 14% Administrators responded to ***Sometimes*** and 0% Teachers, 20.7% Male Students, 29% Female Students and 0% Administrators

responded to ***Never*** on the statement - ***If yes, do you use the computer for developing the work, study etc?***

4. 57.5% Teachers, 69% Male Students, 77% Female Students and 71.4% Administrators responded to ***Always***, 42.5% Teachers, 26.4% Male Students, 20.7% Female Students and 28.6% Administrators responded to ***Sometimes*** and 0% Teachers, 4.6% Male Students, 2.3% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Do you have access to internet in your department?***
5. 63.2% Teachers, 49.5% Male Students, 57.5% Female Students and 100% Administrators responded to ***Always***, 34.5% Teachers, 39% Male Students, 34.5% Female Students and 0% Administrators responded to ***Sometimes*** and 2.3% Teachers, 11.5% Male Students, 8% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Does the University library provide access to e-journals, e-books etc?***
6. 10.3% Teachers, 13.8% Male Students, 11.5% Female Students and 0% Administrators responded to ***Always***, 41.4% Teachers, 46% Male Students, 50.6% Female Students and 57.1% Administrators responded to ***Sometimes*** and 48.3% Teachers, 40.2% Male Students, 37.9% Female Students and 42.9% Administrators responded to ***Never*** on the statement - ***Does the University provide smart classes in the department?***
7. 43.7% Teachers, 43.7% Male Students, 36.8% Female Students and 42.9% Administrators responded to ***Always***, 19.5% Teachers, 8% Male Students, 15% Female Students and 57.1% Administrators responded to ***Sometimes*** and 36.8%

Teachers, 48.3% Male Students, 48.2% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Does the University provide computer labs in the department?***

8. 44.8% Teachers, 40.2% Male Students, 42.2% Female Students and 100% Administrators responded to ***Always***, 31% Teachers, 20.7% Male Students, 12.6% Female Students and 0% Administrators responded to ***Sometimes*** and 24.2% Teachers, 39.1% Male Students, 44.9% Female Students and 0% Administrators responded to ***Never*** on the statement - ***If yes, is every student allowed to use the computer labs?***

9. 27.6% Teachers, 34.5% Male Students, 29.9% Female Students and 28.6% Administrators responded to ***Always***, 66.7% Teachers, 51.7% Male Students, 58.6% Female Students and 71.4% Administrators responded to ***Sometimes*** and 5.7% Teachers, 13.8% Male Students, 11.5% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Do you give your presentation on PPT?***

10. 47.1% Teachers, 31% Male Students, 26.4% Female Students and 100% Administrators responded to ***Always***, 48.3% Teachers, 51.7% Male Students, 66.7% Female Students and 0% Administrators responded to ***Sometimes*** and 4.6% Teachers, 17.3% Male Students, 6.9% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?***

11. 55.2% Teachers, 26.5% Male Students, 15% Female Students and 42.9% Administrators responded to ***Very Much Prepared***, 41.4% Teachers, 63.2% Male Students, 72.4% Female Students and 57.1% Administrators responded to ***Somewhat Prepared*** and 3.4% Teachers, 10.3% Male Students, 12.6% Female Students and 0% Administrators responded to ***Not Prepared*** on the statement - ***How prepared do you feel you are to use the e-learning facilities such as computers, projectors, e-library etc?***

12. 12.7% Teachers, 5.7% Male Students, 9.2% Female Students and 42.9% Administrators responded to ***Very Much Satisfied***, 67.8% Teachers, 49.5% Male Students, 63.2% Female Students and 57.1% Administrators responded to ***Satisfied*** and 19.5% Teachers, 44.8% Male Students, 27.6% Female Students and 0% Administrators responded to ***Not Satisfied*** on the statement - ***Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?***

