

**ICT and Higher Education:
A Comparative Study of Rural and Urban Area
Colleges of Lucknow District**

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DECLARATION

I, **Shruti Srivastava**, declare that the work embodied in the dissertation titled **ICT and Higher Education: A Comparative Study of Rural and Urban Area Colleges of Lucknow District** has been carried out by me, under the supervision of **Prof. Birendra Narain Dubey**, Department of Sociology, Babasaheb Bhimrao Ambedkar University, Lucknow.

The work included in this dissertation has not been submitted for any other degree and unless otherwise stated, is all original. I have duly acknowledged all the sources used by me in the preparation of this dissertation.

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CERTIFICATE

This is to certify that the M. Phil. dissertation titled **ICT and Higher Education: A Comparative Study of Rural and Urban Area Colleges of Lucknow District** submitted by **Shruti Srivastava** is an original research work and has not been previously submitted in part or full for the award of any other degree or diploma to this or any other University.

The dissertation submitted to **Babasaheb Bhimroa Ambedkar University, Lucknow**, satisfies the entire requirement as stipulated in the *Master of Philosophy (M.Phil) Regulations-2015* and it is fit for submission and evaluation for the award of the degree of Master of Philosophy of the University.

Date 28.06.2018



Supervisor



Head of the Department

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CHAPTER 1
INTRODUCTION

CHAPTER 1

Introduction

Technology has been used in each and every domain of our lives, be it daily routine, household works or the education. Technology ushers in fundamental structural changes that can be integral to achieving significant improvements in productivity. It has been used to support both teaching and learning, it infuses classrooms with digital learning tools, such as computers and hand held devices, increases student involvement and motivation and provide them better learning experiences. Technology has the potential to revolutionize the traditional teaching and learning process. It can eliminate the barrier to education imposed by space and time and successfully expands the access to lifelong learning. Fundamentally, modern technologies have ability to change the conception of an education institution. New emerging technologies are changing the way we learn. Education has become way too flexible. Technology in education promotes individual learning and mobile learning; both teachers and students get benefit from the modern technology for education. Some of the barriers in education have been broken down by the new technology for education and that is students can learn from anywhere and teachers can also reach their students from anywhere. Emerging of technology is helping to change education in a positive way; it is part of the modern world.

With the advent of Information and Communication Technology (ICT), it has become possible for the common man to access the global information. Computer and telecommunication are the principal technologies reshaping higher education. We live in a world in which all aspects of life influenced by ICT. This tool defines as gathering, collecting, retrieving, processing, analysing and disseminating information electronically.

In this study, the researcher has tried to find out, the percentage of women accessing ICT to gather information to support their study at college level in Lucknow, UP. This study answers how women consumed and comprehended social media for their own need and requirements. This study also shows the availability of infrastructure of hardware and software at colleges as well as at home. It focuses on the personal interest of an individual woman to use ICT.

1. 1. ICT (Information Communication Technology)

Information and Communication Technology (ICT), denotes to technologies which deliver easy and fast access to material through telecommunication. It is alike to Information Technology (IT), but emphasizes on communication technologies. ICT being the construction masses of modern society have basically altered the practices and courses of nearly all measures of attempt within intellectual, education and governance. Pedagogies used in the current education system require a shift or change. Thus, ICT incorporation is important for capacity building factors of educational institutions. With parameters such as hardware and software availability, infrastructure, knowledge and skills, pedagogical and technical support, motivations and behaviours can act as a change agent in education and society. Thus, it is important to pay attention to the carrying out ICT in educational system for transmitting painlessly or fluently accessible, affordable and worthy for higher education.¹

An information and communication technology (ICT) has developed vital role in all portions of life for an individual. Crosswise the past twenty years the usage of information technology had essentially changed the exercise and process of business, learning and power. Practice of ICT in education field leads to more student-centred.

Driving potential of education towards economic development and social development in any country is much important than any other issue. ICT introduction to the education can eradicate the limitations that are origin of complications of low level of education in a developing country like India. Technology has the capacity which can probably support the modified educational programmes in order to fulfil the urge of an individual learner.

ICT is all about the combination of manufacturing and services industries that capture, transmit and display data and information electronically.² The use of computer, laptop, tablet, android phone has become need for the society and organization. The advancement of ICT enable the transfer of document at real time across great distance, one can say it makes the world 'a global village'. This all happens by the advancement

¹ Retrieved from <https://www.infodev.org/infodev.org>, accessed on 21.7.2017.

² Retrieved from <https://www.michalson.com/blog>, accessed on 06.9.2017 at 2.32pm.

of technology. By the help of this, people reshaping their interactions with other organization. It help in restructure the organization and opportunity to engage in learning and knowledge management due to the ability to store, retrieve, calculate, feed information.

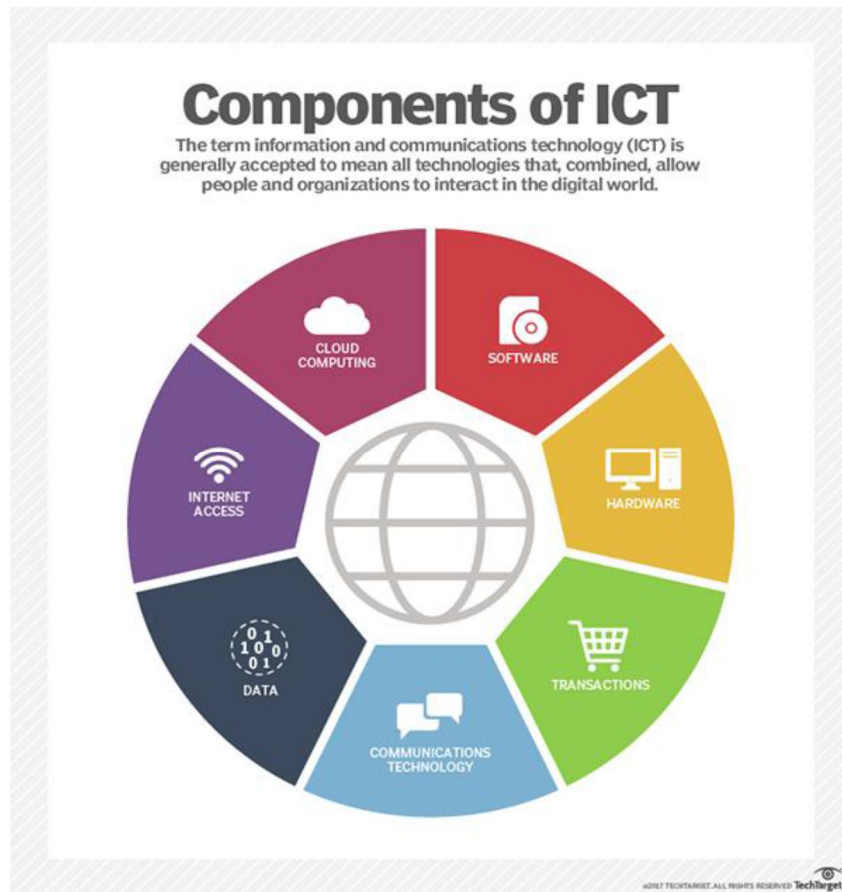


Figure 1.1: Components of ICT³

The development of advanced technologies in search engines like Google, yahoo search, Bing, Ask, AOL, top search and social media like blog, Twitter, Facebook and IT device such as mobile phones, laptops and desktops have become depository of information. The social media has completely transformed the way people consume information. Meanwhile from the ancient times, education has brought immense transformation in the social and economic phases. Currently, in terms of access, equity and quality education in India is experiencing a bigger transformation. Through the

³ Retrieved from <https://www.searchio.techtarget.com/defination/ICT-information-and-communication-technology>, accessed on 08.9.2017 at 3.30 pm.

speedy developments in information and communication technologies the transformation is highly influenced all over the world.

Currently ICTs, including laptops wirelessly connected to the Internet, cell phones have become inexpensive, low rate video cameras, personal digital assistants, and accessible as well as cohesive in greater sections to the society all over the world. It can rearrange organizations, promote cooperation, develop the lucency and quick responses of governmental agencies, increase democratic contribution of people, making education and health care further commonly accessible, encouraging cultural creativeness, and enhance the development in social integration. “ICT also allows for the creation of digital resources like digital libraries where students, teachers and professionals can access research material and course material from any place at any time” (Bhattacharya and Sharma, 2007). Researchers and academics get facilitated with the strong networking and therefore can share their scholarly material. This avoids replication of work.

In view of ICT, Education can be classified into mentioned categories:

- E-Learning
- Blended Learning
- Distance Learning

E-Learning:

E-Learning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom. E-Learning or “electronic learning” is a term that describes education using electronic devices and digital media. It encompasses everything from traditional classroom that incorporate basic technology to online universities. E-Learning in traditional settings may include educational films and PowerPoint presentations. These types of media can provide students with content that is more dynamic and engaging than textbooks and a whiteboard.

Online education is another type of e-learning. Many colleges and universities now allow students to submit assignments and complete tests online. Some educational institutions are 100% online, meaning students never have to attend class inside a physical classroom. In order to maintain a sense of community, online universities

often provide and even require students to participate in online discussions using Moodle or another virtual learning environment. Moodle is an acronym for “Modular Object-Oriented Dynamic Learning Environment.” It is an online educational platform that provides custom learning environments for students.

Online classes are typically administered by an accredited professor who may give live or recorded lectures that students can watch online. The professor also grades students’ assignment and is available to answer individual questions. In most cases, credits earned online are equivalent to those earned in a traditional classroom setting.

Advantages of e-learning:

- a. We are able to link the variety of resources in different varying formats.
- b. It is a very effective way of delivering courses online.
- c. Because of being convenient and flexible, the resources are available from anywhere and at any time.
- d. Everyone, who are part time students or are working fulltime, can take advantage of web-based learning.
- e. Web-based learning promotes fast and independent learning.
- f. As we have access to the net 24x7, we can train our self anytime and from anywhere.
- g. There is no hard and fast rule. We can train ourselves on a day to day basis, as well as also on weekends or whenever we have the free time.
- h. The video instructions can be rewind and seen and heard again and again if we do not understand the lesson or a topic for the first time.
- i. New educational approaches can be used.
- j. It helps in creating an entertaining learning process.

Blended Learning:

Blended learning is a term used to describe the way e-learning is being combined with the traditional classroom teaching methods and independent study to create a new, hybrid teaching method. Also called hybrid learning and mixed-mode learning, blended-learning experiences may vary widely in design and execution from institute to institute.

i. Face to face learning

It denotes to learning that arises in an old classroom situation where the instructions have been delivered to a group of students by a faculty member. This could include lectures, conference, workshops, presentation, training, and much more.

ii. Self-paced Learning

It delivers the elasticity to learning according to the convenience of learners' specific time and speed, it happens in a diversity of ways such as: studying particular chapters of text book, reading course material accessible through web-based or CD based course, appearing in pre-recorded lessons or periods, reading courses discussed by faculty member, working on projects & plans, and searching & surfing the internet.

iii. Online Collective Learning

It includes collaboration between learners and faculty members through the web; this communication can happen in one of the following methods:

- i. Synchronous interaction.
- ii. Asynchronous interaction.

Synchronous, means 'at the same time', it includes networking with a faculty member and other learners via the web in real time by means of technologies such as computer-generated lecture hall and / or dialogue rooms. On the other hand, Asynchronous means 'not at the same time'; it allows learners to network with their classmates and faculty member at their own suitability, such as networking through electronic mail.

Distance Learning:

It is a sort of education, where learners self-effort at home or at the working place and interconnecting through communicating with faculty and other students via electronic mail, electronic forums, , chat rooms, immediate messaging, videoconferencing and other forms of computer-centred communication. It is also known as open learning. Maximum distance learning programs embrace a Computer Based Training (CBT) system and communications tools to create a dynamic lecture hall. Open and distance learning (ODL) system is a system wherein teachers and learners need not necessarily

be present either at same place or same time and is flexible in regard to modalities and timing of teaching and learning as also the admission criteria without compromising necessary quality considerations. According to MHRD India's ODL system is consists of:

- a. Indira Gandhi National Open University(IGNOU)
- b. State Open Universities (SOUs)
- c. Institutes and Universities offering education and includes Correspondence Course Institutes (CCIs)

ICTs moreover permit for the production of digital assets like digital libraries where everyone such as scholars, professors and professionals can access research material at anywhere and at anytime. Such facilities permit the networking for the researchers and scholars and therefore sharing of academic material and leads to quality enhancement in training and education.

In current years, numerous studies and reports have painted the chances and the prospective welfares of information and communication technologies (ICT) for refining the quality of education. ICT is observed as a “major tool for building knowledge societies” (UNESCO 2003, 1) and, chiefly, can be seen as the effective mechanism for school education level that will provide a better way to reconsideration and reshape the educational systems and developments, thus it can lead for quality education to all.

1.2. Higher Education in India

India dates back its rich and glorious tradition of higher education from early civilization times where teaching and learning process revolved around the ‘Gurukul System’. Nalanda, Takhashila, Vikramshila and Vallabhi were some of the important and famous universities of ancient India and they occupy a special place in the history of Indian Higher Education. Their nature and ideals would make them ‘first generation’ universities in contrast to the ‘modern’ universities we have today. The first three modern universities were established in British India in 1857 in Calcutta which is now known as Kolkata, Bombay now popularly known as Mumbai and

Madras. The fourth one the University of Allahabad came up after 30 years. Later, nearly after 30 years the fifth and the sixth universities opened their doors which were the University of Mysore and the Banaras Hindu University.

After Independence came the realization towards the importance of university education which was much needed for a cultural rebirth as well as meeting the requirements of scientific and technical studies to fulfil the manpower requirements in the recently independent nation.

Post-Independence period, India has grown rapidly the system of higher education and it has given major contribution to raise the socio-economic condition and political transformation within the country. However, the problems related with higher education reproduced. Access, equity and quality are the three major themes in higher education that continue to attract the attention of researchers and policymakers.⁴ Inequity between various social groups, between genders, between geographical areas i.e. rural and urban areas and between the rich and the poor is a very serious problem needed to be considered.

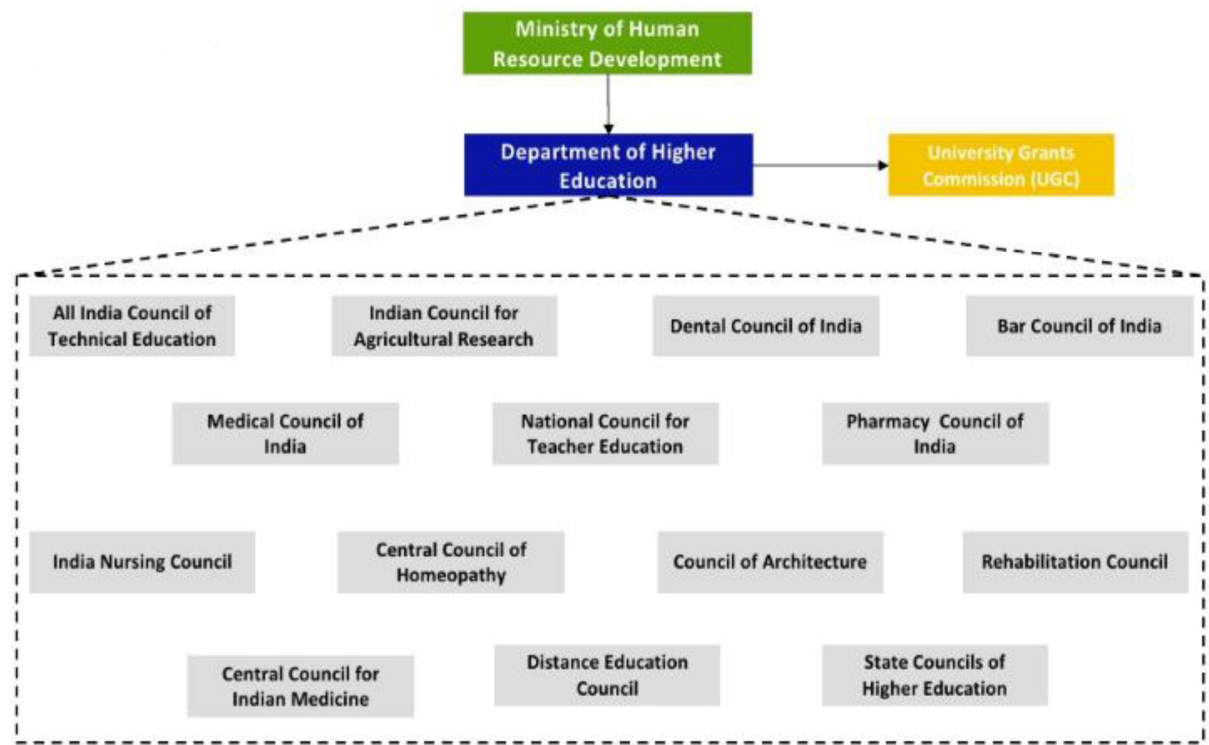
India felt the need for reconstruction far before the independence, but it took effect post-independence. Motivated by the able leadership of first Prime Minister Jawaharlal Nehru, the Indian system of higher education started expanding and was nourished time and again by various public policies and formation of different commissions and committees, like the University Education Commission (1948-49), foundation of the University Grants Commission (UGC) in 1956, Kothari Commission (1964-66), formulation of the first National Policy on Education (1968), and so on, till today.⁵

India with second largest population is habitat to the third largest higher education system in the world. The Department of Higher Education, MHRD, is responsible for overall development of the basic infrastructure of Higher Education in India, both in terms of planning and policy making. Government of India through Ministry of Human Resource Development (MHRD) under the Department of Higher Education shapes the policies related to higher education. The University Grant Commission (UGC) a statutory body which was established in 1956 through parliament enacted law

⁴ Jandhyala B.G.Tilak, Higher Education in India, (2013), p.p. 1-7.

⁵ Sen Damayanti, Higher Education Policies: The Indian Experience since independence, volume1:issue 10: December 2016; p.p. 15-21.

modelled on the UGC of United Kingdom is Responsible for co-ordination, evaluation and maintaining standards of higher education in India. UGC has been funded through MHRD is responsible for establishing central universities across India. UGC has established statutory councils to promote, provide grants, set standards and establishing professional education in different areas.⁶



(Source: Ministry of Human Resource Development, GOI)

Figure 1.2. Flow chart of higher education by Ministry of Human Resource Development

The UGC has the unique distinction of being the only grant-giving agency in the country this has been vested with two responsibilities: that of providing funds and that of coordination, determination and maintenance of standards in institutions of higher education.

⁶ Retrieved from <https://www.pprc.in/blog/history-of-higher-education-system-in-india-and-present-state/>

The UGC's mandate includes

- a. Promoting and coordinating university education,
- b. Determining and maintaining standards of teaching, examination and research in universities,
- c. Framing regulations on minimum standards of education,
- d. Monitoring developments in the field of collegiate and university education; disbursing grants to the universities and colleges,
- e. Serving as a vital link between the Union and State governments and institutions of higher learning,
- f. Advising the Central and State governments on the measures necessary for improvement of university education.⁷

1.3. Present Scenario of Indian Higher Education

India has one of the largest higher education systems in the world consisting of over 803 universities according to UGC as on 2017. Besides there are 37,204 colleges of higher learning in the country in February 2017 as per the latest statics from the UGC. Since independence the enrolment of students has increased in the universities and colleges to more than 2.9 crores out of which 1.6 crores are boys and 1.3 crores are girls. The states with the most number of colleges (in descending order) are Uttar Pradesh, Andhra Pradesh, Maharashtra, Karnataka, Rajasthan, Tamil Nadu and Madhya Pradesh. And yet, there has been not much improvement noticed in the delivery of Higher Education.

Table 1.1.Universities in India

Sl. No.	Type of Institution	No. of Institution (as on 2013)	No. of Institution (as on 2017)
1	Central Universities	44	47
2	State Universities	310	365
3	Private Universities	168	269
4	Institutions Deemed to be University	129	122

(Source: UGC and MHRD Reports)

⁷ Retrieved from <https://www.ugc.ac.in>

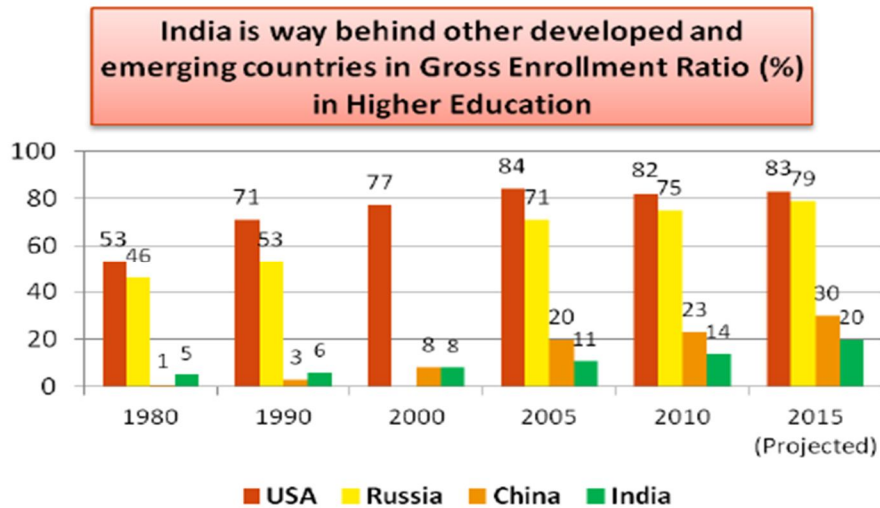
Table 1.2.Universities in Uttar Pradesh

Sl. No.	Type of Institution	No. of Institution (as on 2017)
1	Central Universities	6
2	State Universities	28
3	Private Universities	8
4	Institutions Deemed to be University	29
	Total no. of Universities	71

(Source: UGC and MHRD Reports)

The Ministry of Human Resource Development (MHRD) is responsible for supervising the functioning of all the universities in India through its chief regulatory body- Universities Grant Commission (UGC). The other government organizations whose contribution for the upliftment of Indian educational scenario is worth mentioning are All India Council for Technical Education (AICTE) and National Assessment and Accreditation Council.

Chart. 1.1. Gross Enrollment Ratio at Higher Education



(Source: EY-FICCI report 2009, 2011)

According to EY-FICCI (the Federation of Indian Chambers of Commerce and Industry), the phenomena is also expected to play out in India-by 2020, services and manufacturing sectors are expected to be contributing to India's GDP by 90% and

employment by 75%. In EY-FICCI report, Higher education in India: Vision 2030, it was articulated the vision for the Indian higher education system as not only the best in the world but also best for the world.

1.4. Role of ICT in Higher Education

ICT introduction in higher education has reflective effects for the complete education development fluctuating from investment to use of technologies in allocating with main issues of access, equity, management, efficacy, excellence, research and invention. ICT applications provide institutions with a competitive edge by offering enhanced services to students and faculty, driving greater efficiencies and creating enriched learning experience.

The growing use of ICT as an instructional medium is changing and will likely continue to change many of the strategies employed by both teachers and students in the learning process. The following sections describe particular forms of learning that are gaining prominence in universities and schools worldwide:

a. Student-centred Learning

Technology has the capacity to promote and encourage the transformation of education from a very teacher directed enterprise to one which supports more student-centred models. Evidence of this today is manifested in

- The proliferation of capability, competency and outcomes focused curricula
- Moves towards problem-based learning
- Increased use of the Web as an information source, Internet users are able to choose the experts from whom they will learn

The use of ICT in educational settings, by itself acts as a catalyst for change in this domain. ICTs by their very nature are tools that encourage and support independent learning. Students using ICTs for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools (Reeves & Jonassen, 1996), the influence of the technology on supporting how students learn will continue to increase.

b. Supporting Knowledge Building

The emergence of ICTs as learning technologies has coincided with a growing awareness and recognition of alternative theories for learning. The theories of learning that hold the greatest sway today are those based on constructivist principles (Duffy & Cunningham, 1996). These principles posit that learning is achieved by the active construction of knowledge supported by various perspectives within meaningful contexts. In constructivist theories, social interactions are seen to play a critical role in the processes of learning and cognition (Vygotsky, 1978).

In the past, the conventional process of teaching has revolved around teachers planning and leading students through a series of instructional sequences to achieve a desired learning outcome. Typically these forms of teaching have revolved around the planned transmission of a body of knowledge followed by some forms of interaction with the content as a means to consolidate the knowledge acquisition. Contemporary learning theory is based on the notion that learning is an active process of constructing knowledge rather than acquiring knowledge and that instruction is the process by which this knowledge construction is supported rather than a process of knowledge transmission (Duffy & Cunningham, 1996).

The strengths of constructivism lie in its emphasis on learning as a process of personal understanding and the development of meaning in ways which are active and interpretative. In this domain learning is viewed as the construction of meaning rather than as the memorisation of facts (Lebow, 1993; Jonassen & Reeves, 1996). Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource-based, student centered settings and by enabling learning to be related to context and to practice (Berge, 1998; Barron, 1998). As mentioned previously, any use of ICT in learning settings can act to support various aspects of knowledge construction and as more and more students employ ICTs in their learning processes, the more pronounced the impact of this will become.

c. ICT in Teaching and Learning

While for higher education sector is planned to build a knowledge repository of multidisciplinary subjects, as a strategy to counter the shortage of faculty in higher education, EDUSAT will be used to share the available expertise through modular programmes. This will be done by networking institutions, creation of virtual laboratories, creation of database, access to expert lectures and technological development in industries and research organisations etc. Teaching and learning can further be improved by replacing of conventional teaching instead of the usual age old method of chalk and talk for teaching by innovative methods like power point presentations and animations, modelling and simulations, video clips and using AV aids, LCD projectors etc. this enhances the learning ability of the student and also helps the teacher to elaborate the difficult concept effectively within a short time span.

1.5. Women and ICT

It is a commonly held view that women are less engaged with Information and Communication Technologies (ICTs) than men. ICTs are for everyone and women have to be an equal beneficiary to the advantages offered by the technology. The benefits accrued from the synergy of knowledge and ICT need not be restricted to the upper strata of the society but have to freely flow to all segments of the female population. Knowledge and its widespread dissemination in an absorbable and usable form is therefore quintessence to initiate the change process for women's development.

In the context of knowledge sphere, the issues of gender equality, equity and empowerment of women become even more significant as women have a strategic role in incubation and transfer of critical knowledge, which often forms the blue print of survival for communities to adapt and minimize their risk in adverse circumstances. Women, because of their biological and social roles, are generally more rooted than men in the confines of their locality. They are therefore more aware than men of the social, economic and environmental needs of their own communities (Miller, 2000).⁸

⁸ Retrieved from Enhancing Women Empowerment through Information

Historically, the isolation of women from the mainstream economy and their lack of access to information because of societal, cultural and market constraints have led them to become distant from global pool of information and knowledge. This distance is reflected in the levels of empowerment and equality of women in comparison to men and has enormously contributed to the slow pace of development in India.

1.6. LITERATURE REVIEW

Ajit Mondal and Dr. Jayanta Mete (2012) studied on ICT in Higher Education: Opportunities and Challenges, they found that there has been great quality enhancements by increasing the usage of Information and Communication Technology (ICT) and also has modified the teaching and learning process at every stages of higher education leading to progress among the students from various institutions and universities. There has been gradual rise in the adapting the online and virtual environment rather going for the traditional methods of teaching and learning. the integration of ICT brought endless opportunities for students, teachers and every intellectual from education system. Distance learning has also been enhanced by ICT. Adopting technology is essential for the teachers or trainers in their teaching styles to provide better pedagogical and educational advancements and advantages to their learners. The integration of ICT in education not merely advances classroom teaching learning method, but also delivers the facility of e-learning. Education system is now able to influence isolated areas and learners are capable to access qualitative learning environment from anywhere and at any time. Effective implementation of ICT is important to bring transformation is more about persuading and empowering teachers assisting them in their involvement with students in learning rather than acquiring only computer skills and obtaining software and equipment. ICT assisted education will eventually lead to the democratization of education.

UNESCO (2009) World conference on Higher Education at Paris discussed the paper on ICTs for Higher Education. This paper explains that ICT has come up with more variant features which beyond the personal computers and moved on to other technologies such as virtual learning, mobile technology, cloud computing etc. it has

also proposed that Higher Education Institutions should collaborate with these evolving technologies into their ICT policies and programme, institutional and sector-wide higher education ICT policy and planning should classify the precise part of ICT in improving research abilities and provide for satisfactory infrastructure financed through capacity building. Digital libraries, access to online records, networking, etc., can be improved over inter-institutional association to guarantee ideal usage of ICT expertise and resources. In summary, ICTs do not merely reinforce the infrastructure of higher education but greatly increase our power to implement the academic ideal that knowledge is important.

Uttam Kumar Pegu (2014), in his article “Information and Communication Technology in Higher Education in India: Challenges and Opportunities”, mentioned that there has been no doubt about what Information and Communication Technology has brought up in the field of education, but there is still a need to achieve the desired level of IT adoption in the Higher Education in India. The finest use of chances rising due to dissemination of ICTs in higher education system presents massive challenge. However, it has converted to crucial support system for higher education as it might address some of the challenges facing higher education system in the country. Furthermore, it can deliver access to education irrespective of time and geographical obstacles. Likewise broader availability of course material in education which can be shared by means of ICT can raise improved teaching. Though technology can affect the way how students are taught, it would also support development of combined skills besides knowledge establishing skills. ICT enabled education will eventually lead to the democratization of education and it has the possibility for renovating higher education in India.