13. 8% Teachers, 10.3% Male Students, 3.4% Female Students and 28.6% Administrators responded to ***Very Good Status***, 69% Teachers, 50.6% Male Students, 61% Female Students, 71.4% Administrators responded to ***Good Status*** and 23% Teachers, 39.1% Male Students, 35.6% Female Students and 0% Administrators responded to ***Not Satisfied Status*** on the statement - ***Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?***

14. 43.7% Teachers, 25.3% Male Students, 25.3% Female Students and 9.2% Administrators responded to ***Very Good***, 51.7% Teachers, 65.5% Male Students,

86.2% Female Students and 57.1% Administrators responded to ***Good*** and 4.6% Teachers, 4.6% Male Students, 9.2% Female Students and 0% Administrators responded to ***Not Good*** on the statement - ***What is your level of expertise in using computers, internets?***

15. 44.8% Teachers, 36.8% Male Students, 50.6% Female Students and 71.4% Administrators responded to ***Aware***, 43.7% Teachers, 54% Male Students, 47% Female Students and 28.6% Administrators responded to ***Somewhat Aware*** and 11.5% Teachers, 9.2% Male Students, 2.4% Female Students and 0% Administrators responded to ***Not Aware*** on the statement - ***Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?***

16. 13.8**%** Teachers, 9.2**%** Male Students, 11.5**%** Female Students and 28.6**%** Administrators responded to ***Always***, 62.1**%** Teachers, 67.8**%** Male Students, 55.2**%** Female Students and 71.4**%** Administrators responded to ***Sometimes*** and 24.1**%** Teachers, 23**%** Male Students, 34.5**%** Female Students and 0% Administrators responded to ***Never*** on the statement - ***Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?***

17. 4.6% Teachers, 3.4% Male Students, 2.2% Female Students and 42.9% Administrators responded to ***Always***, 65.5% Teachers, 55.2% Male Students, 40.3% Female Students and 42.9% Administrators responded to ***Sometimes*** and 29.9% Teachers, 41.4% Male Students, 57.5% Female Students and 14.2%

Administrators responded to ***Never*** on the statement - ***Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?***

18. 13.8% Teachers, 27.6% Male Students, 14.9% Female Students and 28.6% Administrators responded to ***Always***, 77% Teachers, 65.5% Male Students, 79.4% Female Students and 71.4% Administrators responded to ***Sometimes*** and 9.2% Teachers, 6.9% Male Students, 5.7% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?***

19. 9.2% Teachers, 8% Male Students, 10.3% Female Students and 42.9% Administrators responded to ***Always***, 75.9% Teachers, 59.8% Male Students, 61% Female Students and 42.9% Administrators responded to ***Sometimes*** and 14.9% Teachers, 32.2% Male Students, 28.7% Female Students and 14.2% Administrators responded to ***Never*** on the statement - ***Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?***

20. 36.8% Teachers, 46% Male Students, 46% Female Students and 14.3% Administrators responded to ***Always***, 59.8% Teachers, 49.4% Male Students, 54% Female Students and 71.4% Administrators responded to ***Sometimes*** and 3.4% Teachers, 4.6% Male Students, 0% Female Students and 14.3% Administrators responded to ***Never*** on the statement - ***Do you think that learning becomes flexible with the use of e-learning?***

21. 13.8% Teachers, 18.4% Male Students, 21.8% Female Students and 0% Administrators responded to ***Highly Advanced University***, 73.6% Teachers, 75.9% Male Students, 72.5% Female Students and 100% Administrators responded to ***Advance University*** and 12.6% Teachers, 5.7% Male Students, 5.7% Female Students and 0% Administrators responded to ***Not Advanced University*** on the statement - ***As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10 years?***

22. 2.3% Teachers, 6.9% Male Students, 3.4% Female Students and 0% Administrators responded to ***Always***, 50.6% Teachers, 37.9% Male Students, 40.2% Female Students and 42.9% Administrators responded to ***Sometimes*** and 47.1% Teachers, 55.2% Male Students, 56.4% Female Students and 57.1% Administrators responded to ***Never*** on the statement - ***Does the university provide online or virtual classes related to some crucial topics?***

23. 6.9% Teachers, 25.3% Male Students, 20.7% Female Students and 0% Administrators responded to ***Always***, 65.5% Teachers, 44.8% Male Students, 52% Female Students and 100% Administrators responded to ***Sometimes*** and 27.6% Teachers, 29.9% Male Students, 28% Female Students and 0% ***Administrators*** responded to Never on the statement - ***If yes, do you think that online classes is as effective as real time classes?***

24. 4.6% Teachers, 8% Male Students, 0% Female Students and 0% Administrators responded to ***Very Much Enough***, 46% Teachers, 34.5% Male Students, 34.5% Female Students and 100% Administrators responded to ***Enough*** and 49.4% Teachers, 57.5% Male Students, 65.5% Female Students and 0% Administrators

responded to ***Not Enough*** on the statement - ***Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?***

25. 21.8% Teachers, 8% Male Students, 9.2% Female Students and 100% Administrators responded to ***Always***, 65.6% Teachers, 70.2% Male Students, 66.7% Female Students and 0% Administrators responded to ***Sometimes*** and 12.6% Teachers, 21.8% Male Students, 24.1% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Are you satisfied with the e-journals and e-books that are provided in the University?***

26. 34.5% Teachers, 51.7% Male Students, 39.1% Female Students and 28.6% Administrators responded to ***Always***, 52.9% Teachers, 40.3% Male Students, 60.9% Female Students and 71.4% Administrators responded to ***Sometimes*** and 12.6% Teachers, 8% Male Students, 0% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Do you think that the digital library is much more accessible than the traditional library?***

27. 17.2% Teachers, 20.7% Male Students, 14.9% Female Students and 42.9% Administrators responded to ***Very Good***, 63.2% Teachers, 63.2% Male Students, 64.2% Female Students and 57.1% Administrators responded to ***Good*** and 19.6% Teachers, 16.1% Male Students, 20.9% Female Students and 0% Administrators responded to ***Not Good*** on the statement - ***How do you feel about the digital library provided in your university?***

28. 31% Teachers, 19.5% Male Students, 11.5% Female Students and 71.4% Administrators responded to ***Always***, 65.5% Teachers, 60.9% Male Students,

63.2% Female Students and 28.6% Administrators responded to ***Sometimes*** and 3.5% Teachers, 19.6% Male Students, 25.3% Female Students and 0% Administrators responded to ***Never*** on the statement - ***Are you being able to have access to e-journals from the digital library that is being provided by the University?***

29. 27.6% Teachers, 31% Male Students, 20.7% Female Students and 0% Administrators responded to ***Very True***, 64.4% Teachers, 59.8% Male Students, 71.3% Female Students and 100% Administrators responded to ***True*** and 8% Teachers, 9.2% Male Students, 8% Female Students and 0% Administrators responded to ***Not True*** on the statement - **Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?**

30. The findings of the study pertaining to Open-ended Question i.e., Question No. 30 are as follows –

Majority of the teachers, students and administrators of Sikkim University stated that the university can provide better e-learning facilities and technologies, only when the university will be able to have its own campus i.e., on Yangyang. As the university is being run on rented buildings, therefore, the university is in no position to provide better e-learning technologies.

The study revealed that the university is providing certain e-learning modes such as internet, Wi-Fi, online journals, e-journals, projectors etc but as the university is scattered on rented building all over Gangtok, therefore, there are

problems of lights, slow connectivity of internet and Wi-Fi resulting in inaccessibility of e-journals and e-books. The study further revealed that the administrators believed that the university has various agendas in initiating e-learning modes to the next level with the establishment of permanent campus of Sikkim University i.e., in Yangyang.