Syed Noor-UI-Amin (2009) studies on information communication technology as a change agent for education, he found that the implementation and usage of ICTs in education have an optimistic impact on teaching, learning and research. He mentioned in his study that ICT can touch the distribution of education and allow broader access to the similar. It can leave an impact the way students are taught and how they learn. It would deliver the rich environment and enthusiasm for teaching learning progress. These possibilities can have an impact on students’ performance and achievements.

Manisha and Anju (2014) studied the role of ICT in Higher Education in India, the researchers mentioned in their article that the ICT plays an important role as a strong agent for change among many educational practices i.e. conducting online exam, pay on line fees, accessing on line books and journals. Thus ICT in education advances teaching learning process and offers the facility of online learning to thousands of learners who can not avail the benefits of higher education due to numerous checks, such as, time, price, geographical location, etc. Ozdmier and Abrevaya (2007) asserted that ICT reducing the cost per students and expanding the enrolments and makes the provisions for employers and supports enduring learners.

Bosede Oyeteju Amoo (2004) conducted the study on ICT needs assessment of Higher Education women, a case study of Lagos State University (LASU). The study on LASU women academics with a focus on the identification of their training needs. In this study the researcher found that most women can perform basic computer operations. The women are inexperienced with presentation and internet competencies as well as the technical applications of windows programme. They were eager to be trained in the skills where they are deficient. Almost all of them had their personal computers but not all of them can operate them. Some of the women academics did not had e-mail addresses while some who had are being assisted to check their mails.

Tripti K Srivastava, Ved Prakash Mishra et.al (2014) proposed study on Role of Information Communication Technology in Higher Education: Learners Perspective in Rural Medical Schools. In the study Quantitative analysis of closed ended responses was done by percentage distribution and Qualitative analysis of open ended responses and FGD passages was done by coding and observing the trends and patterns respectively. Overall the observations were in favour of increasing usability and dependability on technology as ready reference tool of subject information. Learners valued text books and technology almost equally and regarded computer training as a desirable incorporation in medical curriculum. The researchers came up with the conclusion that the role of technology in education should be anticipated and appropriate measures should be undertaken for its adequate and optimum utilization by proper training of students as well as facilitators.

DR. MD. Mahmood Alam (2016) studied the “Use of ICT in Higher Education”. The researcher came up with the conclusion that higher education institutions are essential

performers in the community and can be perceived as models for society in the search of sustainable growth. The researcher recommends that the policies made by government should be formulated for encouraging girls with respect to the adoption of ICT. Without appropriate empowering of women, it is not imaginable to introduce ICT in education.

Conclusion of the entire Literature review on the basis of above discussion it is found that technology in higher education has the power to change the teaching and learning process in the most effective way. Further, it can prevent most of the expenditure done by the students on higher education. Integration of ICT facilitates the students by reducing the gap of time and place.

1.7. Significance of the Study

The research study examines the use and potential of ICTs in the higher education among women. This study promotes as well as encourages the women to adopt the ICTs in education related issues or individual study. The population of this study is categorized on the female students pursuing higher education. The study wanted to know about infrastructure available educational segment of the women and social freedom and opportunities in rural and urban areas. This research let them to know that how ICT is beneficial to the women for their individual study and innovative learning process. Many times women feel shy to communicate their problem with others, not only with others even with the teachers too. Female students can learn useful life skills through technology without the barrier of time and place. So this study would be beneficial to the women in adopting the ICTs for their personal knowledge. This study helps the government to take action in communicating the plans and program to the women. The applicability may invite government intervention to stop digital divide among women and also to more empowerment for women with ICT usage.

1.8. Statement of the Problem

Literature review suggests that the empirical study on micro level is less in this area. Further, it is formed that research on ICT and its use by the female students belonging to SC/ST, OBC and General caste are scarcity. Through this study researcher tried to

find out the uses of ICT among women. Through interview schedule the researcher got to know about the extent of ICT use in their daily life

Hence, there is a need to understand the use of ICT at Higher Education by female students hailing from diverse socio-economic background. Against this backdrop is also need to explore digital divide in actual context.

1.9. Objectives of the Study

1. To examine the Government policies and programmes regarding ICT in Higher Education.
2. To analyse the socio-economic status of SC, OBC and Non-reserved category female students from rural and urban areas studying at higher education.
3. To understand the use of ICT among the female students from rural and urban area.
4. To compare digital divide among female students at college level.

1.10. Hypotheses

1. Government policies and programmes are not contemporary so far ICT and higher education is concerned.
2. Female students having higher caste background are more familiar with ICT and its uses.
3. Female students hailing from poor socio-economic families cutting across rural and urban areas are less conversant with ICT.
4. Female students from urban area are better informed about ICT and its use.
5. Society generated and system generated obstacles are directly linked with use of ICT by the students.
6. Area of residence not always determines digital divide.

1.11. Research Methodology

Research is a logical and systematic search for new and useful information on a particular topic. It is an investigation of finding solution to scientific and social problems through objective and systematic analysis. It is a search for knowledge, that is, a discovery of hidden truths. Here knowledge means information about matters. Only by doing research in some times it is possible to make progress in any field. Research is indeed civilization and determines the economic, social and political development of a nation. Every research has its own purpose on the use and potential of ICT in women higher education which is based on Lucknow. This study is based on Lucknow which has randomly been selected by the researcher. Two Post graduate colleges: one government and one private college has been selected from the district. The government college selected was situated in urban area and the private college selected was situated in rural area.

Research Design

The researcher has variety of research designs available to choose for investigating the research objectives. There are various typologies that can be picked up for categorizing them. The categorization that is done universally and is simple to comprehend is the one based upon the purpose or objective of the study.

For this study, exploratory research design has been used by the researcher. Exploratory research designs are the simplest and most flexibly structured designs. It is flexible in its approach and mostly involves a qualitative investigation. “Exploratory research is research conducted for a problem that has not been studied more clearly, intended to establish priorities, develop operational definitions and final research design. Exploratory research helps determine the best research design, data-collection method and selection of subjects.”⁹ Exploratory research is the most flexible research design and can address any type of research questions such as (why, what, how when). Researcher may use primary or secondary research, or a combination of both types of research.

⁹ https://en.m.wikipedia.org/wiki/Exploratory_research

Qualitative and Quantitative Research

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomenon that can be expressed in terms of quantity. In this study researcher dealt with quantitative research at the time of variables and to know the frequency of using media or ICT.

On the other hand qualitative research has been taken place, it examine the behaviour of the people. The researcher analyse various factors which done with ICT use. It examines the uses and reaches of the program or scheme that proposed by government. There is also another reason to take qualitative method because this study dealt with the attitude, behaviour and purpose of using ICT.

Sampling

Sampling is a procedure of choosing or selecting an adequate number of elements from the population suitable for the study or research, so that the analysis of the selected sample will not only help in the gathering the characteristics of the population but will also enable the researcher to generalize the results.

The female students pursuing higher education has been selected by the researcher through purposive sampling of the study and is also exposed to the use of information communication technology.

Purposive sampling is also known as convenience sampling which is used to obtain information quickly and inexpensively. Purposive sampling is commonly used in exploratory research. This is because the purpose of an exploratory research is to gain an insight into the problem and generate a set of hypotheses which could be tested with the help of a conclusive research. Thus for the purpose of saving time, money and quick answer, this current study researcher used a purposive sampling.

Research Tools and Techniques

Data Sources

Both primary and secondary data has been used in this study. The focus was on primary data which was collected through field survey and interviews by the researcher.

Primary data as the name suggest is original, problem specific or can be called as project specific and collected for the specific objectives and needs spelt out by the researcher. The authenticity and relevance is reasonably high. Primary data collection uses experiments, surveys or direct observation. The primary data cannot be changed or altered from original source; therefore its validity is greater than the secondary data.

Similarly the secondary data has been collected through available sources like college records, records from Uttar Pradesh Higher Education Commission and Ministry of Human Resource Development.

Secondary data as the name implies is that information which is not topical or research-specific and has been collected and compiled by some other researcher or investigative body. The said information is recorded and published in a structured format, and thus, is quicker to access and manage. In most instances, unless data is a product, it is not too expensive to collect.

Data Collection

For this study, the data has been collected by using Interview Schedule as well as Questions prepared separately for both teachers and students. Interview schedule has been used by the researcher which is a set of questions designed to be asked exactly as worded. Interview schedule have a standardised format which means the same questions are asked to every respondents in the same sequence.

Informal but in-depth discussion with teachers and students as well as non-participant observation has been done by the researcher.

Data Analyse

The collected data has been analysed by using SPSS. SPSS stands for Statistical Package for the Social Scientist is a tool used for data management and analysis. It is used in many fields such as education, medicine, business and others. SPSS research tool can compare and explore the differences between responses to two or more questions.

Area of Research

Lucknow situated at the heart of Uttar Pradesh, 500km south east of New Delhi, Lucknow is surrounded on the eastern side by 'Barabanki' District. On the western side Lucknow surrounded by Unnao District, on the southern side it is surrounded by 'Raebareli' District and on the northern side by 'Sitapur' and 'Hardoi' District. Sitapur District is one of the district of Uttar Pradesh states of India with Sitapur town as the district headquarters. A 'Sitapur' district is a part of Lucknow division which cover 5,743 square kilometer. The city known by the name of 'Awadh' during ancient times situated in the heart of the great Gangetic plain. It is surrounded by its rural town and villages like the Orchard, Sitapur, Kakori, Itauja, Mohanlalganj. Lucknow city is located in the seismic zone III¹⁰.

Gomti River flows through the city dividing it in trans- Gomti and Cis- Gomti regions. Some of the tributaries of this River are the Kukrail, Loni and Beta. The Sai River flows from the south of the city. Lucknow is ascensible from every part of the India through air, rail and road. Lucknow was founded in 13th century. Lucknow location is responsible for diverse weather pattern and climatic changes. No where the weather will be uniform so Lucknow also does not have a uniform weather throughout the year and experiences extreme summer and extreme winter season. The total area covered by Lucknow is around 3204 square kilometers with total population 22.45 Lakhs as per 2001 census. Lucknow was the epicenter of the 1857 war of Independence and much before that; it was the seat of line of 'Nawab' who gave the city its unique identity¹¹. Today Lucknow is the hub of education, whether for higher education, school education or competitive exam

¹⁰ Retrieved from <https://www.ramadalucknow.com/about-ramada-lucknow/about-lucknow>, accessed on 08.05.2017@ 9:39pm

¹¹ Retrieved from <https://www.nainitaltourism.com/lucknow-city-airport-station-university>, accessed on 08.05.2017 @ 9:39pm

preparation in various institutions.¹² Lucknow has all the great centers of high education and various medical colleges. Today everyone is involved in social media. People of Lucknow division access internet for their requirement and need. So to know the extent of use of ICT, researcher has been chosen this area of research for this study. Researcher has taken two colleges which are located in urban area which is Ashiyana and another is located in rural area which is Mohanlal ganj to collect data from the sample.

¹² Retrieved from <https://www.lucknow.me/geography.html>, accessed on 10.06.2017@5:50pm



Figure 1.3. Map of Lucknow District¹³

¹³ Retrieved from <https://www.lucknow.me/geography.html>, accessed on 10.06.2017@5:50pm.

Chapterization

Chapter 1: Introduction

Chapter 2: Government Policies and Programmes for ICT at Higher Education

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CHAPTER 2

GOVERNMENT POLICIES AND

PROGRAMMES FOR ICT AT HIGHER

EDUCATION

CHAPTER 2

Government Policies and Programmes for ICT at Higher Education

As we have seen in previous chapter- chapter 1 which explained the use and importance of ICT in Indian education system and the role of ICT in Higher Education, further in this chapter we will learn about the programmes and policies run by the Government of India in the field of higher Education which will continue by analysing the work done by the government till date.

Usage of ICT for supporting educational development and growth has been continuously a part of policy and plan documents on education. At the moment, the decision makers at both central and state are favouring inclusion of new computer and internet based IT/ICT in education (adopting cloud based virtual classrooms/universities and mLearning initiatives). The Government of India has implemented several national as well as state specific schemes that run concurrent to large number of privately led IT initiatives at school and higher education levels.¹⁴

The National Mission on Education through ICT was launched during the Eleventh five year plan. Under this initiative, 392 Universities and 18,374 colleges were provided broadband connectivity. On-going initiatives for creation of e-content were strengthened and new initiatives were taken up. Virtual labs were developed for science and engineering and are currently being rolled out. Enterprise resource planning software for administrative and financial management of institutes and learning management system, both using open source software have been developed and are being tested by a number of institution. A low-cost computing-cum-access device “Aakash” was developed and is being currently tested for large-scale deployment. Overall an investment of Rs. 1,472 Crore was made on this mission during Eleventh plan.

However, there is significant disparity in ICT usage between institutions in urban areas and those in semi-urban/rural parts of the country. The quality of ICT infrastructure and its use is limited in a large percentage of autonomous/affiliated colleges especially due to lack of trained IT staff, connectivity issues and shortage of

¹⁴ <https://www.altencalsoftlabs.com/blog/resource-center/it-ict-adoption-in-indian-higher-education>

funds. The rapid increase in mobile penetration and evolution of 4G wireless technologies such as WiMax/LTE it is expected that broadband connectivity issues can be resolved by the end of the 12th five-year-plan (2012-2017) in semi-urban/rural parts of the country. The draft National policy on Education was framed in 1986 and also has been modified in 1992 which was stressed upon employing Educational Technology to improve the quality of Indian higher education. The vision, mission and policy goals as laid in the policy were

Vision

The IT/ICT policy in education aims at preparing youth for participating actively in the establishment, sustenance and growth of a society full of knowledge leading to all round socio-economic development of the nation and enhanced global competitiveness.

Mission

Device, catalyse, support and sustain IT/ICT and enabled activities and processes in order to improve Access, Equity and Quality.

Policy Goals

To achieve the above, the IT/ICT policy in Education Will work towards,

- Creating an environment in the states to develop IT/ICT knowledgeable community;
- Creating an IT/ICT literate community who can deploy, utilize, benefit from IT/ICT and contribute to nation building;
- Create an environment of collaboration, cooperation and sharing, conducive to the creation of demand for an optimal utilization of and optimum returns on the potentials of IT/ICT in school/ higher education;
- Promote universal, equitable, open and free access to state-of-the-art IT/ICT enabled tools and resources to all students and teachers;
- Promoting development of localized quality content and enables students and teachers to partner in the development and critical use of shared digital resources;

- Promote development of professional networks of teachers, continuing education of teachers; guidance, counselling and academic support to students;
- Promote research, evaluation and experimentation in IT/ICT tools and enabled practices in order to inform, guide and critically utilize the potentials of IT/ICT in education,
- Motivation and enable wider participation of all sections of society in strengthening education through appropriate utilization of IT/ICT.¹⁵

2.1. National Mission on Education through Information and Communication Technology (NMEICT)

The National Mission on Education through Information and Communication Technology (NMEICT) is missioned as a centrally sponsored scheme to influence the potential of IT/ICT, in learning and teaching process for the advantage of all the learners in Higher Education Institutions in anytime and anywhere mode. Content generation and connectivity along with provision for access devices for institutions and learners are the major components of the mission.