Thus, after analyzing the result of the Open-ended Question i.e., Question No. 30 we may conclude that Sikkim University do have various future programs to initiate the use of e-learning to the next level as stated by the teachers, students and administrators of the university. The university is the only central university of Sikkim and as per the future plans of the university it will soon be running its own campus at Yangyang and with this only the availability of various e-learning modes can be possible.

After analyzing the findings of the study, we can conclude the results in the following points-

- Sikkim University is providing different modes of e-learning such as computers, computer labs, Wi-Fi connection, e-journals, e-libraries, projectors to almost every department of the university.
- Most of the department use computer for developing their work, study etc be it teachers, students and administrators as well.
- Every student in the university is allowed to use their departmental computer labs.
- Majority of the students, teachers and administrators give their presentations on PPT.

- Majority of the members of Sikkim University also feel quite prepared to use the e-learning facilities such computers, projectors, e-library etc and they believe that learning becomes flexible with the use of e-learning modes.
- Majority of the members of Sikkim University views e-learning technologies as an essential part to impart quality education and believes that e-learning technologies has become a reality of higher education.
- The university is not being able to provide computer labs in some of the departments. Therefore, students belonging to those departments hardly use computer for developing their work, study etc.
- The problems of lights and connectivity of Wi-Fi's and internet is a major problem. As the university is scattered on rented buildings all over Gangtok, therefore, it is nearly impossible to have proper connections of Wi-Fi's and internet resulting in inaccessibility of e-journals and e-books.
- The university has not yet provided the departments with smart classes, virtual classes and online classes which is one of the main e-learning technology and also helpful in discussing in some crucial topics.
- The university is hardly providing orientation programs, awareness programs and training programs for students, teachers and administrators as to provide knowledge about the use of e-learning facilities and as the result of this only some of the teachers, students and administrators are unaware of the use of different modes of e-learning.
- Majority of the teachers and students responded that e-learning infrastructure and resources available in the university is not enough.

5.3 EDUCATIONAL IMPLICATIONS OF THE STUDY:

The use of e-learning technologies in the field of education is immense especially, in the field of higher education. The electronic techniques has highly advanced the universities to impart effective teaching and also to be updated with the fast growing world as well, be it possibilities to access any content knowledge through internet, computers, online classes and so on. Indeed the use of e-learning technologies have become the reality of higher education

The present study focused on the status of Sikkim University towards the use of various e-learning modes so as to check the educational quality being provided by the university. Hence, after the findings of the study the investigator has come up with the following major educational implications which are essential for the proper use of e-learning technologies in Sikkim University so as to maintain the status of the university towards e-learning technologies.

- ✓ Sikkim University should provide computer labs in all the 29 departments so that the students and teachers can be able to use computer to develop their work, study etc.
- ✓ As the university is scattered all over Gangtok and running on rented buildings so the problems of electricity and slow connectivity of Wi-Fi is obvious. In this regard the university should be able to provide generators in all the departments to avoid problems of electricity and proper LAN facilities should also be provided to have a strong connection of Wi-Fi's.

With the proper connection of Wi-Fi's and internet the teachers and students will be able to access all the e-journals and e-books, leading to the best use of e-learning technologies. Thus, with more emphasis on Wi-Fi's, the students and teachers will be able to use more and more e-learning technologies in the teaching learning process.

- ✓ The university should provide smart classes and virtual classes in the departments so that the students can overcome some of the crucial topics in their study.
- ✓ The university should make arrangements to organize orientation programs, awareness programs and training programs for students, teachers and administrators so as to provide knowledge about the use of e-learning facilities and give up to date knowledge of the growing e-learning modes. The university should also focus on organizing workshops, seminars etc in this regard.
- ✓ The university soon should be taking initiations in having its own campus. In this way the expenses of the rented buildings can be overcome and more and more e-learning modes and resources can be made available in the university so that the students and teachers can fruitfully utilize the various e-learning technologies available in the present world.