Under the mission, a correct and proper equilibrium between the content generation, research in captious areas relating to imparting of education and connectivity for assimilating the knowledge with the advancements in the other countries will be attempted. For which, critical mass of experts are needed in every field working in a networked manner with lot of dedication. Although there has been several efforts have been on-going in this area by different organisation or institutes there is a need of holistic approach to build up the synergies between various efforts.

Emphasis on ICT is a crying need as it acts as a multiplier for capacity building efforts of educational institutions without compromising the quality.

To sustain a high growth rate of India's economy through capacity building, this mission is necessary and also it can empower people by providing knowledge and for promoting new, upcoming multi-disciplinary fields of knowledge.

¹⁵ IT/ICT Adoption in Indian Higher Education, Alten Calsoftlabs, 2012, p. 5

2.2. Central philosophy of the Mission

There are three guiding philosophies for this effort-

- a) No talent of the country should be allowed to go waste,
- b) All the services available through the content delivery portal Sakshat should be free and
- c) Freely available material on the web should be used so as to avoid reinventing the wheel.

2.3. Scope of work for the Mission

1. It shall work for scaling of the Education Help Line-‘One Stop Education Portal’-“SAKSHAT”. According to the Mission this helpline shall take care of the needs of the entire learning community including the students enrolled in different institutions and also lifelong learners by broadly utilizing e-learning concepts and the ICT based methodology. For easy and smooth browsing “SAKSHAT” shall be fully equipped with intelligent navigation techniques. Scholarship programme run by the Ministry of Human Resource Development shall be integrated with the educational portal and ensure the distribution of Scholarship electronically. For developing and uploading e-content that also of high quality on to “SAKSHAT” in all discipline and subjects shall be encouraged by the Mission by making fullest use of animation and multimedia technologies in order to make learning interest and clarity of learners’ concept.

2. The Mission shall encourage support and welcome every agency and intellectual, governmental or non-governmental, to contribute for the growth and development of the portal by way of e- content development and uploading of it on to the portal. The content developed by any intellectual or any agency shall be evaluated before placing them on the portal in order to ensure the authenticity, correctness and the quality of the contents.

3. With the help of experts to evaluate the knowledge e-content available on the web and also those are generated within the country shall be undertaken by the Mission so that a credible rating is available to the learners.
4. The mission shall work and extend support for building the knowledge network among the Higher Education institutions. Seamlessly integrate with the Integrated National Knowledge Network in the country in order to ensure free availability of the mentioned knowledge- e-content to all users or learners. Goal of National Knowledge Network is to make broadband connectivity available to each citizen or student free of cost for education purpose and providing access devices such as computers and broadband connectivity to all educational institutions.
5. The Mission would help Governmental and Non-governmental agencies to launch a mass movement to spread digital literacy for teacher empowerment so that they can access e-devices and use the computers.

2.4. Few case studies on the growing footprints of ICT in Higher Education

- a. So far, nearly 400 Indian Universities have been provided 1 Gbps connectivity or have been arranged under the scheme and more than 14,000 colleges have also been provided VPN connectivity.
- b. Creation of e-content for 998 courses in phase-II in Sciences, Humanities, Engineering, Technology and Management has been undertaken by IIT Madras.
- c. Consortium for Educational Communication has been tasked with creating e-content for 85 undergraduate courses.
- d. UGC has cleared a proposal to publish e-content for 77 post-graduate courses
- e. National Programme on Technology Enhanced Learning (NPTEL), is a joint initiative of the IITs and IISc provides E-learning through online Web and Video courses in Science, Humanities and Engineering streams aiming to enhance the quality of Engineering education in the country by providing free online courseware.

- f. The National Knowledge Network (NKN) and Connected Digital has launched an initiative to cover 1,000 institutions besides providing digital campuses, video-conference classrooms, wireless hotspots, laptops/desktops to all students of professional/ science courses and Wi-Fi connectivity in hostels. A major development during the year has been the launch of Aakash – the low cost computing tablet on 5th October, 2011. An amount of Rs. 47.72 crore has been released to Indian Institute of Technology, Rajasthan, for the projects pertaining to acquisition and testing of low cost computing devices under the scheme of NMEICT.
- g. Using the A-View software developed under the NMEICT, there has been a 14 day teachers' empowerment program conducted for batches of 1,000 teachers at a time by IIT Bombay and are contemplating on a plan to conduct a 2-week long teacher training program for a batch of ten thousand teachers at a time. This program, developed under NMEICT, could become the bedrock for successful implementation of the proposed National Mission on Teachers.
- h. Under the N-List program of INFLIBNET, being run under NMEICT, lakhs of e-books and thousands of high quality paid e-journals have been made available to colleges and universities with a view to inculcating research culture in teachers and students. The model needs to be scaled up for maximizing the coverage and productive usage of the resources made available.
- i. IIT-Bombay has started the program of CDEEP (Centre for Distance Engineering Education Program) as emulated classroom interaction through the use of real time interactive satellite technology (Centre for Distance Engineering Education Program, India, 2007).
- j. The launch of EDUSAT brought satellite connectivity to large parts of rural India. Indira Gandhi National Open University (IGNOU) is leveraging satellite, television, and Internet technologies to offer online courses.
- k. Private sector participation like HP's Technology for Teaching Grant has transformed the ICT infrastructure in institutes like Anna University and Jadavpur University.
- l. In 2007, the Distance Education Council (DEC) allowed all allowed all premier institutes in the country to offer online courses. Since then IIM-C, IIM-B, IIM-K,

XLRI and other management institutes have started offering courses in association with private players like Hughes, Reliance, NIIT, etc.

- m. IIT-Kanpur has developed Brihaspati, an open source e-learning platform.
- n. An increasing number of private players like Hughes Global Education, Manipal Education Group, Centum Learning, UEI Global, Shiv Nadar University, etc. are offering online education courses in association with leading Central and State Universities leveraging with good ICT infrastructure.

Conclusion of this entire chapter on the basis of above discussion it is observed that the Government policies and programmes are effective steps taken by the government to improve the educational development at universities and institutions. The main vision of the policy is to prepare the youth to lead the nation towards the sustainable development and represent the country in global competitions. Whereas the mission of the policy is basically to support the youths those are intellectuals and can catalyse the ICT enabled activities to improve access, equity and quality.

As per the observation through various sources it has been found that much work in the field of ICT at higher education has been done by there is still scope of doing much more. Under the National Programme NMEICT, universities have been equipped by the ICT tools; content generation has been motivated among scholars by introducing Education Helpline- 'One Stop Education Portal'-“SAKSHAT” which can remove the geographical barriers and gender-based barriers in a simple term known as Digital Divide which means scholars and intellectuals from rural or isolated areas will also be able to see the materials uploaded to the portal and share their own work with others.

CHAPTER 3

SOCIO-ECONOMIC PROFILE OF FEMALE STUDENTS AT HIGHER EDUCATION

CHAPTER 3

Socio-economic Profile of Female Students at Higher Education

An analysis of the socio-economic profile of the respondents forms the bedrock for any sociological study. An examination of the social background and economic status of the respondent in the study is important to understand their approach in a proper manner and perception of key social issues. The social background of the respondents is determined by the interwoven factors that include age, caste, religion, education, place of residence, family income, marital status, gender etc. The social background and the economic position of person is taken as variables to study the social behaviour, attitude, prejudices of a person, as it governs the nature, forms perception of the social world and construction of social reality. The social background of the respondents in the study is presented in this chapter.

The socio economic profile of an individual shows the use of ICT among them. It also shows the availability of ICT tools at their individual level. Students from families with a lower SES tend to be less confident and capable in using ICT tools because they lack the availability of the equipment at home and are not exposed more to the use of ICT.

The “digital divide” – referring to the gap between those who do and those who do not have access to ICT’s (Warschauer 2003)- generally affects individual who are unemployed or in low-skilled occupations, and who have a low income and/or a low level of education. Students from families with a lower socio-economic status tend to be less confident and capable in navigating the web to find credible information (Alder 2014). Also Adegoke and Osoyoko (2015) support the theory that SES influences students’ access to ICT and internet. The findings of Hargittai (2010) suggest that even when controlling for basic internet access, SES is an important predictor of how people are incorporating the web into their everyday lives. Bozionelos (2004) showed that SES had a direct positive relationship with computer experience and an indirect negative relationship with computer anxiety. The findings are supportive of the digital

divide and they imply that information technology may in fact be increasing inequalities among social strata in their access to employment opportunity.

Socio economic status (SES) encompasses not only income but also educational attainment, financial security, and subjective perceptions of social status and social class. Socio economic status can encompass quality of life attributes as well as the opportunities and privileges afforded to people within society. Poverty, specifically, is not a single factor but rather is characterized by multiple physical and psychosocial stressors. Further, SES is a consistent and reliable predictor of a vast array of outcomes across the life span, including physical and psychological health. Thus, SES is relevant to all realms of behavioural and social science, including research, practice, education, and advocacy.

3.1. Socio-economic Status Affecting our Society

SES affects overall human functioning, including our physical and mental health. Low SES and its correlates, such as lower educational achievement, poverty, and poor health, ultimately affect our society. Inequality in health distribution, resource distribution, and quality of life are increasing in India and globally. Society benefits from an increased focus on the foundation of socioeconomic inequalities and efforts to reduce the deep gaps in socioeconomic status in India.

3.2. SES and Educational Issues

Several researches indicate that students from low socioeconomic status households and communities develop academic skills slower than children from higher SES groups (Morgan, et al., 2009). For instance, low SES in childhood is related to poor cognitive development, language, memory, socio-emotional processing, and consequently poor income and health in adulthood. Inadequate education and increased dropout rates affect children's academic achievement, perpetuating the low SES of the community. Improving institutional systems and early intervention programs may help to reduce some of these risk factors; therefore, increased research on the correlation between SES and education is essential.

3.3. Socio-economic Profile of the Respondents

Economic and demographic factors may have their greatest influence in determining the types of use and interest in ICT among students. The demographic characteristics, such as age, sex, location, occupation, income, family size, etc., have its influence on students' behaviour towards various educational opportunities. The knowledge of student's demographic variables helps in knowing the interest and knowledge of the students about ICT. Hence, it is appropriate to analyse the students' characteristics and profile before making an in-depth analysis of students' behaviour. In this chapter a discussion is made on students profile with a view to provide an insight into the various demographic variables of the respondents.

Demography is the study of the vital and measurable statistics of a population. Demographic variables include age, gender, marital status, family size, income, occupation, education religion, caste and social class. Size stands for the number of individual's in a population, while structure describes the population in terms of age, income, education and occupation. Distribution of the population describes the location of individuals in terms of geographical regions and rural, urban, or suburban locations. Each of these factors influences the interest of the students in ICT use.

3.4. Age

Age is very decisive factor which influence the interest and behaviour towards learning about technologies of the students. As the behaviour of students differs among different age groups, an attempt has been made to analyse the students' socio-economic profile by classifying the age group.

The age of individuals determines their maturity, exposure and individuality. Students' interest varies from age to age as one passes through different phases of age life cycle. A person's tastes, preferences and choices change with age. An attempt has been made to examine the relationship between students' age and ICT interest.

Table 3. 1. Age of the Respondents

Age Group	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
18-20	11	14.7	30	40.0
21-25	60	80.0	39	52.0
Above 25	4	5.3	6	8.0
Total	75	100.0	75	100.0

Source: Field Survey, 2018

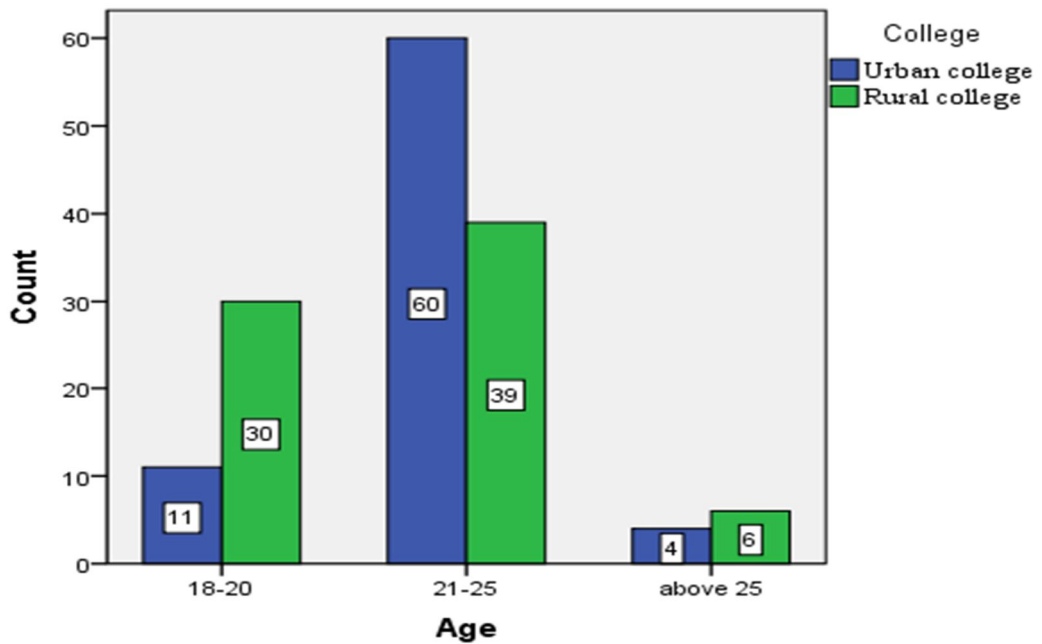


Chart 3. 1. Age of the Respondents

Table 3.1. shows that frequency of Age of the respondent. 14.7% respondent from urban college and 40% from rural college falls in the age category of 18-20, 80% respondent from urban college and 52.0% falls in the category of 21-25, 5.3% respondent from urban college and 8.0% from rural college falls in the category of age above 25.

Most of the respondents from urban area college fall into the age group of 21-25, which 80% whereas respondents from rural area college to the same age group are lesser than the urban. The reason behind this factor can be the late schooling in urban area or the schooling system differs from private to government schools. In rural area most of the students or their families prefer to send their kids to government school

rather than in private school due to which their schooling ended earlier as compared to the respondents from urban area college.

Table 3.2. Interest in using ICT from different age groups:

Age group of the respondents	Like	Dislike
18-20	27 (65.9%)	19 (34.1%)
21-25	70 (70.7%)	29 (29.3%)
Above 25	9 (90.0%)	1 (10.0%)

Source: Field Survey, 2018

Table 3.2. shows the interest of the students in using according to their age group. It can be examined that the students in the age group of 18-20 are more likely to have less interest in using ICT than the students falling to other age groups. 65.9% of the students from age group of 18-20 were seen to be interested in using ICT and 70.7% students falling into age group of 21-25 were seen to be interested in using ICT. It can be seen clearly that age is not the matter for taking interest in technologies. Though the age gap between the groups is negligible there was difference in the interest in the small age gap.

3.5. Income

Income determines standard and status of living of a person. The availability of the ICT tools or can be called as equipment at home varies regarding to their income. More the income more will be the investment in gadgets or ICT devices.

Table 3.3. Income Group of the Respondents

Income group	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
0-10	28	37.3	51	68.0
10-30	26	34.7	19	25.3
30-50	17	22.7	4	5.3
50-80	4	5.3	1	1.3

Source: Field Survey, 2018

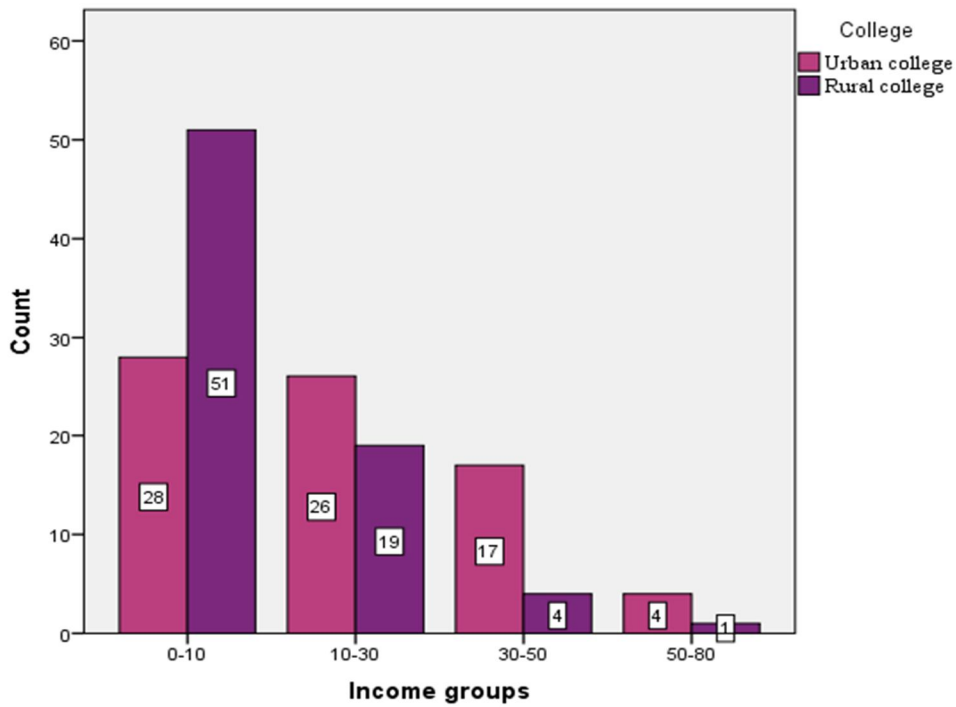


Chart 3.3. Income Group of the Respondents

Table. 3.3. represents the income group of the respondents. 37.3% respondent from urban college and 68.0% respondents from rural college fall in the income group of 0-10,000 per month. 34.7% respondent from urban college and 25.3% respondent from rural college fall in the income group of 10-30,000 per month. 22.7% respondent from urban college and 5.3% respondent from rural college fall in the income group of 30-50,000 per month, this show a huge difference between the income groups of urban and rural belonging of the respondents. Fewer respondents from rural college fall in the higher income group.

Table 3.4. Respondents and ICT Usage (Urban)

Income group	Like	Dislike	Total
0-10	13	15	28
10-30	20	6	26
30-50	14	3	17
50-80	4	0	4

Source: Field Survey, 2018

Table 3.5. Respondents and ICT Usage (Rural):

Income group	Like	Dislike	Total
0-10	34	17	51
10-30	16	3	19
30-50	4	0	4
50-80	1	0	1

Source: Field Survey, 2018

Table no. 3.4 and 3.5. represents the income group of the respondents and their interest in using ICT. Table 3.4 represents the respondents of urban college and their interest which could be seen as respondents falling into lower income group are less interested in the use of ICT and its reason could be their hesitation and inferiority towards technology. Many of them were willing to use the ICT.

In rural area college which is represented in table 3.5. shows the same condition as in the urban college. The lack of gadgets at home makes them shy and when they don't use it by themselves they hesitate in other places also in using technology. Therefore respondents from both the colleges show their unwillingness to use ICT due to lack of availability at home and knowledge of using them.

3.6. Religion

A religion is a set of beliefs that is held by a group of people. A religion is a particular system of belief in a god or many gods and those activities that are connected with this system. Each religion of god is originally a source of rapid material and moral progress for mankind, however over time, like all things, it will slowly begin to decline and eventually lose its original influence and relevance and beauty, and will be then in need of renewal. ICT has multidimensional effect on human life today. It shapes almost all the ways of life.

Table 3.6. Religion of the Respondents

Religion	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Hindu	65	86.7	66	88.0
Muslim	8	10.0	9	12.0
Others	2	2.3	0	00.0

Source: Field Survey, 2018

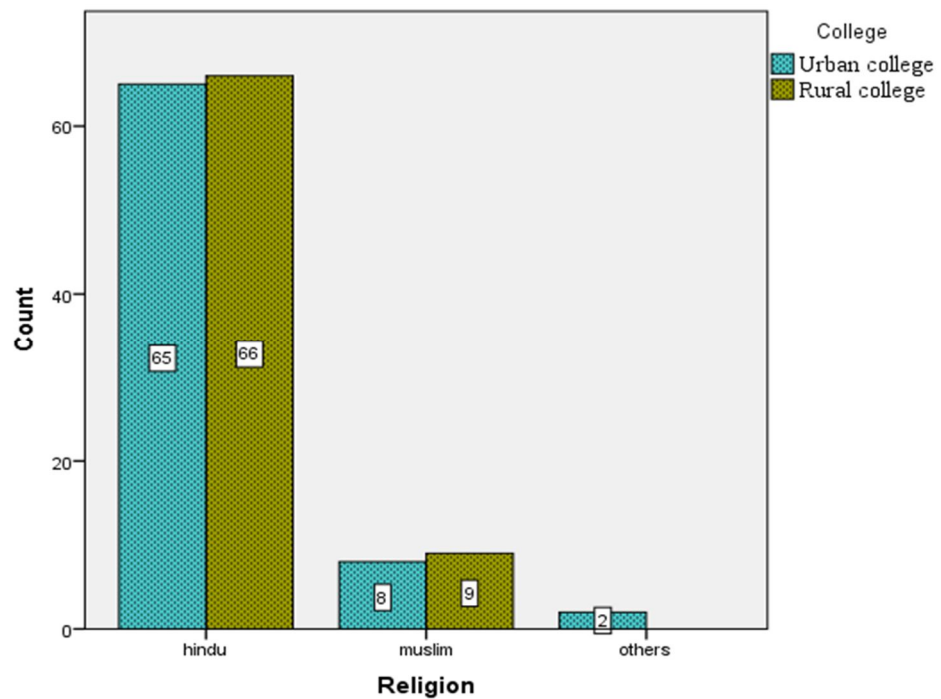


Chart 3.6. Religion of the Respondents

Table 3.6. represents the religion belonging of the respondents. In this, the researcher found that major part of the respondents belonged to the Hindu religion from both the colleges' i.e. 86.7% respondents from urban college and 88.0% respondents belong to Hindu religion. 10.0% respondents from urban area college and 12.0% respondents from rural area college belonged to the Muslim religion whereas only 2.3% respondents from urban college belonged to the other religion. There are no major findings on the use or interest of using ICT among the respondents.

3.7. Caste

One aspect which is unique about India's caste system now is the rural-urban divide. With modernization, education and westernization, India's caste system has weakened in recent times. But it is still there particularly in undeveloped areas such as rural areas and semi-urban areas. It is in cities as well but still, people particularly the youth are seen often intermixing. Students go to the same classes that also together. Many of them are not at all worried about the caste or tribe of their classmates and friends, unless of course it hurts them and their sentiments connected with their caste such as going to their wished colleges or universities or employment.

ICT doesn't belong to a particular caste or biased towards the hierarchy of the caste system in India. It is open for all and distributes equal knowledge among the students. Anyone can take help easily in their studies and gain more and more knowledge with the help of ICT without anyone else's interference. The students belonging to underprivileged group can also learn and study with help of ICT with the correct use of it.

Table 3.7. Caste Distribution of the Respondents

Caste	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
General	24	32.3	22	29.7
OBC	29	38.3	28	37.3
SC	17	22.7	25	33.0
ST	5	6.7	0	0.0

Source: Field Survey, 2018

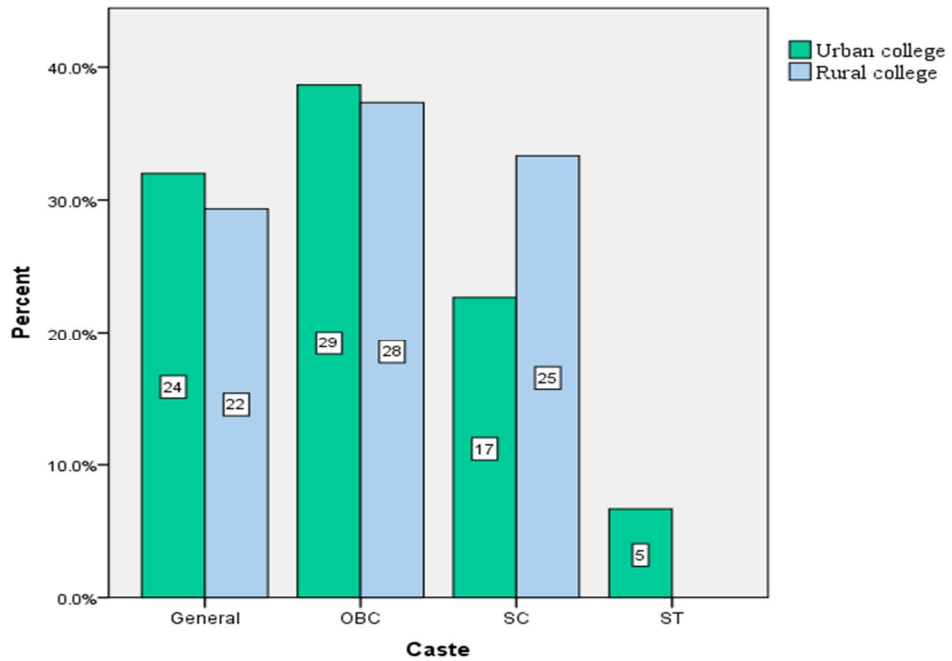


Chart 3.7. Caste Distribution of the Respondents

Table 3.7. represents the caste distribution of the respondents from both the college. The major caste group found is the Other Backward Caste (OBC) from both the colleges. 38.3% respondents from urban college and 37.3% respondents belonged to OBC. Second major caste group was general, 32.3% respondents from urban college and 29.7% from rural college belonged to general caste. 22.7% from urban college and 33% from rural college belonged to Schedule caste.

3.8. Marital Status

The empowering use of ICTs is very closely related to socio-economic development, and its potential towards social transformation demands that everyone should have equal access. In relation to women the inequality is referred to as the “gender digital divide”.

Women are suffering different constraints over the age in India, patriarchy and social pressure are the top most things women are suffered from. Gender inequality is also the reason because of which women lack far behind men in India. Women are less engaged with information and communication technology than men.

Table 3.8. Marriage Status of the Respondents

Category	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Married	11	14.7	17	22.7
Unmarried	64	85.3	58	77.3

Source: Field Survey, 2018

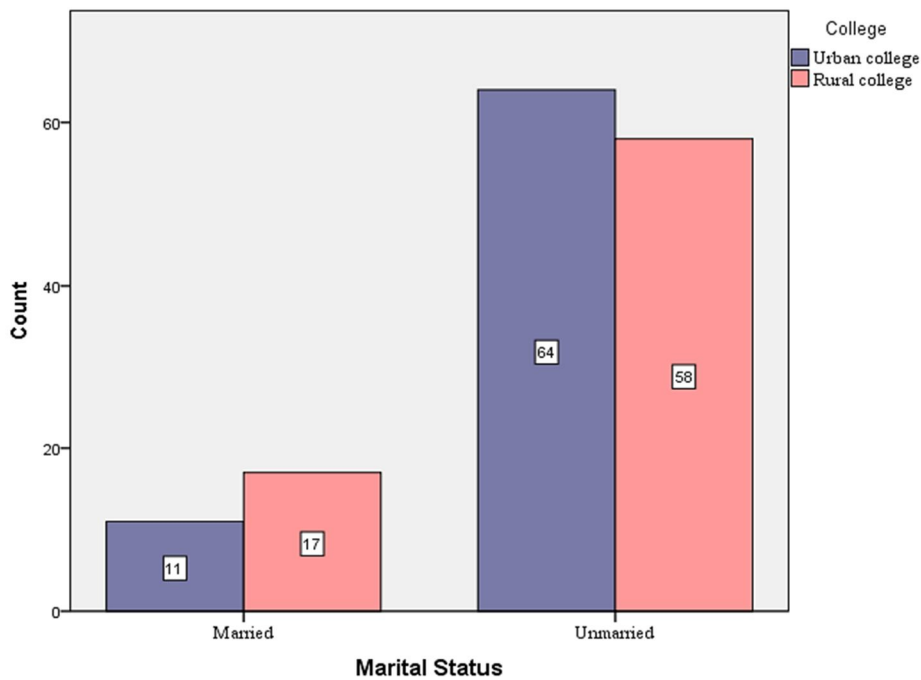


Chart 3.8. Shows the marriage status of the respondents

Table 3.8. shows the marriage status of the respondents. Married respondents from rural college were more than found in urban college. 22.7% respondents from rural college and 14.7% respondents from urban college were married. 77.3% respondents from urban college and 85.3% respondents from rural college were unmarried. Marriage is a major social factor against the women education. Whereas it also shows that the education is not prior than the marriage in Indian society.

3.9. Comparing Caste with the Income Group

Table 3.9. Comparing Caste with the Income Group (Urban College)

Caste	Income Groups			
	0-10	10-30	30-50	50-80
General	3 (4.0%)	5 (6.7%)	13 (17.3%)	3 (4.0%)
OBC	11 (14.7%)	13 (17.3%)	4 (5.3%)	1 (1.3%)
SC	11 (14.7%)	6 (8.0%)	0	0
ST	3 (4.0%)	2 (2.7%)	0	0

Source: Field Survey, 2018

It is necessary in a study to find out the relation between two or more socio-economic factors. Table 3.9. shows the comparison between two factors that is caste and income group of urban college. This table depicts that there are less number of respondents from General Caste belonging to the lower income group. Only 4.0% of respondents fall into the lowest income group. Whereas no respondent from Schedule Caste and Schedule Tribe in the highest income group.