5.4 LIMITATIONS OF THE STUDY:

The present research work has been completed under certain limitations which were beyond the control of the researcher. The limitations of the study are enumerated in the following so that the results of the study will be viewed in the right perspective and

also help the future researchers to take necessary precautions to overcome them while conducting similar studies.

- Though the related literature of the topic is available but scattered therefore the researcher had to collect all the scattered data from different libraries.
- For the filling of the questionnaire the researcher had to visit all the 29 departments and administration departments again and again, as some of the departments were busy with their work and hence much time was consumed during the process of data collection.
- For collecting the complete questionnaire the researcher had to remind the respondent via telephone and by making several personal visits and again much time was consumed.

5.5 SUGGESTIONS FOR FURTHER RESEARCH:

A meaningful research always provides cause and paves the way for the further investigation. Every investigator after accomplishing his or her task may feel inspired to do more researches through his or her own efforts. The researcher may feel greatly motivated, for showing the new areas of the research to the future researchers. Research is never ending process and as such the following suggestions maybe made for the further study of research.

- ✓ The present study has been conducted only in one university i.e., Sikkim University. The further study can be conducted in more than one university and colleges in the state and outside the state as well.

- ✓ In the present study the investigator has taken 268 samples, in this connection for ensuring better sampling larger samples can be taken from one or more universities on district or state wise basis as well.
- ✓ Similar studies can be conducted at various level of education be it primary, secondary and higher education in the state or throughout the country or globally as well.
- ✓ The present study can be carried out with other aspects of e-learning in education like attitude of students and teachers towards e-learning.
- ✓ The present study can also be conducted on other various aspects of e-learning like business and organization.

5.6 CONCLUSION

E-learning holds great importance in the field of education be it primary level, secondary level and higher level of education. The advancement of ICT and e-learning has highly enhanced the quality of higher education, making the status of education immense and fruitful as ever. Universities which are the core of the nation, are today imparting immense knowledge with the use of various e-learning technologies and henceforth it will be very true to say that e-learning has become the reality of higher education. In the present study the investigator has tried to study the status of Sikkim University towards the various use of e-learning modes and facilities. The dissertation paper based on status of Sikkim University towards e-learning: A case study has helped the researcher in gaining some knowledge about the work. This piece of research in education is a humble attempt made by the researcher.

BIBLIOGRAPHY

Afanah Areej (2008) Impact of E-learning on Umm Al-Qura University, A Case study of Information Science Department in Umm Al-Qura University. European Scientific Journal Vol. 8, No. 28, ISSN: 1857-7881 (Print) e-ISSN=7431.

Ahmed Maajon. Alenezi (2012) Faculty Members' Perception of E-learning in Higher Education in the Kingdom of Saudi Arabia (KSA). Educational Instructional Technology, PhD thesis, submitted to Texas Tech University, May 2012.

Allan, Barbara. (2002) E-learning and teaching in library and information services. London : Facet Publishing.

Bekele Rahel (30th july 2012) The Challenges and Current Status of E-learning in Ethiopian Higher Education : institutions : Case of Mekelle Universities – A thesis submitted to the school of graduate studies of Addis Ababa University. http://hdl.handle.net/123456789/2826.

Bermejo, S. (2005) Cooperative electronic learning in virtual laboratories through forum. IEEE Transactions on Eduation, 48(1), 140-149.

Catherall, Paul (2005). Delivering E-learning For Information Services In Higher Education, Oxford : Chandos Publishing.

Coleman Ntumy Kukura Ruth (2011) Assessing the adoption of e-learning in Ghanaian Universities, Lulea University of Technology, Sweden.

Dhiman Kar, Birbal Saha, Bhim Chandra Mondal (2014) Attitude of University Students towards E-learning in West Bengal: Department of Education, Sidho-Kahno-Birsha University, Purulia, West Bengal; American Journal of Educational Research, 2014, 2(8), pp 669-673. DOI: 10.12691/ education 2-8-16. Received july 24, 2014; Revised August 03; 2014; accepted August 06, 2014.