Table 3.10. Comparing Caste with the Income Group (Rural College)

Caste	Income Groups			
	0-10	10-30	30-50	50-80
General	10 (13.3%)	10 (13.3%)	1 (1.3%)	1 (1.3%)
OBC	18 (24.0%)	8 (10.7%)	2 (2.7%)	0
SC	23 (30.0%)	1 (1.3%)	1 (1.3%)	0
ST	0 (0.0%)	0	0	0

Source: Field Survey, 2018

Table 3.10. shows the comparison between two factors that is caste and income group of rural college. This table depicts that there are less number of respondents from General Caste belonging to the lower income group. 13.3% of respondents fall into the lowest income group whereas the percentage of the respondents from schedule caste is much higher than the general caste which is 30.0%. There is no respondent from OBC,

Schedule Caste and Schedule Tribe in the highest income group. Both the present tables show a vast difference between the incomes of the different caste.

Conclusion to this chapter which is based on the socio-economic profile of the respondents is that there are respondents who belong to OBC, SC and ST are less privileged than the respondents of General caste, this shows that the students from general caste belongs to higher income group and more respondents from SC caste belongs to the lowest income group. There is need to uplift the underprivileged group to the level of privileged group for making the equilibrium in the society.

CHAPTER 4

ICT AND DIGITAL DIVIDE

CHAPTER 4

ICT and Digital Divide

The term digital divide explains the disparity between people who have access to the resources to use new information and communication tools, such as internet, and people who do not have the resources and access to the technology. It also describes the difference between those who are capable of using technologies by their knowledge and skills and those who do not. It encompasses both physical accesses to the technology as well as the skills which allow for its use. Groups discussed in the context of digital divide are socio-economic status which is rich or poor, gender that is male or female, or geographical which is rural or urban, and sometimes it can be racial too.

The ALA's definition is appropriate when the emphasis is on disparities between groups and individuals in one country. However, the term "digital divide" also refers to the disparities between societies and nations. The phrase "digital divide" refers to the unequal and disproportionate pace of development in societies in having access to digital infrastructure and services (Paul 2002:13).

Information literacy is considered to be major factor for socio-economic development and existing in the knowledge society and to cover up with the competitive world. India has been ranked in the Digital Inclusion Index at the 47th position due to low usage and poor quality; it means that the country's population suffers lack of digital inclusion. Among the Asian nations, India featured in the middle at the 12th position from a total of 23.

ICT has been helping to facilitate the economic growth that the country has gone through in recent years but the advantages of such technology have remained concentrated within particular geographic locations and social groups. A voluminous internal digital divide has grown in India, where minorities of wealthy, educated individuals living in urban areas have good access to ICT. Across the country a very low number of house holds own a computer and internet subscription and broadband usage are low.

4.1. Determinants of Digital Divide in India

As India is a multicultural, multi-language and multi-religion country with complex socio-economic conditions, there are six main difficulties in serving rural communities, each one of which has appeared insurmountable: poverty unemployment, age and education.

- There is voluminous gap of digital divide between urban and rural India where growth is based biased in favour of urban areas; according to statics it has been found that more than 75 per cent of the broadband connections in the country are in the top 30 cities.
- Some states are even not able to adopt a single technology but some others have adopted it very efficiently and are being progressive towards it.
- One of the other important reasons of digital divide in India is knowledge divide. Knowledge divide is directly relatable to digital divide.
- It is not only about them who have access and those that do not; it is not just about haves and have-nots especially those who can communicate with the rest of the world and those that cannot.
- WWW and internet are primarily associated with a large group of urban population who dealt with English language.
- Added to these, the insufficient funds, affordability, the growing rate of population and mostly the delay in implementation of policies and programmes run by the government have been some of the challenges that have led to unequal development in the society, which is responsible for digital divide.

4.2. Challenges and barriers to Bridging the Digital Divide

1. **Infrastructural barriers:** India is still in a need of healthy telecommunication infrastructure with sufficient safe and secure bandwidth for internet connection.
2. **Literacy barriers:** Education plays a vital role in keeping the society from fragmented into a population of information haves and have-nots. The absence of skill in using computer and communication technology also stops people from accessing digital information.

3. **Economic barriers:** poor access to communication technology and gadgets also causes a digital divide. In India the ability to purchase or rent the tool for access to digital information is poor among the population.
4. **Content barriers:** to solve the digital divide, steps should be taken by the government to ensure that all citizens are able to access to the content based or relevant to their lives as well as be able to produce their own content for their own people and communities and for the internet.
5. **Language barriers:** Having a multicultural and multilingual population in India most of the contents on the internet are available in English which is hurdle for those whose primary language is not English.

4.3. Gender Digital Divide

According to some studies only 29 per cent of India's internet users are women. Unless the digital gender divide is being bridged India's dream and practice towards digitisation will further imbed the economic, political and social marginalisation of women. The bulk of policy and commercial interventions focus on improving access to internet services by upgrading spectrum and broadband infrastructure and bringing down the costs to individual users, in the addition to facilitating the uptake of digital technologies through programs for digital technologies through programs for digital skilling. Isolated technical solutions however, will be inadequate to address the social and cultural roots of India's digital gender divide.

According to a study on mobile phone connections 43 per cent of Indian men own a cell phone, whereas women lag behind with only 28 per cent mobile ownership. The gender gap in mobile ownership is estimated 114 million which reinforce the fact of unequal access, but also paints an incomplete and misleading picture.

The digital divide is thus not simply a question of access to digital technologies but about the capacity to make meaningful use of the access to technology. In many parts of rural and semi-rural areas in India, this capacity is directly shaped by gender biased belief and value systems that impose restrictions on free mobility of women and their education. Census 2011 data indicates that 65.46 per cent of women are literate as compared to over 80 per cent of men.

4.4. Digital India Programme- Bridging the Digital Divide in India

The Union Minister of Communications and Information Technology, Mr. Ravi Shankar Prasad wrote in one of his blog named as “Digital India comes of age: Under the Modi Government it is giving rise to employment, entrepreneurship and empowerment”. He wrote about the work done by the Prime Minister Mr. Narendra Modi in the area of technology development since he came to power. Prime Minister Mr. Narendra Modi gave the vision of Digital India as an important programme to transform India by introducing the power of technology and bridge the digital divide. Some other programmes such as Stand-up India, Start-up India and Skill India were also designed to become an important adjunct to this larger narrative.

State governments in the country have been involved with several IT-oriented projects in an effort to bridge the digital divide some of them are:

1. Sourkaryan and E-Seva
2. The Bhoomi Project
3. CARD Project
4. The Gyandoot Project
5. FRIENDS Project
6. Lokmitra/Smart Project

This study seeks to identify major hindrance that may result in slow penetration of ICT in higher educational institutions in rural as well as urban area and also to identify the actions to at least reduce the digital divide if not eliminated.

ICT at the Colleges

4.5. Computer Lab at College

A college without a computer lab in the 21st century cannot be imagined. It of course depends upon the area or location of the college or institution where it is situated but it cannot be denied that computers have revolutionized much of modern life and learning to use it is extremely important in this era. Not only the availability of the computers are important but also the computers with internet connection is necessary because then students will be able access to information. It can be highly advantageous in the classroom as it will enhance the information on any topic or subject taught in the classroom.

Table 4.1. Availability of Computer Lab at College

Computer Lab at college	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Yes	43	57.3	13	17.3
No	14	18.7	27	36.0
Don't know	18	24.0	35	46.7

Source: Field Survey, 2018

Both the colleges (one from urban area and other from rural area) visited for the data collection by the researcher was having a computer lab. It can be seen in the table 4.1 that 57.3 % respondents from urban college and 17.3% respondents said that they have a computer lab at college. 18.7% respondents from urban area college and 36.0 % respondents from rural college said that they don't have a computer lab which means that they were unaware of the presence of a computer lab at the college. And rest of them said that they don't know about the computer lab at the college which is more shocking. Being unaware of the IT infrastructure of the college prevents the students

from using them and utilizing the facilities provided by the institute. The respondents from the rural college were more than the respondents from urban college who were unaware of the computer lab at college.

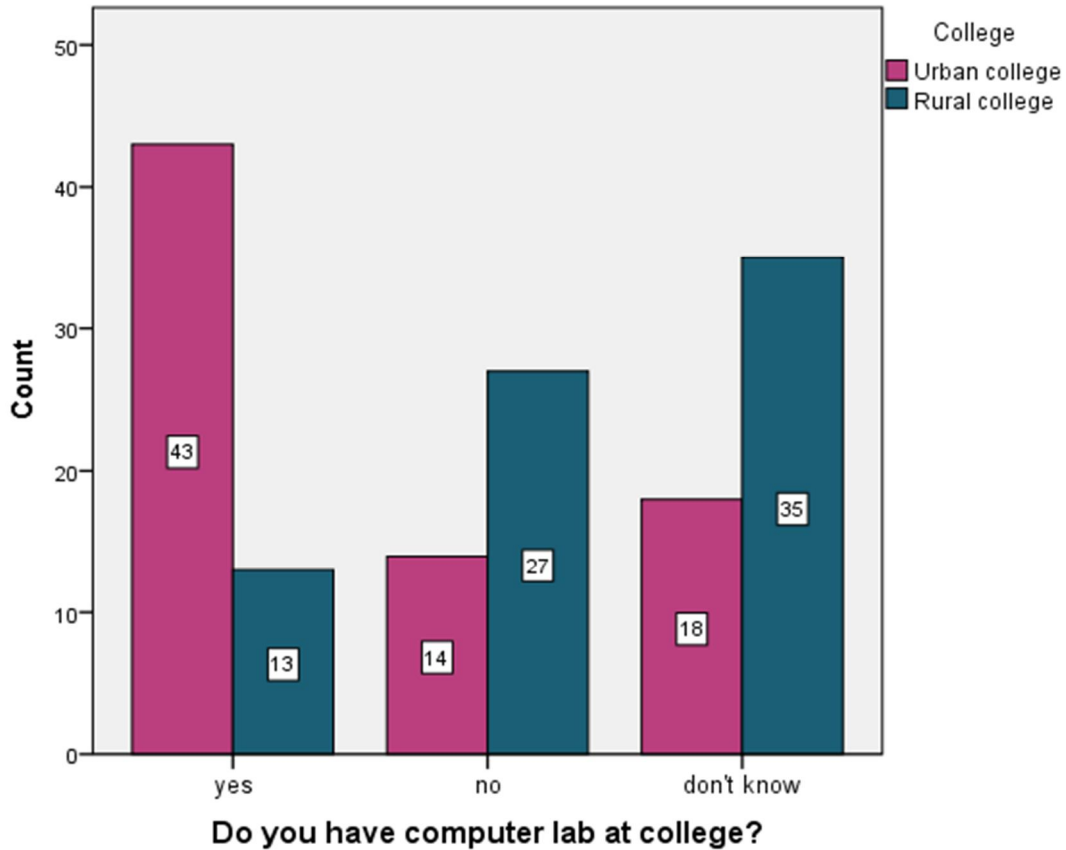


Chart 4.1. Availability of computer Lab at college

4.6. Internet Connection at College

There is so much that students can gain with the help of internet. They can read about many current topics available on different websites and blogs, they can go through the experiences shared by others on the internet which may help them in their personal development and can enhance their skills about anything they want. While the internet helps the students a lot it also benefits the parents and teachers as well. The interactive learning provided by the internet can help students with little or no knowledge of English skills to learn English easily and quickly. Students and teachers can utilize their time by using internet at college in their free periods for preparing for the topic to be taught. Internet helps every one of us connect to the other parts of the world through which we get to know about the progressive works and upcoming

opportunities without any gap of time. In other words it makes the world open for us to learn according to our interest.

Table 4.2. Internet availability at college

Internet available at college	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Yes	15	20.0	5	6.7
No	41	54.7	54	72.0
Don't know	19	25.3	16	21.3

Source: Field Survey, 2018

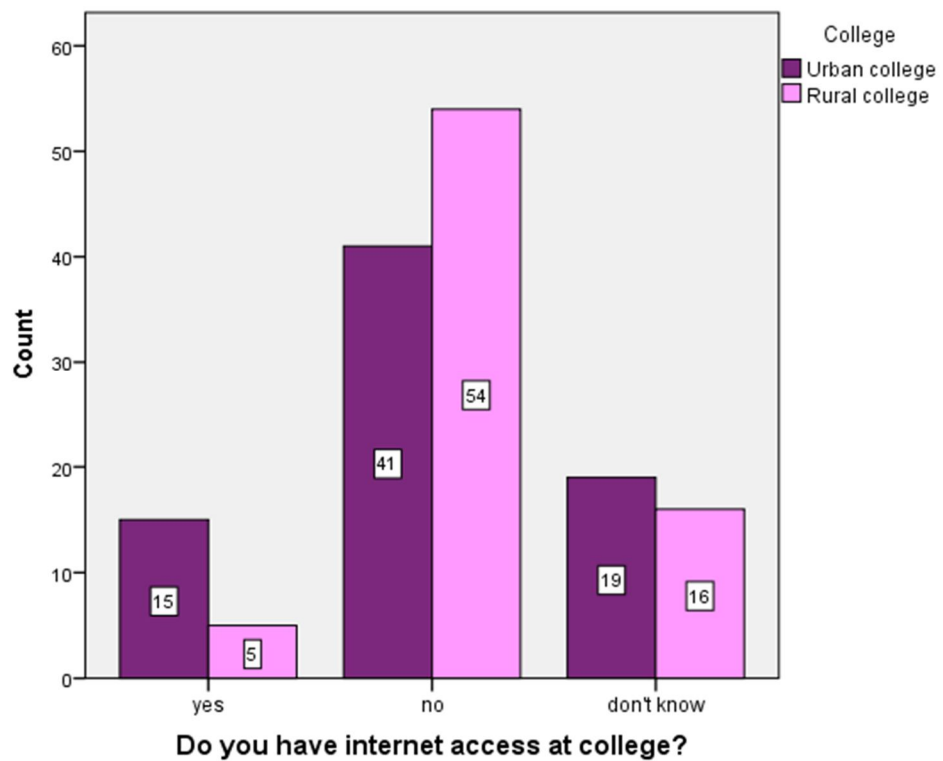


Chart 4.2. Internet availability at college

Table 4.2. depicts that the internet connection at the college is available for the students or not. Only 20.0 %from urban college and 6.7% respondents from rural college said that they have internet connection at the college, rest 54.7% respondents from urban college and 72.0% respondents said that there is no internet connection at the college.

4.7. Virtual Learning Environment at College

VLE stands for Virtual Learning Environment or a learning platform is an online system that allows teachers to share the materials used for their education with their students via the web. Moodle, WebCT and Blackboard are the examples of VLE. A VLE is a virtual classroom that allows teachers and students to communicate with each other online. Students can log in to the classroom website to see the information shared by the teacher with help of login ID and password. They may also download the materials to their computers.