E-Learning Strategy Task Force 2002. *Get on with IT.* DfES. http://www.dfes.gov.uk/ e-Learningstrategy/news/uploads/GetOnwithIT_Doc.pdf, p. 6 retrieved on Oct. 21, 2011.

European Commission (2001). The e-learning Action Plan: Designing tomorrow's education. http://www.e-learningeuropia.info.

Gaikwad, Arun, Vrishali Surndra Randhir (December 15, 2015) ; E-learning in India: Wheel of Change; S. N. Arts, DJM Commerce , BNS College Sangamner, Pune, Maharashtra India.

George. L. Makokha and Dorothy . N. Mutisya. (April-2016): Status of E-learning in Public Universities in Kenya. Kenyatta University, South Eastern Kenya University. International Review of Research in Open and Distributed Learning. Vol 17, Number 3.

Gonzelez-Videgaray, M. (2007) Retrieved from http//www.uv.es/RELIEVE/v13ni/RELIEVEv13n1_4.htm.

Good, Carter V., barr, A. S. and Scates, Dougles E(1941). Methodology of Educational Research. New York: Appleton-Century Crafts, Inc. 167-168.

Guri-Rosenvlit, S. (2005). Distance Education and E-learning: Not the same thing. Higher Eduation, 49(4), 467-493.

Hamid Mohammed AZIMI (2013) Assessment of e-learning needs among students of colleges of education. Department of Studies in Education, University of Mysore, India. Turkish Online Journal of Distance Education-TOJDE October 2013 ISSN 1302-6488 Volume: 14 Number: 4 Article 20.

Hong-Min Lin, Wan-Ju Chen and Shu-Fen Nien (2014) The study of achievement and motivation by E-learning: A Case study. International Journal of Infromation and Educational Technology, Vol. 4, No. 5, October 2014, DOI: 10.7763/IJIET.2014.V4.442.

Jaiswal Vijay (2015). Current Status of e-learning in Higher Education: A Case study of Uttar Pradesh. Education India Journal: A Quarterly Refereed Journal of Dialogues on Education, ISSN 2278- 2435, Vol. 4, Issue-2, May-2015.

Jereb, E., and Smitek, B. (2006) Applying multimedia instruction in e-learning. Innovations in education and Teaching International, 43(1), 15-27.

John K. Tarus, David Gichoya and Alex Muumboo (2015) Challenges of implementing E-learning in Kenya: A Case of Kenyan public universities; Moi university, Kenya, Technical University of Kenya; International Review of Research in Open and Distributed Learning, Volume 16, Number 1.

Kamba, M. A. (2009). Problems, Challenges and Benefits of Implementing e-learning in Nigerian University: An empirical study. International Journal of Emerging Technologies in Learning, 4(1), 66-69.

Krishna Kumar R and Rajesh Kumar N (2011) of Teachers' of Higher Education Towards E-Learning: Annmalai University, Department of Education; Madurai Kamaraj

University, Centre for Educational Research. Journal of Education and Practice, ISSN 2222-1735 (Paper) ISSN 2222-288X (Online), Vol. 2, No. 4, 2011, www.iiste.org

Krishnan, Bhooma (2007) "Click to Learn", The Times of India, Delhi ed., 10 December, 2007.

Koohang, A., and Harman, K. (2005) Open Source: A metaphor for e-learning. Informing Science Journal, 8, 75-86.

Koul, Lokesh (2014) Methodology of Educational Research. Fourth Edition. Vikash Publishing House Pvt. Ltd, E-28, Sector-8, Noida-201301 (UP) India.

Laurillard, Diana (2006). E-learning in Higher Education. www.griffith.edu.au/03Itn/does/E-learning_in_Higher_Education.doc retrieved on Jan, 22, 2012.