Table 4.3. Virtual learning environment at college

Virtual learning environment at college	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Yes	3	4.0	0	0.0
No	31	41.3	51	68.0
Don't know	41	54.7	24	32.0

Source: Field Survey, 2018

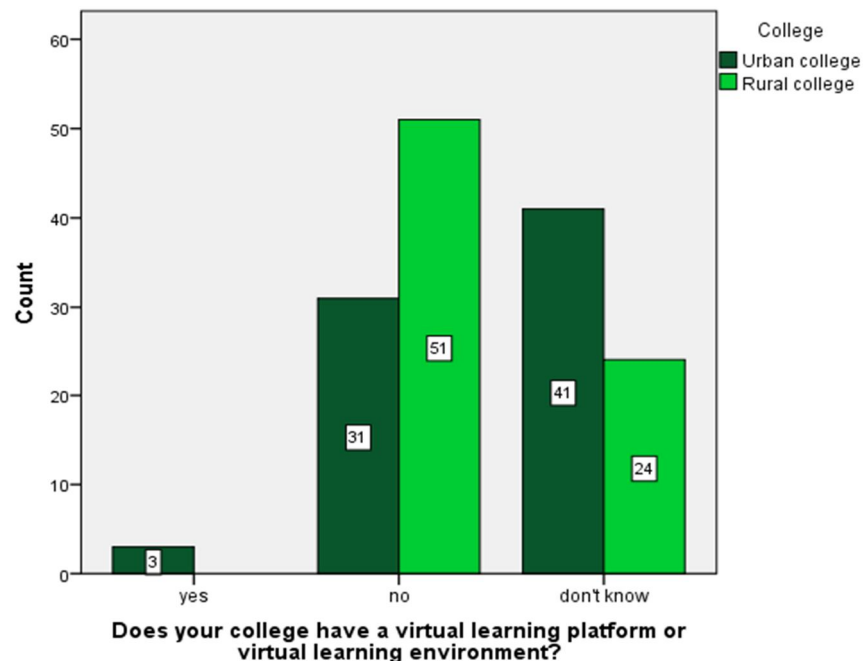


Chart 4.3. Virtual learning environment at college

As shown in table 4.3. it depicts that there is no virtual learning environment in both the colleges. 4.0 % respondents from the urban college said that they have virtual learning at the college which nearly negligible and cannot be said that there could be any possibility of Virtual Learning Environment.

4.8. Using Gadgets during Lessons at College

Using gadgets in the classrooms during lectures can distract students from the teacher’s topic or teaching but many times it could be helpful for the students and the teachers as well. They can clear their doubt or can find help from internet usage. The students those who are hesitant and are not able to speak up ask questions from their teacher can find their answer with the help of gadget. Various applications related to the studies are also available these days which make many things clear to the students. Teacher can show or share the image in order to make clear vision for the students.

Table 4.4. Using laptop, tablet, PC, notebook computer during lessons at College

Using gadgets during lessons at college	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Never	73	97.3	75	100.0
Rarely	1	1.3	0	0.0
Sometimes	1	1.3	0	0.0
All the time	0	0.0	0	0.0

Source: Field Survey, 2018

Table 4.4. shows the 2.6% in overall respondents from urban college and 0 respondents from rural college said that they use gadgets during the lessons at college. When asked about the reason for not using gadgets at classroom during lectures the respondent told that they are allowed to bring gadgets such as laptop, smartphones, notebook etc., but they are not allowed to use it during the classes or lessons on-going. But still respondents from rural college said that in some of the subject lectures they use their own smartphones whenever they get stuck to anything.

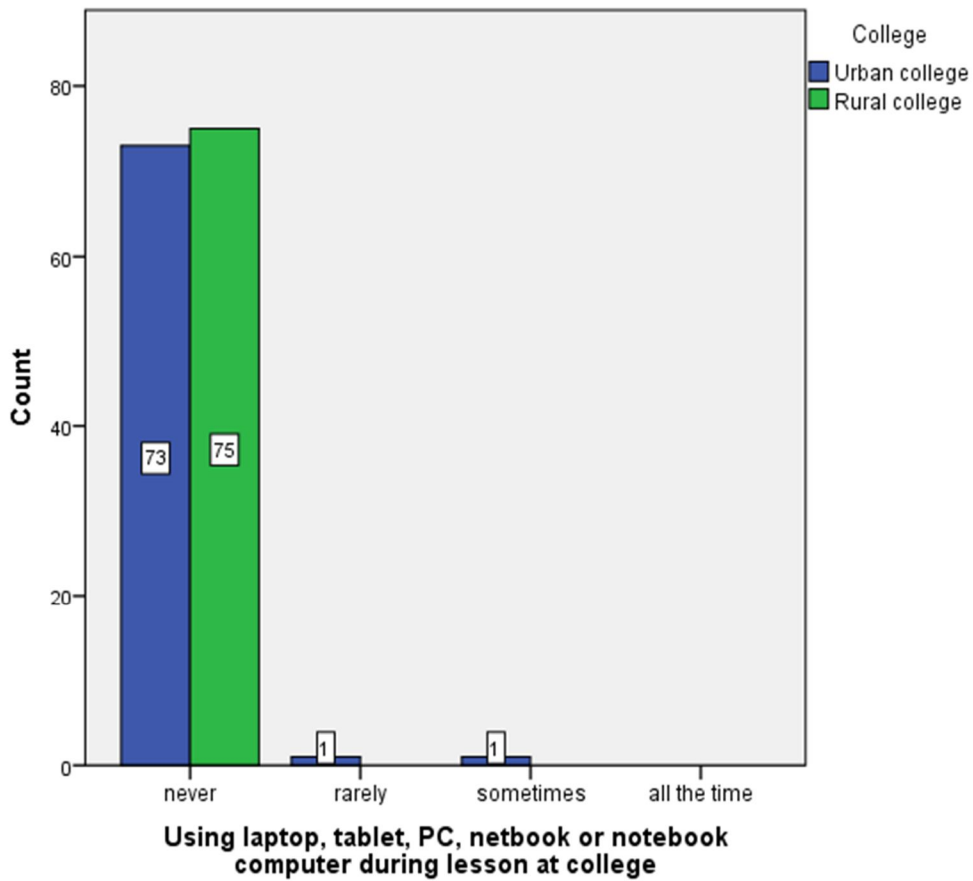


Chart 4.4. Using laptop, tablet, PC, notebook computer during lessons at college

4.9. Digital Reader or E-reader

Reading books and newspaper on a digital device such as an e-book reader, tablet computer or smartphone is called as e-reading. The term generally does not refer to reading the material on a desktop computer. It is especially designed for reading digital e-books and periodicals.

Table 4.5. Using Digital Reader

Using Digital Reader	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Never	74	98.7	75	100.0
Rarely	0	0.0	0	0.0
Sometimes	1	1.3	0	0.0
All the time	0	0.0	0	0.0

Source: Field Survey, 2018

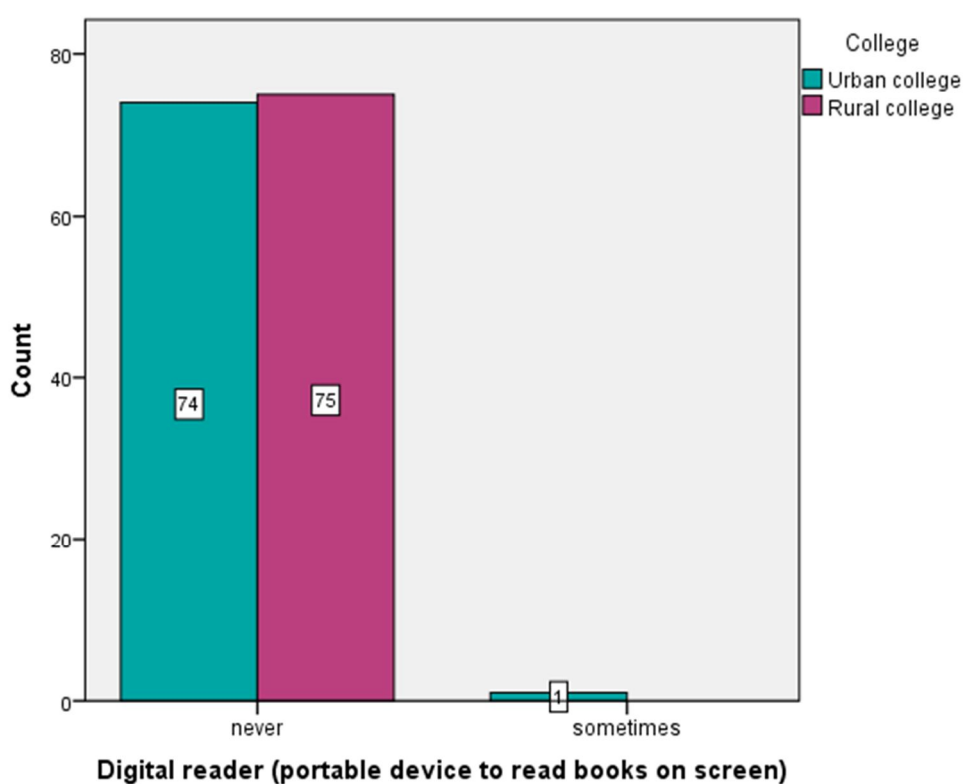


Chart 4.5. Using Digital Reader

Table 4.5. depicts that there no use of E-reader or Digital reader at the college. 98.7% of respondents from urban college and 100% of respondents from rural college said that they never used the digital reader at college.

4.10. Interactive Board

Interactive boards have simplified teaching and learning processes and have brought significant improvements in the education system. The effect of using interactive

board in the classroom is positive for both the teacher and the students. It helps teachers to make the structure lessons easier. It makes the teaching learning process more interesting for students. The level of engagement between teachers and students increases by using interactive board during lessons. Interactive board allows students with various disabilities to learn in a better manner.

Table 4.6. Using Interactive Board

Using Interactive Board	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Never	51	68.0	75	100.0
Rarely	20	26.7	0	0.0
Sometimes	4	5.3	0	0.0
All the time	0	0.0	0	0.0

Source: Field Survey, 2018

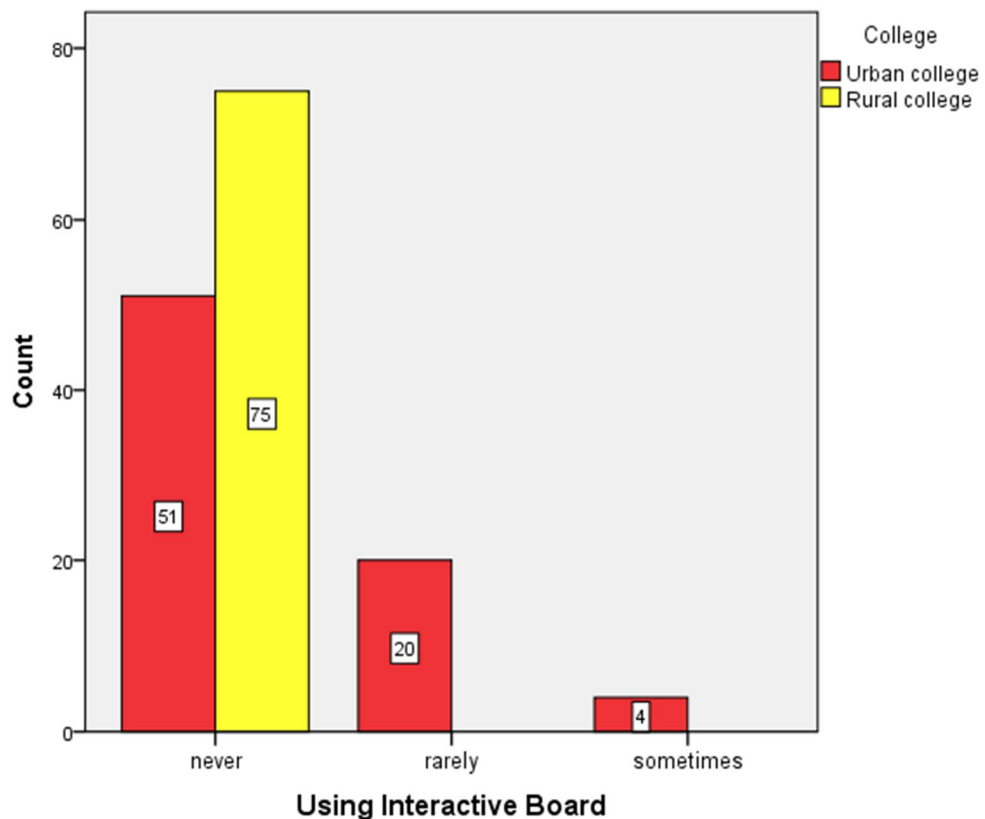


Chart 4.6. Using Interactive Board

During the college visit researcher found out that there was interactive boards present in urban college in special lecture halls, which have been used during the paper presentation or during seminars held in the college, but there were no interactive board present at rural college. In the table 4.6. shows that 68.0% respondents from urban college said that they have not used interactive boards during lessons. Only 26.7% respondents from urban area college said that they came across the use of interactive board that also during the presentation and seminars. Some of the respondents from rural college have said that they don't even know about the interactive board and they haven't seen it.

Some Other Observations Regarding Use of ICT

Table 4.7. Necessity to check the reliability/ validity of information received through ICT

Necessity to check the reliability/validity	Urban College		Rural College	
	Frequency	Percentage	Frequency	Percentage
Always	7	9.3	11	14.7
Sometimes	36	48.0	28	37.3
Never	12	16.0	16	21.3
Can't say	20	26.7	20	26.7

Source: Field Survey, 2018

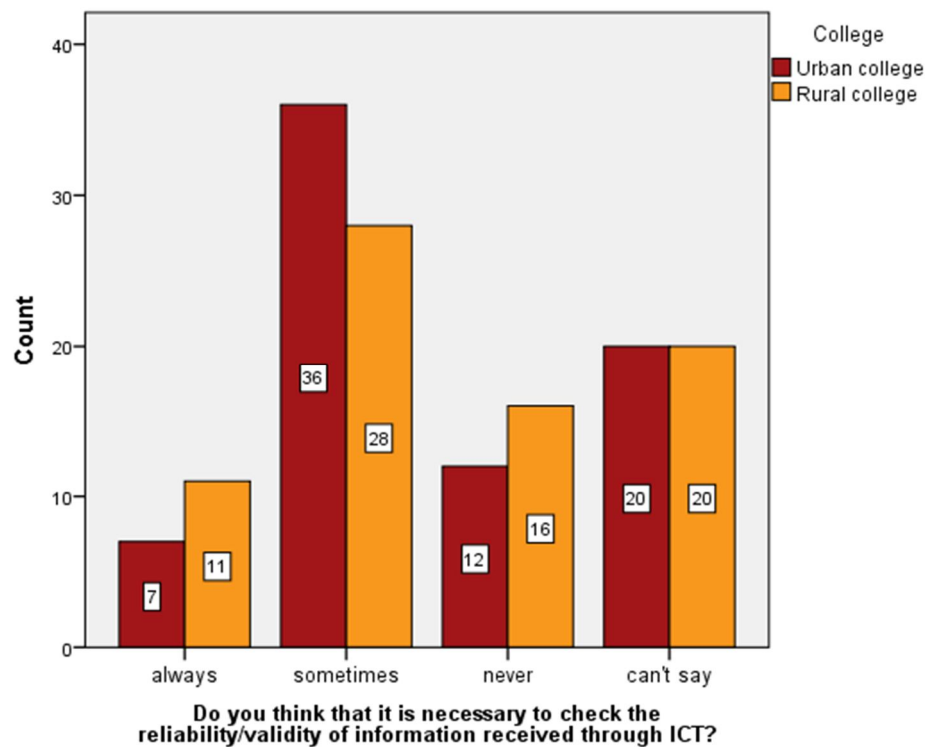


Chart 4.7. Necessity to check the reliability/ validity of information received through ICT

Table 4.7 shows the necessity to check the reliability/ validity of information received through ICT in which 7% students from rural college believed to check the reliability and validity of information received through ICT than the students of urban area college that is 9.3%. Whereas 16.0% from urban college and 26.7% from rural college

believed that there is no need to check the reliability and validity of the material found on internet.

Table 4.8. ICT will improve the learning effectiveness and quality or not

ICT will improve the learning effectiveness	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Strongly agree	4	5.3	5	6.7
Agree	27	36.0	22	29.3
Moderate	33	44.0	29	38.7
Disagree	9	12.0	14	18.7
Strongly disagree	2	2.7	5	6.7

Source: Field Survey, 2018

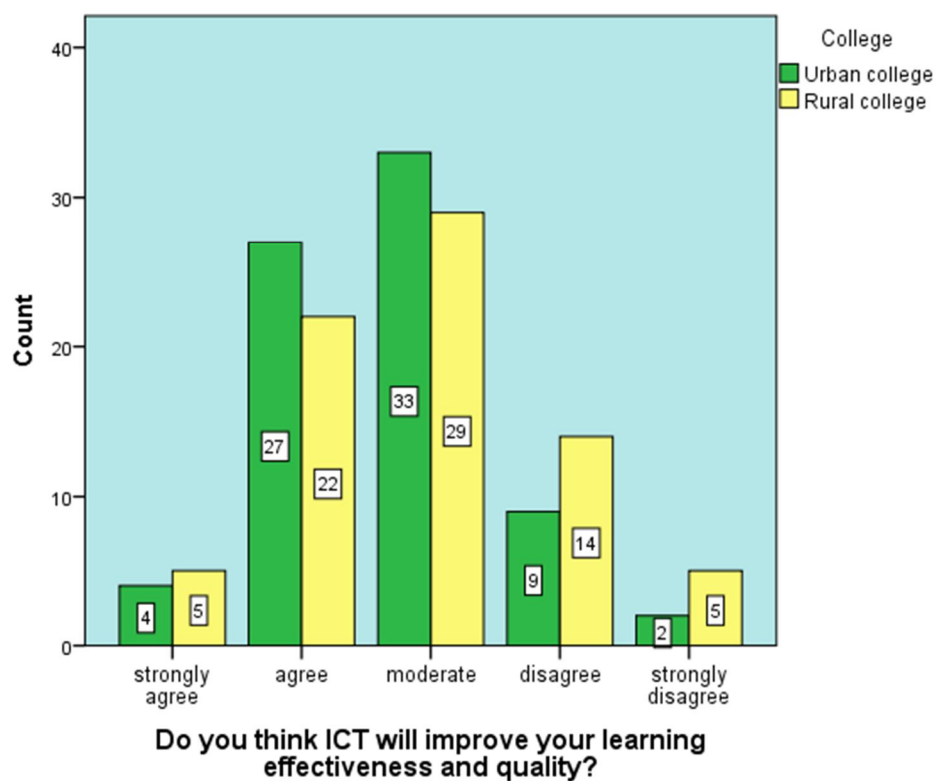


Chart 4.8. ICT will improve the learning effectiveness and quality or not

Table 4.8 represents the improving learning effectiveness and quality by ICT. Maximum number that is 44.0% respondents from urban college and 38.7% from rural

college believed that ICT improves the learning effectiveness and quality in a moderate way.

Table 4.9. Female Students interested in using ICT

Interest in Using ICT	Urban college		Rural college	
	Frequency	Percentage	Frequency	Percentage
Yes	51	68.0	55	73.3
No	24	32.0	20	26.7

Source: Field Survey, 2018

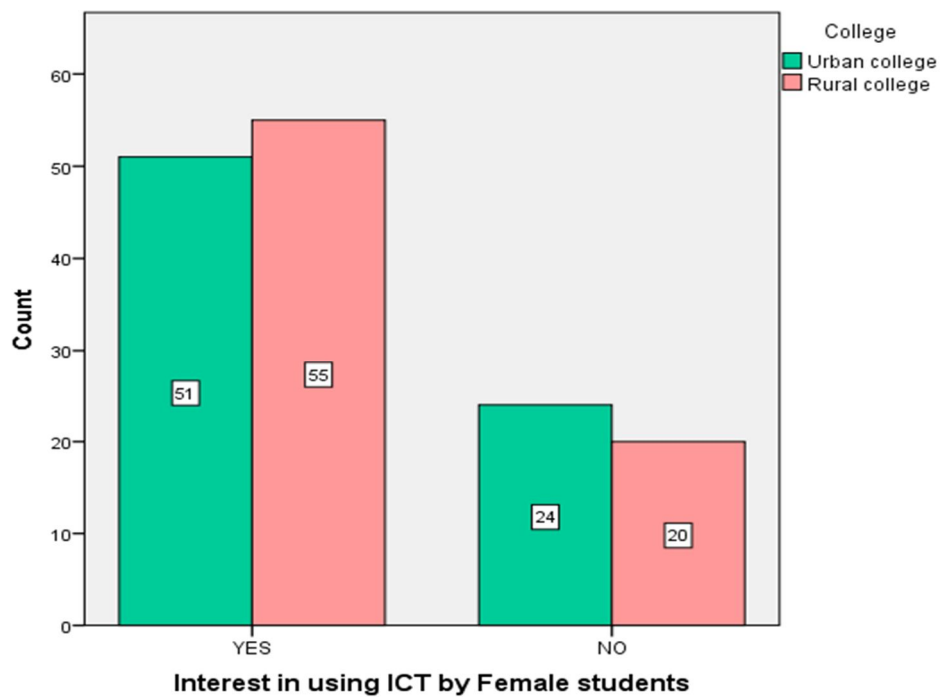


Chart 4.9. Female student interested in using ICT

Table 4.9 shows the interest of the female students in using ICT from both the colleges. 68.0% respondents from urban college and 73.3% respondents from rural college were interested in using ICT to obtain knowledge. 32.0% respondents from urban college and 26.7% respondents from rural college said that they were not interested in using ICT.

CHAPTER 5

CONCLUSION

CHAPTER 5

Conclusion

With the advent of Information and Communication Technology (ICT), it has become possible for the common man to access the global information. Computer and telecommunication are the principal technologies reshaping higher education. We live in a world in which all aspects of life influenced by ICT. This tool defines as gathering, collecting, retrieving, processing, analysing and disseminating information electronically. ICT is all about the combination of manufacturing and services industries that capture, transmit and display data and information electronically. In this study, the researcher has tried to find out, the percentage of women accessing ICT to gather information to support their study at college level in Lucknow, Uttar Pradesh. It tells about the habits of using social media to get information on related subjects or courses. This study answers how women consumed and comprehended social media for their own need and requirements. How frequently women use internet for studying, gaming, social networking, chatting and many other things. This study also shows the availability of infrastructure of hardware and software at colleges as well as at home. It focuses on the personal interest of an individual woman to use ICT.

Literature review suggested that the empirical study on micro level is less in this area. Further, it is formed that research on ICT and its use by the female students belonging to SC/ST, OBC and General caste are at scarcity. Through this study, it has been found out the uses of ICT among women. Through interview schedule the researcher got to know about the extent of ICT use in their daily life.

The main objective of the study was to study ICT and Higher Education pertaining to rural and urban area colleges of Lucknow District. However, the specific goals were to examine, analyse, understand and compare the learning context of rural and urban area colleges where female students were continuing their Higher Education.

This study was based on Lucknow which has randomly been selected by the researcher. Two Post graduate colleges: one government and one private college have been selected from the district. The government college selected was situated in urban area and the private college selected was situated in rural area.

For this study, exploratory research design has been used by the researcher. Exploratory research designs are the simplest and most flexibly structured designs. It is flexible in its approach and mostly involves a qualitative investigation. Exploratory research is research conducted for a problem that has not been studied more clearly, intended to establish priorities, develop operational definitions and final research design. Exploratory research helps determine the best research design, data-collection method and selection of subjects. Exploratory research is flexible and can address research questions of all types (how, why, what, when). Researcher may use primary or secondary research, or a combination of both types of research.

The female students pursuing higher education has been selected by the researcher through purposive sampling of the study and is also exposed to the use of information communication technology.

Both primary and secondary data has been used in this study. The focus was on primary data which was collected through field survey and interviews by the researcher. Similarly the secondary data has been collected through available sources like college records, records from Uttar Pradesh Higher Education Commission and Ministry of Human Resource Development.

For this study, the data has been collected by using Interview Schedule as well as Questions prepared separately for both teachers and students. Interview schedule has been used by the researcher which is a set of questions designed to be asked exactly as worded. Interview schedule have a standardised format which means the same questions are asked to every respondents in the same sequence.

The collected data has been analysed by using SPSS. SPSS stands for Statistical Package for the Social Scientist is a tool used for data management and analysis. It is used in many fields such as education, medicine, business and others. SPSS research tool can compare and explore the differences between responses to two or more questions.

- Respondents from the colleges named as Maharaja Bijli Pasi Government Post Graduate College situated in urban area and Sri Mahesh Prasad Degree College rural area were selected for this study. Findings show that 68% respondents from urban college and 73.3% respondents from rural college were interested in using ICT to get information about their subjects. But still students from rural area college lack far behind than the students of urban college. Respondents from urban college were familiar with the ICT tools used at college than the students from rural college.
- Lack of availability of ICT infrastructure has been noticed at both the colleges. 57.3% respondents from urban college and 17.3% respondents from rural college were sure about the computer lab at the college whereas at the rural college there was computer lab present for the students but 46.7% of the students were unaware of its presence and those who were aware of it were not able to use it which can be considered as the irresponsibility of the college administration.
- 14.7% students from rural college believed to check the reliability and validity of information received through ICT than the students of urban area college that is 9.3%.
- It has been found the socio-economic status of female students belonging to general caste is way better than the female students of SC and ST caste in both urban and rural colleges. Instead of being less in number 4.0% respondents from general caste were belonging to income group of 50-80,000 per month in the urban college and 1.3% were from rural college and at the same time no respondent were belonging to the same income group from SC and ST caste in both the colleges.
- According to the respondents socio-economic profile it has been found that respondents from poor socio-economic background either for urban college or from rural college were dealing with lack of ICT tools at home, which make them hesitant and shy in using information and communication technology at home and in the college as well. The students from rich socio-economic background were able to understand many of the technical terms asked during the survey and it is because of their more exposure to the ICT tools.

- It has been found in this study that there is digital divide between the two colleges and the students at these colleges. Some students from rural area college were not even having the smartphone and those who were having smartphones were not having internet connection on their phones. There was lack of equipment at rural college which defines a huge gap of technology between the two colleges which also shows that there is need of bridging the digital divide.
- Though the college situated in urban area has computer lab but no other facilities such as interactive board, digital reader, wifi etc. College situated in rural area also has the computer lab but its availability was limited to the students from particular discipline.
- Female students from rural area college showed more interest in the use of ICT than the students from urban area college. 68.0% respondents from urban college and 73.3% respondents from rural college were interested in using ICT to obtain knowledge. 32.0% respondents from urban college and 26.7% respondents from rural college said that they were not interested in using ICT. This determines that area of residence does not determine the interest or willingness of the student to connect with technologies.
- Respondents were not allowed to bring or use smartphones, laptops or any other device during the classes in both the colleges.
- In urban college projectors have been used occasionally by the teachers during lectures, students belonging to some particular subjects give their presentation on projectors whereas in rural college neither teachers nor students used projectors for the study purpose.
- ICT policy and programmes run by the government is still need to reach out the higher education in rural areas. There is a huge gap of digital divide between the rural and urban area where the growth is biased in favour of urban areas.

- The government has also realised the need of introducing information and communication technology to the higher education and the National Programme of Technology Enhanced Learning (NPTEL) Phase II and III are focusing on the content generation activity.

Testing of Hypotheses

Hypothesis 1: Government policies and programmes are not contemporary so far ICT and higher education is concerned.

On the basis of the present study it has been found that the above hypothesis was proved partially true.

Hypothesis 2: Female students having higher caste background are more familiar with ICT and its uses.

On the basis of the study mostly the respondents from higher caste was the Brahmins and Kshatriya, thus, above hypothesis found to be true.

Hypothesis 3: Female students hailing from poor socio-economic families cutting across rural and urban areas are less conversant with ICT.

On the basis of the study as per explained in chapter 3 respondents from poor socio-economic status were hesitant in using ICT and there was lack of knowledge among them about the gadgets thus, above hypothesis found to be true.

Hypothesis 4: Female students from urban area are better informed about ICT and its use.

As it has been observed the female students from urban area were better informed about ICT, hence, the above hypothesis found to be true.

Hypothesis 5: Society generated and system generated obstacles are directly linked with use of ICT by the students.

On the basis of the present study it has been found that the above mentioned hypothesis found to be true as the students were lacking the facilities of using ICT at college as well as at home.

Hypothesis 6: Area of residence not always determines digital divide.

According to the study it has been originated that area of residence does matters in the use and availability of ICT and it also shows the digital gap between the students of rural area and urban area. Hence, the above hypothesis found to be false.

Suggestions

- a. Introducing ICT to rural area colleges is necessary to urge to help the students as well as the teachers to improve their skills and improving the classroom teaching process, it can bring change to the pedagogy of the traditional teaching methods.
- b. Teachers must be trained to use ICT properly and be ready to accept the challenges of pedagogical changes. Including ICT to the pedagogies can make teaching and learning process easier for the teachers and students both.
- c. The process of education must deal with the urge of students to develop both macro and micro strategies for dealing with the world.
- d. Including ICT in school curriculum will surely affect the students those are paving their way to the higher education.
- e. Making technology more easy to understand and affordable for those living in remote or isolated area will help the students to learn more quickly and achieve new heights in their studies.
- f. Use of available, relevant and cost effective information and communication technology will enhance the development of institutional networks and makes processes and systems more effective.
- g. Information and communication technology (ICT) can act as a facilitating agent and catalyst to enhance the efficiency of educational system.

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