Leem Junghoon and Lim Byungro (2007) The current status of e-learning and strategies to enhance educational competitiveness in Korean higher education: University of Incheon, Korea; Regional focus Issue: Changing Faces of Open and Distance education in Asia-Insung Jung, IRRODL Regional Editor for Asia- Vol 8, No. 1, 2007, The International Review of Research in open and distributed learning.

Mahmoud Nayif Ali Quazaq (2012) A Study of readiness and implementation of e-learning among academic staff at Jordanian institutions of higher education: A thesis submitted to the UUM College of Arts and Sciences for the degree of Doctor of Philosophy/ University Utara Malaysia/ 06010 UUM Sintok.

Maltz L. Deblois, P. and The EDUCAUSE Current Issue Committee. (2005). Top Ten IT Issues. EDUCAUSE Review. 40 (1) 15-28.

Mangal, S.K. and Uma Mangal (2011) Essentials of Educational Technology. Published by Asoke K. Ghosh, PHI Learning Private Limited, M-97, Connaught Circus, New Delhi- 110001 and Printed by Baba Barkha Nath Printers, Bahadurgarh, Haryana-124507.

Murage Michael Njagi (2013) Assessment of the Status of E-learning as Course Delivery Method in Public Universities in Kenya; Thesis submitted for the degree of Doctor of Philosophy in the school of education , Kenyatta University, Reg. No. e83/10681/2006

OECD (2005). E-learning in tertiary education (online). Available at http://www.comex.org. (Assessed 27/02/2014).

Raymond Selorm Mamattah (Spring 2016) Students' Perceptions of E-learning ; Linkoping University / Department of Behavioural Sciences and Learning/ Master

Program Adult Learning and Global change/ ISRN- NUMBER: LIU-IBL/IMPALGC-A-16/005-SE.

Rengasamy Elango, Vijaya Kumar Guped and M. Selvam (2008) Quality of E-learning: An Analysis based on e-Learners' perception of E-learning. Majan University College, Sultanate of Oman; Skyline College, Sharjah, United Arab Emirates; Alagappa University, Tamil Naidu, India. The Electronic Journal of E-learning, Vol. 6, Issue 1, pp. 31-44, available online at www.ejel.org.

Rosenberg, Marc Jeffy, E-learning, New York: McGraw-Hill, 2001.

Torbjorn Holmstorm and Jenny Pitkanen (2012) E-learning in Higher Education: A Qualitative Study Examining Bolivian Teachers' beliefs about e-learning in higher education. Bachelor Thesis in Pedagogy, Department of Education, UMEA University. 901 87 UMEA, www.petag.umu.se.a

Twigg .C. (2002) Quality, cost and assess: the case for redesign. In The Wired Tower. Pittinsky MS (ed).Prentice-hall: New Jersey. P.111-143.

Wentling T. L, Waight C, Gallagher J, La Fleur J, Wang C, Kanfer A. (2000). E-learning-a review of literature. Knowledge and Learning Systems Group NCSA 9.1-73.

Yacob. A. Kadir, A. Z. A., Zainudin, O., Zurairah, A. (2012) Student Awareness Towards E-learning in TATI College University in Malaysia, Procedia – Social and Behavioural Sciences 67, 93-101.

APPENDIX – I

QUESTIONNAIRE ON STATUS OF SIKKIM UNIVERSITY TOWARDS E-LEARNING

NAME**……**

GENDER**……**

DEPARTMENT**……**

DESIGNATION**……**

INSTRUCTIONS

In the present Performa, questions from **1** to **29** and their probable answer are given against them. Read them carefully and whichever suits you put a tick [√] in the blank space given against it. Question No. **30** is an open-ended question, give your views regarding the question.

1. Do you think that the different mode of e-learning is an important tool for effective teaching at the University level?

   Always ☐ Sometimes ☐ Never ☐

2. Do you have access to computers in your department?

   Always ☐ Sometimes ☐ Never ☐

3. If yes, do you use the computer for developing your work, study etc?

   Always ☐ Sometimes ☐ Never ☐

4. Do you have access to internet in your department?

   Always ☐ Sometimes ☐ Never ☐

5. Does the University library provide access to e-journals, e-books etc?

   Always ☐ Sometimes ☐ Never ☐

6. Does the University provide smart classes in the department?

   Always ☐ Sometimes ☐ Never ☐

7. Does the University provide computer labs in the department?

   Always ☐ Sometimes ☐ Never ☐

8. If yes, is every student allowed to use the computer labs?

   Always ☐ Sometimes ☐ Never ☐

9. Do you give your presentation on PPT?

   Always ☐ Sometimes ☐ Never ☐

10. Is the University able to provide the maximum e-learning facilities such as computers, projectors, e-library etc?

    Always ☐ Sometimes ☐ Never ☐

11. How prepared do you feel you are to use the e-learning platform provided at your university?

    Very much prepared ☐ Somewhat prepared ☐ Not prepared ☐

12. Are you satisfied with the e-learning facilities that are provided in your department or Sikkim University?

    Very much satisfied ☐ Satisfied ☐ Not satisfied ☐

13. Do you think that the status of Sikkim University in having access to different e-learning facilities is as good as compared to other renowned Universities?

    Very Good Status ☐ Good Status ☐ Not Satisfied Status ☐

14. What is your level of expertise in using computers, internets?

    Very Good ☐ Good ☐ Not Good ☐

15. Do you think that all the Professors and administrators of Sikkim University are aware of the use of different modes of e-learning?

    Aware ☐ Somewhat Aware ☐ Not Aware ☐

16. Is the University giving orientation programs on different technologies of e-learning to the teachers and administrators as to keep them up-to-date about the growing e-learning techniques?

Always ☐ Sometimes ☐ Never ☐

17. Do you have training programs in the University for students, teachers and administrators as to provide knowledge about the use of e-learning facilities?

Always ☐ Sometimes ☐ Never ☐

18. Do you feel that the materials provided through e-learning are as effective and useful than that provided in the book?

Always ☐ Sometimes ☐ Never ☐

19. Has the University come up with seminars, workshops etc related to the awareness in the use of different facilities of e-learning?

Always ☐ Sometimes ☐ Never ☐

20. Do you think that learning becomes flexible with the use of e-learning?

Always ☐ Sometimes ☐ Never ☐

21. As e-learning technologies and facilities is growing day by day, where do you see the university in the coming 5-10years?

Highly advanced University ☐ Advanced University ☐ Not advanced University ☐

22. Does the university provide online or virtual classes related to some crucial topics?

Always ☐ Sometimes ☐ Never ☐

23. If yes, do you think that online classes is as effective as real time classes?

Always ☐ Sometimes ☐ Never ☐

24. Do you think that the e-learning infrastructures and resources available in the University is enough to impart quality education?

    Very much enough ☐ Enough ☐ Not enough ☐

25. Are you satisfied with the e-journals and e-books that are provided in the university?

    Always ☐ Sometimes ☐ Never ☐

26. Do you think that the digital library is much more accessible than the traditional library?

    Always ☐ Sometimes ☐ Never ☐

27. How do you feel about the digital library provided in your university?

    Very Good ☐ Good ☐ Not Good ☐

28. Are you being able to have access to e-journals form the digital library that is being provided by the university?

    Always ☐ Sometimes ☐ Never ☐

29. Do you think that the various e-learning facilities such as e-lectures, e-notes, virtual labs, digital libraries etc have become a reality of higher education?

    Very True ☐ True ☐ Not True ☐

30. In regard to provide e-learning facilities and technologies, do you think that the university has various agendas for future programs to initiate e-learning to the next level. State the reason?

THANK YOU